DIGITAL MEDIA AND TECHNOLOGICAL CHALLENGES FOR MEDIA EDUCATION IN PAKISTAN

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ABSTRACT
This paper aims to record concerns of media education currently under debate in Pakistan. It indicates three main study trends. The first trend is concerned about Pakistani digital technology users, their skills in technologies especially digital media usage and the second about new media learning and teaching methods by using new media tools like mobile devices, tablets, social media networking, which needs new technical and technological framework. The last trend deals with literacy concerning digital education, related to both the skills required by digital media students have to progress and what educators especially faculty members have to be trained about these media technologies. In order to achieve objectives pertaining to these trends, semi-structured interviews of students and educators are conducted. Concerning the first trend, we observe a division of perspectives and understanding between those who believe that all we need is new media education for old academic solutions and those we think there is a need of changing academic styles, thus allowing it to grow into a new standard. For this purpose, they stress that digital devices should be made an integral part of today's classrooms. Concerning the second trend, we observe a consensus on teaching and learning by using digital devices as the most useful, helpful tools. Mostly, the school educators have their own laptops, tablets, and mobile phones however, they stressed on a combination of ethics, education and utilization of digital media in a good manner. Finally, the notion of literacy concerning digital media which has received significant consideration be defined in various ways particularly in the south Asian context.
Keywords: Digital Media, Digital Technology, Native Educators, Pakistan.

INTRODUCTION
A person who was born after the extensive adoption of digital technology is considered to be a digital native (Moran, 2016). However, the term "digital native" does not point to a certain generation but refers to those children or educators who are brought up using advanced technology like the internet, computers, and mobile devices. But the question arises, whether these digital native educators who are believed to be passionate users of digital media 'are they really prepared with the knowledge and skills of digital technology for teaching purposes' (Roberts & Rideout, 2005). It is a fact that a detailed understanding and experience of technologies can help educators in teaching. Furthermore, applications of digital technologies can improve both teachings and learning a new generation of learners are coming into educational institutions. This new generation is grown up with digital media. Moreover, digital technology has become an important segment of their daily life. Prensky (2001a, 2001b, 2009), argued that young people in today's world are packed with digital media. It is considered that they think, learn, acts, and expect differently.

Furthermore, this study illustrates that the brain of digital natives is "physically" different. Furthermore, it is argued that digitals natives are used to receiving information really fast. They prefer "games to serious work" (2001a:1). Prensky (2001a) illustrates that digital culture and the environment have changed their thinking pattern, "It is clear that as a result of this ubiquitous environment and the sheer volume of their interaction with it, today's students think and process information fundamentally differently from their predecessors." (Prensky, 2001a:1). Moreover, digital native students in Prensky's time are now becoming educators; therefore, there is a lack of empirical research on digital natives as educators.

Therefore, the focus of this research is to find out how digital natives of Pakistan as educators use, think, learn, and teach. Pakistan ranks amongst the top five most dynamic economies in terms of increased internet use in the South Asian Region (UNCTAD, 2009). Shafique and Mahmood (2008) reveal that Pakistan is experiencing strong growth of technological application usages such as e-learning, e-government initiatives, information, and communication technologies (ICTs), cellular phones, and the Internet. Interviews conducted by Rafiq and Ameen (2012) to know the role of digital media in Pakistan, shows that the use of technologies in higher education in Pakistan has increased tremendously in recent years.

In Pakistan, none of the relevant studies have been carried out yet considering the usage of digital media by digital native educators in the education sector. Therefore, the aim of this study is to fill this research gap in the education sector of Pakistan. For this purpose, semi-structured interviews are conducted. For example, schoolteachers coming into the International schools / colleges (e.g. Beacon House) education system have had a comparatively common and uniform digital upbringing. Secondly, the technological experiences of teachers are homogenous, and that most incoming International school teachers are digital natives. It is assumed that these teachers have knowledge and understanding of digital technology. Such kinds of generalizations enhance the complexity of digital technology-based skills, knowledge, and preferences among the educators' population. The sample size of this study consists of ten Pakistani participants working in the international school system from the capital city of Islamabad Pakistan. For interviews, guidelines proposed by Harrell and Bradley (2009) are followed especially semi-structure interviews for a systematic processing and analysis of data.

Objectives of the study
1. To explore Pakistani digital technology users, their skills in technologies especially digital media usage
2. To investigate new media learning and teaching methods used by educators by using new media tools like mobile devices, tablets, social media tools.
3. To investigate literacy concerning digital education, related to both the skills required by digital media students and educators.

Research Questions
1. How do school educators of Pakistan use digital media?
2. How do school educators of Pakistan use digital media in classroom?
3. What is the belief/attitude of school educators toward digital media in Pakistan?

