Building Students' Islamic Characters through Information, Communication dan Technology Literacy

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Abstract: *In today's digital world, technology has contributed to an expanded understanding of literacy. Besides having literacy skills, today's students – millennials - also need technology skills for communicating, investigating, accessing, and using information, thinking critically about messages inherent in new media. Teachers and staff development need to learn the use of technology as well as guiding and opening the students' perspective where the technology will help them to support the Muslim world. The use of ICT is not only to create the generation with the advanced knowledge in technology but also to have the Islamic character in the future. It is bringing about new opportunity for educators, because it can provide powerful support to educational innovation in creating future generation with Islamic characters. In short, this article is mainly about how the convergence of both literacy instruction and ICT in staff development can help in promoting future generation with Islamic characters.*

Keywords: *Students and teachers, ICT literacy, Islamic character, emotion*

Introduction

Due to the advance changing in the Information and Communication Technology (ICT) these days, educators need to open and bring innovative learning experience to their students. Khan, Hasan, and Clement (2012, p. 61) claimed that ICT has turned out to be an effective educational technology which promotes some dramatic changes in teaching and learning processes. Blurton believes that access to digital tools, applications, and networks continues to grow worldwide and media are increasingly available in digital form, ICT-use in education can be expected to increase dramatically (1999, p. 1).

The use of the technology in the improvement of the communication and economy is undertaking the most important aspect in our daily basis. Investments in information and communication technologies (ICT) are seen as a key driver of productivity growth (Niebel, 2017, p. 197). The invention, discovery, and widespread adoption of the Internet brought about profound change in society. Martins, Gonçalves, Oliveira, Cota, and Branco (2016) state for education, the use of technology provides teachers and students with a better diverse teaching and learning style.

Khan, Hasan, and Clement (2012) define the term ICT as applied to education, are those technologies include computers, the Internet, broadcasting technologies (radio and television), and telephony that can facilitate not only delivery of instruction, but also learning processes itself. We can see that the whole educational process is centered in the communication and information, by that we can maximized the use of ICT by adopting it in our educational system.

However, to support the use of ICT optimally in the classroom, not only teachers, and the schools' staff – Librarian, Lab. Assistant, Administration as well as Headmaster – have to be literate with ICT

but also they have to be have a good English literacy, since most of the introductory of the ICT are English based. As mentioned by Hill (2006-2008, p.3) in Diem (2011, p.15) in English, literacy, is mentioned in literacies (plural) because it's not only limited in the reading and writing skills but also included the four language aspects and other aspects that related to information communication technology. Literacy instruction traditionally refers to the teaching of basic literacy skills-reading, writing, listening, and speaking. In today's digital world, however, technology has contributed to an expanded understanding of literacy. It proves that English literacy makes a strong corelation to the needs for teachers and schools' staff to help and support themselves in the use of the technology.

Schools need to have teachers and staff development in ICT and English literacy. Because by having the knowledge in the use of ICT and English literacy, it eases their job in providing learning material for students. Kolo and Breiter (2009) state that

> ICT-based innovations are relevant in the context of education for at least two main reasons: First of all, future workplaces in a knowledge society increasingly depend on ICT and therefore its use is regulated by curricula (e.g. OECD 1996). Media and information literacy in this respect is a basic competence for participation in the knowledge society (e.g. Jenkins 2007). Additionally, ICT-based innovations are also seen as a new means for teaching in a variety of subjects to support student-centred learning processes (e.g. Kozma 2003, p. 89)

But only that, we, the teachers and staffs, should take part on the controlling of the use the technology itself. As Nasr (2005) stated we are responsible for creating an awareness of what is really involved for Muslims when it comes to the adoption of modern technology. And in this domain, in fact, a number of people in the West have a much greater awareness of the dangers of

technology than do people in Asia or Africa, who are on the receiving end of modern technology, and this itself is one of the major issues that should be discussed.

Social media which become the role model to our young generation or well-known as millennials shows corruption, bullying, vandalism, dishonesty. It has become their everyday consumption. Al Yousef (2006) cited in Younes and Al-Zoubi (2015, p. 85) who conducted a study under a title of the "Advantages and Disadvantages of Modern Technologies - Studying the negative effects on the health of the individual." The study pointed out that in the case of addiction to the use of the internet, this will lead to a loss of self-control, the neglect of personal status, poor relations and communication in the social environment. The study confirmed that the risk of internet addiction is increasing among people who enjoy free access to it, as a case of university students. No wonder when the achievements of scores in the national exam are stained by various case of dishonesty. The ministry of national education has tried to develop a character building in schools with various types of training of character building for teachers, publication of character building teaching materials, socialization of character building in every level of education as it is stated in *the implementation of character education manual* (2011).