Definition of Digital Natives
Those who were born in in 20th century have often been described as digital natives (Prensky, 2001a) or the 'Y' or 'Net Generation' (Tapscott, 1998, 2009; Oblinger, Oblinger & Lippioncott, 2005) due to the fact that they have become the first generation to grow up with new technology, such as computer games, Internet or mobile phones. Prensky (2001b) supports his claim that the generation of those born in 1985-s onwards is different by evidence from neurobiology, social psychology, and other studies on using games for educational purposes. According to Prensky (2001b) the brain physically transforms based on inputs it receives from outside throughout our lives, 'a phenomenon, technically known as neuroplasticity" (p. 2). Citing social psychologists Luria and Prensky (2001b) argues that people from different cultures and backgrounds not just think about different things, as it is generally assumed, but they also think differently,

and this can serve as strong indirect support to explain how digital natives raised with the computer are different. According to Greenfield (1984) repeated exposure to computer games enhances thinking skills including 'representational competence (i.e. reading visual images as representations of three-dimensional space), multidimensional visual-spatial skills (i.e. picturing the results of various origami-like folds in your mind without actually doing them), inductive discovery‖ (i.e. making observations, formulating hypotheses and figuring out the rules governing the behavior of a dynamic representation), attentional deployment (such as monitoring multiple locations simultaneously), and responding faster to expected and unexpected stimuli' (Prensky 2001b:4).

However, not all scholars think so highly of digital natives. Bauerlein (2008) calls them 'The Dumbest Generation' and describes them as being constantly distracted as a result of multitasking. Psychiatrist Edward Hallowell suggests that they show attention deficit disorder symptoms because of their scattered engagement with technology (Shah & Abraham 2009). Teachers complain of digital natives' copy and paste culture (Bennett *et al*., 2008) and increasing dependence on machines and networks for doing their work. The abundance of ready information on the Web is raising concerns regarding plagiarism and may endanger the creativity of young people. These alarms suggest that the digital native exists in conditions of easy information access that allow 'indiscriminate ignorance' (Bauerlein, 2008). Strahilevitz (2002) also mentions that digital natives steal proprietary information. These claims of theft breach 'the conditions of innovation and livelihood, engagement and consciousness that pirate networks promote' (Shah & Abraham, 2009:17).

Digital Natives versus Digital Immigrants

Prensky (2001a) distinguishes between Digital Natives and Digital Immigrants. While Digital Natives are the representatives of the generation born in the last decades of the 20-the century, the rest of us are named digital immigrants, who adapt to our new environment, yet do not give up old methods completely. An example can be printing out a document for editing it rather than doing it on the screen. According to Prensky (2001a) from the education perspective, this is where a conflict originates, i.e., when the Digital Immigrant instructors use a pre-digital language to teach students that speak a new digital language. Addressing the digital natives' short attention span for the old methods of learning, which is often mentioned by teachers, Prensky (2001b) claims that '[it] isn't that Digital Natives can't pay attention, it's that they choose not to.' (p.4). another challenge mentioned by the teachers is the problems experienced by digital natives with reading and thinking as a result of impoverished reflection. So, in order to keep up with the Digital Natives Prensky (2001a) suggests that the teachers adjust both their methodology and content and find ways 'to include reflection and critical thinking in the learning' (p.5). To reflect the needs of the new generation teachers should accelerate the speed of teaching, go in parallel, and with more random access versus learning step-by-step.

As for content, Prensky (2001a) distinguishes between "legacy" content and "future" content. "Legacy" content reflects the "traditional" curriculum, such as reading, writing and arithmetic content, the importance of some of which (e.g., Euclidean geometry) will fade over time. "Future" content can be characterized as mostly digital and technological. It also includes subjects such as ethics, politics, and languages, as well as other relevant subjects. So, the challenge is to teach both Legacy and Future content in the language of Digital Natives.

However, as Bennett, Maton and Kervin (2008) argue there is no significant evidence of the widespread serious disaffection and alienation among students. In his study Selwyn (2006) reveals students' frustration at their school Internet use being restricted in his comment that '[the students] were well aware of a digital disconnect but displayed a pragmatic acceptance rather than the outright alienation from the school that some commentators would suggest' (p. 5). Lorenzo and Dziuban (2006) mention that the claimed lack of critical thinking among students when using Internet-based information sources indicates to students being less technically adept than it is argued. It can be assumed that students' common use of technology is not necessarily related to learning objectives, and 'so education has a vitally important role in fostering information literacies that will support learning' (Bennett, Maton & Kervin, 2008). This suggests that calls for a move to using digital media widely for learning objectives based on the assumed

demands and needs of digital natives may be premature and look like an "academic moral panic." (Bennett *et al*. 2008). Furthermore, this study argues that the structure of the divides between a new generation and all previous generations, as well as other, divides by commentators such as labeling the teachers who do not change their practices as 'lazy' and 'ineffective' (Prensky, 2001a) or those who do not see an inevitable change to be in denial and out of touch (Downes, 2007; Tapscott, 1998), close the debate and contribute to the proliferation of claims unsupported by evidence. This can hinder further progress in research giving grounds for skeptics 'to dismiss the notion of digital natives as hyperbole' (Bennett, Maton & Kervin, 2008) and for advocates with insufficient evidence - a danger of repeating a pattern seen throughout the history of educational technology in which new technologies promoted as vehicles for educational reform then fail to meet unrealistic expectations (Cuban, 2001).

Prensky (2001a) argues that computer games may prove to become efficient means for teaching all types of subjects at all levels, regardless of the fact whether facts or concepts are being taught. The stance of scholars on the applicability of games to the learning process also diverges from that of Prensky. Bennett Maton and Kervin (2008) argues that there is neither evidence that computer games can be successfully applied to learning, nor that educational games can be effective. Shah and Abraham (2009) bring an example from China in 2008, when the 100 millionth Internet user was recorded and a 13-year-old Digital Native died, who, after two days of uninterrupted gaming, jumped off an elevator 'to meet another character from his game' (p.16). Chinese reports concluded that the boy so strongly immersed himself in the game that he lost his sense of reality and was in a state of hypnosis. Internet addiction has often been compared with alcohol and drug abuse. Digital natives are increasingly dependent on the Internet and even interact socially in front of their screens. To weaken the Internet dependency and help to balance the lives of sufferers of Internet Addiction Disorder many countries, like China, Thailand, Vietnam, South Korea, and the USA have opened a rehabilitation center for Internet Addiction.

A number of researchers have supported Prenksy's view that the digital natives better multitask and process information more rapidly; prefer interactive ways of learning and use technologies for obtaining information (Oblinger, 2003; Oblinger & Oblinger, 2005). Meanwhile, Bennett, Maton and Kervin (2008) argues that there is no evidence that multitasking is exclusive to digital natives and that the example of a young person doing homework while watching TV had also been used for earlier generations. Moreover, the benefits of multitasking are questionable, as cognitive psychology reveals that multitasking can cause reduced concentration and cognitive 'overload' (Rubinstein, Meyer & Evans, 2001; Sweller, 1988). Helsper and Eynon (2010) have also addressed the differentiation between digital natives and the digital immigrant teachers in their comment that "we often erroneously presume a gap between educators and students and that if such a gap does exist, it is definitely possible to close it" (p.1).

Digital Technology Usage by Digital Natives
Another aspect of debates has been the purpose of technology usage by digital natives and its potential benefits for learning objectives. Scholars do not hold unanimous positions on this matter either. Bennett, Maton and Kervin, (2008) notes that the use of technology by the Digital Natives is more complicated and goes beyond the views expressed by Prensky (2001a) and Tapscott (1998). Kvavik, Krauso and Morgan (2004) find that the students use technology mostly for word processing (99.5%), emailing (99.5%) and browsing the Net for entertainment (99.5%), and only a small number of students (21%) use the Web for creating their own content and multimedia. Moreover, few students turned out to have high competency in technology than could be expected of digital natives. Jones *et al*. (2010) argue that first-year students born after 1983 should not be treated as a single group, since they are diverse and use technology differently. Corrin, Bennet and Lockyer (2010) finds that only 23.3% of students rate themselves as advanced users of technology, 67% as intermediate, and 8.5% as beginners and that students use a mobile phone and email communication for education-related communication more frequently than social networking and instant messaging. They also report few cases of daily activity in writing a blog, building a website, or using RSS feeds, with most students unfamiliar with such activities. In his recent review of literature on young generations and technology in information sciences, education, and media studies Selwyn (2009) finds that digital natives' relationship with technology can be unspectacular. In their survey of teenagers' and

children's use of the internet Lenhart, Medden and Hitlin (2005) find evidence for frequent use of the Web for doing homework and social communication. Their analysis also shows that the frequency and the purpose of Internet use vary depending on the age groups and socio-economic background.

It is unclear what causes the varying degree of technology used for educational purposes; it can be either a result of insufficient use of digital media in the learning process or students' reluctance to use them for such purposes. There is also evidence that despite the high use of technology by many students, a significant proportion of young people do not have similar access or technology skills (Bennett *et al*., 2008). So, the existing evidence does not provide unanimous support for the high-level use of technologies for educational purposes by students. Some researchers (Conole *et al*., 2006) claim that students actively use technologies for educational purposes, while others (Selwyn, 2009) do not find empirical evidence in support for such a position. Oliver and Goerke (2007) assume that by changing the design and rationale of educational activities the gap between technology usage for learning objectives and daily activities can be reduced. Some authors suggest that more flexible approaches and wider use of media, such as for example portfolios, in the assessment process of learning outcomes, will be helpful in further enhancing the digital skills of students and making the learning environment more innovative (Mason, Pegler & Weller, 2004; Eynon & Bass, 2009; Yancy, Cambridge & Cambridge, 2009).

Despite some contradicting findings the growing role of technology in education cannot be underestimated yet calls for changes should be based on more than generalized assumptions about the role of technologies in the educational processes. Bennett, Maton and Kervin (2008) mention that generalizing assumptions about a whole generation of young people neglect less technically adept students and overlook the potential impact of socio-economic factors. They assume that "It may be that there is as much variation within the digital native generation as between the generations (p. 5). Guo, Dobson and Petrina (2008) assume that applying generational titles to large groups of students may bring to overlooking "the intricacies of how individuals engage [with] digital media" by academics (p.237). The access and usage rates of certain technologies witness that technologies can potentially play a more important role in education (Kennedy *et al*., 2008).