In Q.S Al – A'raf: 31 mentioned that Allah hates something that is excessive: *"O children of Adam, take your adornment at every masjid, and eat and drink, but be not excessive. Indeed, He likes not those who commit excess". (QS. Al-A'raf: 31)*

It is clear that Allah suggests us to do something appropriately, since we do realize that too much of something will bring us harm. When used appropriately, different facilities of ICT are said to help expand access to education, strengthen the relevance of education to the increasingly workplace, and raise educational quality by, among others, helping make teaching and learning into an

engaging, active process connected to real life (Usman, 2013, p. 359.) In short, we can consider that by having the proficiency in ICT, teachers and staffs can maximized the integration of ICT and students' character building in education.

ICT Literacy: Definition and aspects

Literacy is reading, writing, speaking, and listening and involves the knowledge and skill required to engage in activities required for effective functioning in community (Hill, p.3). While according to UNESCO, literacy is the ability to identify, understand, interpret, create, communicate, and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society.

ICT is set of tools that let us to conviniently communicate, easily create and share as well as digitally store information, data, pictures, videos, etc. As Blurton defines ICT as a diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information (1999, p. 1). The International ICT Literacy Panel (2002, p. 2) in its report stated "ICT literacy is using digital technology, communications tools, and/or networks to access, manage, integrate, evaluate, and create information in order to function in a knowledge society."

Further Asabere and Enguah (2012) believe that modern learning technology or Information and Communication Technology (ICT) is the tools, facilities, processes, and equipment that provide the storing all of kind of information in the environment including voice, text, data, graphics and video (p. 62). Wilson, Scalise, Gochyyev (2015, p.2) believe that the concept of ICT literacy has changed a great deal during these years: from a conceptualization as a specific domain of knowledge about

computers to an understanding of it as a domain-general or transversal 21st century skill. In doing so, they initially provide a brief summary of the idea of a 21st century skill.

UNESCO (2016) in their report mentioned that ICT have become pervasive in modern societies as tools for transforming education systems, supporting economic development through the creation of new products and services, providing access to information and expertise to support improvements in agriculture, health and education, and connecting communities, teachers and students.

Wilson, et al trace the conceptual changes in the idea of ICT literacy in four main steps:

1. ICT is as a concentration of core knowledge and skills about computers and its use, coalescing into the concept of ICT literacy in the early years of the field.
2. The transition to a view of ICT literacy as a broad set of skills that have links to many traditional and non-traditional school subjects, and the move to technology integration in education.
3. ICT literacy expressed as progress variables that are essential tools for the design of curriculum and assessments. The "progress" view depicts the need to understand initial ICT knowledge likely to emerge followed by a developing picture of mastery.
4. The impact of the "network" perspective into ICT—the critical need for building the power of virtual skills through proficiency with networks of people, information, tools, and resources.

Barriers faced in the use of ICT in Education

By implementing ICT in the classroom, teachers can offer better quality education to their students. Khan, Hasan, and Clement

(2012) believe that ICT can promote international collaboration and networking in education and professional development. ICT will be able to provide more flexible and effective ways for lifelong professional development for today's teachers.

However, the students and teachers readiness need to be considered in the order to actualize the use of ICT in the classroom. The process is hindered by a number of barriers. Laabidi and Laabidi mention that large classes, lack of computers, lack of Internet and insufficient technical support are the most essential barriers discouraging teachers from integrating technology in their teaching practices. This work suggests that the effective integration of information and communication technology in teaching is impeded by several distinctive constraining factors (2016, p. 188.)

Moreover Bingimlas (2009, p. 243) focuses on the teacher-level and school-level barriers to begin with.

Table 1. Possible implications for schools and teachers for the integration of ICT into education

	Implementation	
Barriers	**For schools**	**For teachers**
Lack of access	- Providing ICT resources including hardware and software	- Taking advantage of resources offered at schools - Access to ICT resources at home
Resistance to change	- Training in new pedagogical approaches	- Being open minded towards new ways of teaching
Lack of time	- Providing sufficient time: reducing the number of teacher lessons or increasing the daily lesson time	- Acquiring skills of self-organisation and time managements
Lack of training	- Providing training courses in dealing with the new devices, modern technologies, and new pedagogical approaches	- Preparing themselves (pre-service) by self-training - Taking up opportunities for training offered at schools - Knowing how to access to resources
Lack of technical support	- Providing continued technical support	- Relying on themselves to be able to solve problems in their use of ICT - Accessing available support

Further, Umar and Jalil (2012, p. 5676) divided the barriers into three main aspects, namely administrative issues, facilities, and their attitudes. In the administrative aspect, they found that time limit for the students to use ICT facilities in school is the highest component in the barriers of the ICT in education, next thing was the students are not allowed to use ICT facilities without their teachers monitoring the session and ICT rooms and labs are always locked. Meanwhile, in the aspect of ICT facility, students claimed that computers in their schools are often malfunctioning. Also, the computers available in schools are claimed to be outdated and using slow processor and the programs or software available are different than the ones they are using at home. Nevertheless, in terms of attitude, the respondents disagree that computers in school are not user-friendly.