In their survey of first-year undergraduate students at Melbourne University in Australia Kennedy *et al*. (2006) found that first-year undergraduate university students often used technologies such as mobile phones, laptops, and the internet. With limited data on Asian students, they show that Australian students used technologies widely, meanwhile, the Asian students at the university reported more frequent use. Furthermore, many researchers point out that the ownership of technology, such as mobile phones, laptops, and other devices is significantly increasing over years (Oliver & Goerke, 2007; Salaway & Caruso, 2007).

Hong Kong has a highly developed connectivity and technology infrastructure. Using the same survey instrument developed by The University of Melbourne (Kennedy *et al*., 2006) Kennedy and Fox (2013) surveyed students at the University of Hong Kong-born in 1985 onwards. 1130 responses to questionnaires were analyzed, which constitutes 37.7% of all first-year undergraduate students. The survey reports a very high use of mobile phones (97.8%) by students with computers being the next most common device (90.1%). The results showed that most first-year students use a computer to make presentations (98.8%) and create documents (93.2%). However, more frequent cases of playing games were recorded compared to using technologies for other purposes. Moreover, it is worth mentioning that even though the internet is widely used by most students, they rarely use Web 2.0 technologies, such as Wikis, Blogs, and MySpace, for learning purposes. Despite the fact that many students find the technology useful for making presentations, downloading course materials, or accessing university services, they do not recognize the advantages of using Web 2.0 technologies for learning purposes due to low familiarity with them.

The results of the paper (Kennedy & Fox, 2013) show that technology is largely present in student's life thus making them Digital Natives, yet the urgency of technology use in teaching and learning needs further clarification. So, the results of the paper do not show a causal link between the use of technologies and student learning outcomes, which suggests the necessity for further research into the topic. This contradicts the debate that technology should be used to replace the traditional learning modes in order to make the learning process more attractive and engaging for the Digital Natives.

Grant, Malloy and Murphy (2009) carried out a study where the students were tested on the use of Microsoft Office, Word, PowerPoint, and Excel. Even though students rated themselves highly, the tests delivered unsatisfactory results except for the use of PowerPoint. In contrast, Conole *et al*. (2006) provided evidence of extensive use of technological devices by students (including Web 2.0 applications) based on a series of intensive case studies. Keengwe (2007) finds that undergraduate students are very well familiar with some technology applications and the Internet, meanwhile their competency in authoring tools or hypermedia lags. Eastin *et al*. (2006) claimed that children often face problems for judging the legitimacy of information.

Digital Natives in Pakistan
Shafique and Mahmood (2008) reveals that the country is experiencing strong growth of technological application usages such as e-learning, e-government initiatives, information, and communication technologies (ICTs), cellular phones, and the Internet. Rafiq and Ameen (2012) tried to access the role of digital media in Pakistan and with this purpose interviewed 25 library experts in all provinces of Pakistan. 20 interviewees mentioned that the use of technologies in higher education in Pakistan is increasing. All respondents responded that the demand for digital content increases and mentioned that the print subscription of 200 journals was canceled because of switching to digital journals. Another respondent noted that they had to increase the subscription of online journals from 25 to 75 due to growing demand. As an impediment to wider use of technology the 'textbook-based educational system, absence of digital access to indigenous scholarship, lack of orientation of digitized contents and the passive role of libraries' were mentioned (Rafiq & Ameen, 2012).

METHODOLOGY
This study is qualitative in nature. This study aims to explore and investigate experiences and reasons of using digital media by digital native educators of Pakistan in classroom. Qualitative methodologies are extensively used in research in health and social media. In this research, semi-structured interviews are carried out and found appropriate that is seen as the richer and useful choice to collect data. The sample size of this study consists of ten Pakistani participants working in international school system from Islamabad Pakistan. The interviews are conducted in Urdu (national language of Pakistan). Interviews were recorded using Skype recorder and MP3 recorder. The reason to choose Urdu as medium of communicating was to make participants more comfortable and open to express their thoughts. To conduct interviews, open ended questions were designed. The reason to select open ended questions is to get all questions answered comprehensively. In this study, the researchers apply purposive sampling (Patton, 1990). The reason of applying purposive sampling is to focus on particular characteristic of participants that are of research interest which will enable to answer above mentioned research questions. Moreover, by choosing people purposefully the researchers will learn about the experiences of participants. Qualitative data analysis conducted as part of this study comprised of classifying, coding, and categorization of data. The transparency and applicability of the findings profoundly depend on the critical skills of the researcher. Reliance on the capabilities of the researcher can be the utmost strength or the most weakness of a qualitative research study (Dixson-Woods, 2011).

A transcription method is a pattern of precise rules how verbal communication is changed into written text (Mayring, 2014). For this purpose, recorded interviews were transcribed into handwritings in the native language (Urdu) of Pakistan. In this study, hand written transcripts were analyzed through qualitative content analysis made by (Mayring, 2002; 2014) which consists of a bundle of techniques for methodical text analysis. This study has followed the inductive category formation. Each interview took more than an hour and conducted in the year 2019-20. These educators were school teachers of Beacon house and Roots Islamabad.

RESULTS AND DISCUSSIONS
In this section, results and discussion are discussed under the following headings of the main categories related to the topic.

Digital media and digital natives

The result shows that mostly Pakistani digital native teachers owned their own digital devices and use these devices according to their requirements and preferences in different ways. With respect to digital devices, different Pakistani digital educators have their own perspectives regarding digital devices. Some prefer to use smartphones and others considered laptops as more convenient and helpful. In addition, according to the reading, showing documentaries and accessibility is easier on laptops than other devices, however, the majority of them acknowledged digital technology as a most important element of today's world. One cannot think of education without usage of technology in their daily lives and in education sector. For example, one participant narrated as follows:

> *"I use tablets and iPads mostly in my daily life because it's a 21ˢᵗ century and you can do everything on these devices through the internet. Moreover, I use them because I think without them, I can't survive". (Participant 6, 35-40).*

This indicates that digital devices especially mobile phones have become an integral part of their lives especially of female students. Asking about the kind of digital media they used most of the Pakistani digital educator's considered laptops, smartphones, and tablets as digital media.

Digital media usage of school educator

While asking school teachers about the use of digital devices in their daily life, they talk about their excessive use of digital devices in their personal lives too.

> *"In today's world, you need to get information about your family, friends and the current affairs. In old times, people used to use pigeons to get messages back which are not possible now, you need to talk to the person from other corner of world instantly"*. (Participant 2, 22-27).

Most of the school educators illustrates that they use such devices, for teaching and learning purpose. Furthermore,

> "*In old times, board and marker were the only sources to convey ideas in class but now we can do many things using digital devices. I use graphs, images, charts and videos to explain my topic using digital devices, it is helping tremendously*". (Participant 4, 62-66).

As far as problems happening due to use of digital devices, one of the participants says,

> *"Traditional style of class discussion among teacher and student is vanishing due to these digital devices; there is far lesser interaction in classroom now. Student and teachers do not seem that much concerned to classroom teaching in some cases which is not good. But at the same time, we cannot avoid the use of digital devices because it is necessary but there should be solution to problems"*. (Participant 4, 76-80)

Usage of Digital Technology in Daily Life by Digital Native Educators

The results show that Pakistani digital native educators use digital technologies for various purposes. They use it for the exchange of information, downloading different stuff for their own learning purposes, entertainment and for social networking as well. They think that it is more interesting and easy because of its accessibility and portability. However, some of the participants talked about the lack of resources and other problems related to the electricity in Pakistan which makes the learning and teaching process really hard.

Mostly, Pakistani digital native educators demonstrated that digital technology is used for the teaching and as well as for personal purposes. In addition, in today's world one cannot think of teaching

without using digital technology. For example, talking about the daily usage of digital media by digital native educators in Pakistan, one of the teacher states that:

> *"I use smart phone and laptop in my daily life. While driving, I get help to see maps while using my smart phone. Everything I need I get done using my mobile as it's handier as well".* (Participant 6, 53-62)

According to them, the main reason of using these devices in their daily lives is that they are easy and handy to use, more interesting and innovative. In this technological world one can do everything via internet. According to some participants, one can shop the stuff, book the seat and travel across the world. As this example narrates:

> *"In my daily life I use tape recorders, OHPs, CD players almost all the time. I am not just studying but also preparing lessons. So, while I am preparing lessons, I go for the most contemporary material which is available on the internet".* (Participant 7, 33-45)

Another example demonstrates that:

> *"these digital technologies have made our lives so easy and secondly my students are visually smart so in order to grasp their attention I have to use laptop and multimedia all the time".* (Participant 9, 21-24)

Usage of digital technology in classrooms makes the learning environment more interesting and innovative. In addition, it added up in building the curiosity among the students and do not let them to get bored by only listening lectures sitting for long hours. Talking about her experience, one of the participants said that:

> *"I use different technologies in classroom such as laptop, tablets, and projectors. Sometimes videos are shown using laptop because it's easier and interesting for students. Blackboard is traditional now and inconvenient. Digital devices are helpful and innovative".* (Participant 6, 17-18, 25-30). Furthermore, she added *"I usually start my lecture by showing different videos related to my topic which makes them more attentive and engaged. These videos develop inquiry and curiosity because I think humans are more interested in videos and pictures. People here prefer videos or pictures as compared to books".* (Participant 4,111-118)

They enjoy their teaching because of integrating digital technology in their classroom as it helps them in explaining stuff in better and easier way. According to them their teaching methodology is improved because they must research and stay updated. Talking about the evaluation of the students' performance one of the participants explains as:

> *"I am looking forward to use I clickers to evaluate my student in classrooms because these are good devices and easy for a teacher to grade them."* (Participant 6,150-158). Similarly, one of the participants says *"I take online class attendance which is monitored by the examination office of our school. Therefore, everything is getting done via online".* (Participant 8, 95-98).

Therefore, from above mentioned findings of the participants, it is concluded that that digital devices makes the learning and teaching easy for the school educators of Pakistani saves their time and helps them in controlling and managing the students in a better way. In addition, it also helps the students to learn new things and keep them updated to the world's new demands. This study also showed that these

digital devices make students to get involved through different games and activities based on digital story telling. They use digital devices to motivate students for learning process and those who are not attentive in class these devices help them to be more active and attentive in their classes and based on their activeness and participation in the class they grade their performance by asking questions from the videos and documentaries shared in the class by the instructor. The findings suggested that these digital devices not only help them in teaching but also upgrading their teaching methodology and as well as in constructing their course content. Most of the participants agreed that they not only follow Pakistani content but also consult international syllabus for developing their course content via internet by using their own laptops. Furthermore, it can be argued from the above results that a choice making regarding the usage of digital technologies for teaching and learning ought not to be only depend on the preferences and age of the students and their existing practices but also depends on the skills and digital literacies of the educators.

Attitude/Belief towards Digital Media of Digital Native Educators
According to the beliefs and attitude of digital native Pakistani educator's, use of digital media in classroom is a source of better education and this better opportunity of education leads towards a bright future. They commonly agree that good education leads to a successful and bright future. They want to induce the usage of digital devices for better education in developing countries like Pakistan. For instance:

> "*Students do not need to write notes; they are not afraid of losing their written hard copies. They can download, share, and exchange their notes anytime. They can get notes when they are away, they can do group study using online platforms, it visibly has improved their learning."* (Participant1, 134-139)

Similarly, when asked about their experience and thoughts about digital media one of the participants says:

> "*I think digital media helps me in a good way as I switch from old traditional method towards modern teaching which helps students to learn better".* (Participant 4, 370-373)

According to her approach, one must accept digital media as a 21st century need. However, it has some good and bad parts as well as following quotation proves*:*

> "*It's a general problem of digital media that it isolates student somehow from each other. Earlier they used to ask questions after end of lecture now they are busier in watching videos, but one can avoid this situation by making focus group discussions. Therefore, I think digital technology and teaching skills will go along together to make thing happen".* (Participant 6, 322-333)

Furthermore, she added:

> "*Earlier only lecturing was the main thing now students themselves are so digital, so we have to teach and educate them in the same medium in which they are growing and used to it. That is how they will give more importance to the education and they will learn more." (Participant 7, 374-380).*

When asked about the positive and negative sides of using digital technology one of the participants explains as:
> "*Students never gets involved and motivate towards the lecture until or unless one cannot integrate digital technologies in the classroom. So, my personal opinion is that these*

devices make the environment livelier and more interactive. However, written skills of the students can be weakened due to excessive use of these devices." (Participant 8, 127-138)

Talking about the social isolation most of the participants explains that although these devices are useful in teaching but on the other hand it creates a huge social isolation among the students as the following quotation proves:

"Now we are become limited. We do Viber, WhatsApp and share assignments with each other but the phenomenon of combine study has been almost vanished where we used to share our ideas with each other face to face. Now we are connected through only laptops and other digital devices which can lessen our social skills". (Participant 8,166-175).

When asked about the changes after using digital devices one of the participants explains as:

"My teaching performance has been improved because of digital media. I can bring a lot of innovations in my lecture content via digital devices. Teaching has become more interesting, convenient for me now". (Participant 10, 144,154)

Similarly, one of the other participants says:

"when student take technology as friend then there is no need of other friend." (Participant 9, 181-183).

Moreover, other participant also agreed upon the isolation created by the digital devices as following example illustrates:

"isolation is the only negative point of using digital technology. Now students are more into the virtual world than the physical and real world that is why I don't find teamwork learning among today's students. They are interconnected across the nation states and make friends which can leads to the frustration among the students which is not something positive". (Participant 10, 161-169).

There is excellent evidence, from interviews, showing that using digital technologies give better understanding of the topics to the students and broaden their thinking level. It also creates curiosity among the student which makes them eager to search more. Students do trust on the instructor as they deliver and share the content and material with references and useful resources. In addition, these devices make the instructor more confident in front of the class and their self-esteem gets high with the aid of digital technologies. Moreover, in a short time one can deliver and share a lot of content in the classroom via digital devices. on the other hand, there are some concerns about the dark side of using these technologies. According to the participants, book reading habit, written skills, physical interaction, and social skills even the eyesight of students has been lessening due to excessive usage of these devices at home and schools. Thus, there is a dire need to accept the new demands of learning by using technologies. One must change educational system for students so that they can learn better at home as well as in schools. Due to the great influence of E-technology teaching and learning has become more challenging these days. There is a dire need of sessions and trainings to cope with the international standards of teaching and learning methods.

CONCLUSION
This study concludes that Pakistani digital native educators considered digital devices as most useful, helpful tools for the teaching as well as for the learning process. Mostly, the digital native educators have their own laptops, tablets, and mobile phones. According to Pakistani digital native educators, digital devices should be an integral part of today's classroom. They think that complex topics cannot be explained and conveyed properly without using these devices. Earlier in educational institutions, mostly, educators

would use traditional methods, but now digital native educators think that they cannot make teaching successful without using digital devices. They use these devices both for their personal and professional use. It is not always convenient and feasible for teachers to attend trainings and workshops so with the aid of these devices; they can be also part of these online learning projects. The study finds that teachers enhanced their knowledge and skills with the aid of these digital devices as well.

The notion of digital native which has received significant consideration can be defined in various ways particularly in south Asian context. Although additional research is needed in order to understand the main concept of digital natives. Moreover, this study could not be able to reach a representative sample. All these sampling troubles bound the prospect to generalize the results. Thus, the study should be a primary step in a wide range of research on usage of digital media by digital native educators in education. Further research is needed to add more valuable information through conducting a qualitative study and quantitative (studies) to find out what the actual digital natives means in the south Asian context. Future studies should investigate the comparison of different countries regarding the usage of the digital media by the educators in the context of different generations, gender, and cultures.

REFERENCES

Bauerlein M., (2014). *The dumbest generation: How the digital age stupefies young Americans and jeopardizes our future (or don't trust anyone under 30)*. New York: Tarcher/Penguin Books.

Bennett, S. J., Maton, K. A. &Kervin, L. K. (2008). The 'digital natives' debate: a critical review of the evidence. *British Journal of Educational Technology, 39*(5), 775-786.

Conole, G., de Laat, M., Dillon, T. & Darby, J. (2006). *JISC LXP: Student experiences of technologies (Final Draft Report)*. Joint Information Systems Committee (JISC), UK. Retrieved from: http://labspace.open.ac.uk/file.php/1/kmap/1176712833/references/LXP%20project%20fina l%20report%20dec%2006.pdf.

Corrin, L., Bennett, S. &Lockyer, L. (2010). Digital natives: Everyday life versus academic study. Proceedings of the Seventh International Conference on Networked Learning 2010 (pp. 643-650). Lancaster: Lancaster University.

Cuban, L. (1986). Teachers and machines: The classroom use of technology since 1920. New York: Teachers College Press.

Cuban, L. (2001). *Oversold and underused: Computers in the classroom*. Cambridge, MA: Harvard University.

Dixon-Woods, M. (2011). Using framework-based synthesis for conducting reviews of qualitative studies. *BMC medicine*, *9*(1), 1-2.

Downes, S. (2007). Models for sustainable open educational resources. *Interdisciplinary Journal of E-Learning and Learning Objects*, *3*(1), 29-44.

Eastin, M. S., Yang, M-S., & Nathanson, A. I. (2006). Children of the net: An empirical exploration into the evaluation of Internet content. *Journal of Broadcasting & Electronic Media, 50*, 211-230.

Eynon, B. & Bass, R. (2009). Wired campus: Electronic portfolios: A path to the future of learning - Chronicle.com. 2009. Retrieved March 18, 2012, from http://chronicle.com/wiredcampus/index.php?id=3668&utm_source=wc&utm_medium=en

Grant, D., Malloy, A. & Murphy, M. (2009). A comparison of student perceptions of their computer skills to their actual abilities. *Journal of Information Technology Education, 8*, 141-160. Retrieved from http://jite.org/documents/Vol8/JITEv8p141-160Grant428.pdf

Greenfield, P.M., (1984). *Mind and media, The effects of television, video games and computers*. Harvard University Press.

Guo, R.X., Dobson, T. & Petrina, S. (2008). Digital natives, digital immigrants: An analysis of age and ICT competency in teacher education. *Journal of Educational Computing Research, 38*(3), 235-254.

Harrell, M. C., & Bradley, M. A. (2009). *Data collection methods. Semi-structured interviews and focus groups*. Rand National Defense Research Inst santa monica ca.

Helsper, E. J. & Eynon, R. (2010). Digital natives: where is the evidence? *British Educational Research Journal, 36*(3), 503-520. Retrieved from http://www.itu.int/newsarchive/press_releases/2003/30.html

Jones, C., Ramanau, R., Cross, S., & Healing, G. (2010). Net generation or digital natives: Is there a distinct new generation entering university? *Computers & Education, 54*(3), 722-732.

Keengwe, J. (2007). Faculty integration of technology into instruction and students' perceptions of computer technology to improve student learning. *Journal of Information Technology Education, 6*, 169-180. Retrieved from http://informingscience.org/jite/documents/Vol6/JITEv6p169-180Keengwe218.pdf

Kennedy, G. & Fox, B. (2013). 'Digital natives': An Asian perspective for using learning technologies. *International Journal of Education and Development using Information and Communication Technology (IJEDICT), 9*(1), 64-79.

Kennedy, G., Krause, K., Judd, T., Churchward, A. & Gray, K. (2006). *First year students' experiences with technology: Are they really digital natives?* Melbourne, Australia: Biomedical Multimedia Unit, The University of Melbourne. Retrieved from http://www.bmu.unimelb.edu.au/research/munatives/natives_report2006.pdf

Kvavik, R. B., Caruso, J. B. & Morgan, G. (2004). *ECAR study of students and information technology 2004: Convenience, connection, and control*. Boulder, CO: EDUCAUSE Center for Applied Research. Retrieved from http://www.educause.edu/ir/library/pdf/ers0405/rs/ ers0405w.pdf.

Lenhart, A., Madden, M. & Hitlin, P. (2005). *Teens and technology: Youth are leading the transition to a fully wired and mobile nation*. Washington DC: Pew Internet & American Life Project.

Lorenzo, G., & Dziuban, C. (2006). *Ensuring the next generation is net savvy* (pp. 290-310). Boulder, CO: Educause.

Mason, R., Pegler, C. and Weller, M. (2004). E-portfolios: An assessment tool for online courses. *British Journal of Educational Technology, 35*, 717–727. doi: 10.1111/j.1467-8535.2004. 00429.x.

Mayring, P. (2002). Qualitative content analysis–research instrument or mode of interpretation. *The role of the researcher in qualitative psychology*, *2*(139-148).

Mayring, P. (2014). Qualitative content analysis: theoretical foundation, basic procedures, and software solution.

Moran, K. (2016). *Millennials as digital natives: Myths and realities*. Nielsen Norman Group, Retrieved from https://www.nngroup.com/articles/millennials-digital-natives/

Oblinger, D. G. (2003). Boomers, Gen-Xers & Millennials. Understanding the new students. *EDUCAUSE Review, 38*(4), 37-47. Retrieved from http://www.educause.edu/ir/library/pdf/ERM0342.pdf

Oblinger, D., Oblinger, J. L., & Lippincott, J. K. (2005). *"Educating the net generation". Brockport Bookshelf.* Book 272.Retrieved from http://digitalcommons.brockport.edu/bookshelf/272

Oliver, B., & Goerke, V. (2007). Australian undergraduates' use and ownership of emerging technologies: Implications and opportunities for creating engaging learning experiences for the Net Generation. *Australasian Journal of Educational Technology, 23*(2), 171-186.

Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Sage: Newbury Park, CA.

Prensky, M. (2001a). Digital natives, digital immigrants. *On the Horizon, 9*(5), 1-6. .Retrieved from http://pre2005.flexiblelearning.net.au/projects/resources/Digital_Natives_Digital_Immigrant s.pdf

Prensky, M. (2001b). Digital Natives, Digital Immigrants, Part II: Do They Really Think Differently? *On the Horizon, 9(*6), 1-6. Retrieved from http://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20I mmigrants%20-%20Part2.pdd

Prensky, M. (2009). H. Sapiens digital: From digital immigrants and digital natives to digital wisdom. *Innovate: journal of online education*, *5*(3). https://nsuworks.nova.edu/innovate/vol5/iss3/1/

Rafiq, M., & Ameen, K., (2012). Use of digital media and demand for digitized contents in higher education sector of Pakistan. *The International Information and Library Review, 44*, 116-122.

Roberts, D.F., & Rideout, V.J. (2005). *Generation M: Media in the lives of 8-18 years-old* (Research Report No. 7251). Menlo Park, CA: Henry J. Kaiser Family Foundation.

Rubinstein, J., Meyer, D. E. & Evans, J. E. (2001). Executive control of cognitive processes in task switching. *Journal of Experimental Psychology: Human Perception and Performance, 27*(4), 763–797.

Salaway, G. & Caruso, J. B. (2007). *The ECAR study of undergraduate students and information technology* (The ECAR Research study 6). EDUCAUSE Center for Applied Research. Retrieved from http://net.educause.edu/ir/library/pdf/ers0706/rs/ERS0706w.pdf

Selwyn, N. (2006). Exploring the 'digital disconnect' between net-savvy students and their schools. *Learning, Media, and Technology, 31*(1), 5–17.

Selwyn, N. (2009). The digital native-myth and reality. *Perspectives, 61*(4), 364-379.

Shafique, F., & Mahmood, K. (2008). Indicators of the emerging information society in Pakistan. *Information Development, 24*(1), 66-78.

Shah, N. and Abraham, S. (2009). *'Digital natives with a cause? A knowledge survey and framework'*. Retrieved from http://www.hivos.net/Hivos-Knowledge-Programme/Themes/Digital-Natives-with-a-Cause/News/New-Publication-Digital-Natives-with-a-Cause

Strahilevitz, J., & Rubinstein, E. (2002). Novel agents for resistant Gram-positive infections—a review. *International journal of infectious diseases*, *6*, S38-S46.

Sweller, J. (1988). Cognitive load during problem solving effects on learning. *Cognitive Science, 12*(2), 257–285.

Tapscott, D. (1998). *Growing up digital: The rise of the net generation*. New York, NY: McGraw-Hill.

Tapscott, D. (2009). *Grown up digital: How the net generation is changing your world*. New York, NY: McGraw-Hill Professional.

UNCTAD-United Nations Conference on Trade and Development (2009*). Information economy report 2009: Trends and outlook in turbulent times*. New York. Retrieved from http://unctad.org/en/docs/ier2009_en.pdf

Yancey, K., Cambridge, B. & Cambridge, D. (2009). *Making common cause: Electronic portfolios, learning, and the power of community*. Academic commons, Retrieved from: http://www.academiccommons.org/commons/essay/making-common-cause-electronic-portfolios

Zhao, Y., Pugh, K., Sheldon, S., & Byers, J. L., (2002). Conditions for classroom technology innovations. *Teachers College Record, 104*(3), 482-515.