Ertmer (1999), for instance, divides the barriers into two main classes: first-order and second-order barriers. First-order barriers stand for those difficulties concerning basically various kinds of resources such as equipment, time, training and support. This means that if teachers do not have enough materials, it will be very hard if not impossible to obtain a satisfactory integration. The second-order barriers relate to teachers' underlying beliefs about teaching and learning.

The Use of ICT in the Classroom

Besides having basic literacy skills, today's the teachers and the staff development, and students also need technology skills for communicating, investigating, accessing, and using information, computing, thinking critically about messages inherent in new media, and understanding and evaluating data. Alt (2018) believes that with the rapid changes in ICT, professional development with relation to ICT usages in the classroom is essential in order to keep up with those changes and developments.

It is important to note that earlier ICTs continue to play a critical role in education worldwide. New information technologies are increasingly being adapted and integrated into educational process. According to Duhaney (2000), there are some new forms of technology involved in supporting education, such as computers, video discs, DVD, desktop videoconferencing, and internet.

Recently, there has been a groundswell of interest in how computers and the internet can be best harnessed to improve the efficiency and effectiveness of education at all levels and in both formal and non-formal education. Tinio (2003) mentioned that, ICTs are a potentially powerful tool for extending educational opportunities, both formal and non-formal.

Then, Tinio (203) also mentioned that there are three kinds of learning types converted with ICT. The first one is e-learning. It is a learning type which is most commonly associated with higher education and corporate training, e-learning encompasses learning at all levels, that uses an information network—the internet, an intranet or extranet—whether wholly or in part, for course delivery, interaction, evaluation and/or facilitation. Then, it is not common term for learning type but it exists. It is blended learning. This refers to learning models that combine traditional classroom practice with e-learning solutions. For instance, students in a traditional class can be assigned both print-based and online materials, have online mentoring sessions with teacher through chat, and are subscribed to a class email list. Next, open and distance learning is defined as a way of providing learning opportunities that is characterized by the separation of teacher and learner in time or place, or both time and place. Furthermore, those three learning types are not always applied in some schools or universities.

The use of ICT in the education actually has been started in Indonesia since the early 90's, it started with the use of simple media like radio or audio tape, though it used in limited place

especially for the formal or non-formal institution in the city. However, some teachers are not familiar with these ICTs. Actually, the role of teachers is very important in ICT literacy. As Nasr (2005) mentioned we are responsible for creating an awareness of what is really involved for Muslims when it comes to the adoption of modern technology. And in this domain, in fact, a number of people in the West have a much greater awareness of the dangers of technology than do people in Asia or Africa, who are on the receiving end of modern technology, and this itself is one of the major issues that should be discussed.

The Professional development of ICT to teachers and staff to Promote Students with Islamic Characters

It is important to have a professional development to teachers and staff to support their performance in the teaching and learning process. As mentioned in the thesaurus of the ERIC database cited in Lecaroz (2000, p. 76) that it includes individual development, continuing education, and in-service education or staff development, as well as, curriculum writing, peer collaboration, study groups, peer coaching or mentoring, classroom visitation, attendance of conferences, action research, publication of papers, etc. Lecaroz (2000, p. 76) states that professional development activities are varied because they have to serve teachers and administrators not only at different levels of instruction or management but also at different points in their career development. It is important to have teachers and staff in the professional development since it is a key process in improving learner performance.

However, other issues rose up in the implementation of ICT in the classroom. Is it safe for students to access any kind of contents provides by the internet? How about to the inappropriate material contents using ICT? Government official in Hong Kong recently warned, “While the Internet is a powerful source of information, it

can also pollute young minds, so teachers should give guidance on the moral hazards in today's computer age" (Moy, 1998). Further, Blurton suggests that:

> ICT manufacturers are introducing ways of overcoming the problem of school children being able to access content deemed inappropriate by local schools and parents. Such tools include "proxy servers" and "filtering" software. A proxy server is a computer on the school network on which educators can store pre-screened and approved information. Use of a proxy server limits student access to only those resources placed on the local server. "Filtering" software scans incoming information for specific words, phrases, or websites and blocks access to banned content (Blurton, 1999, p. 42)

Further Borko and Putnam (1995, p. 56) mentioned that effective professional development should include an explicit focus on teachers' learning and development of professional knowledge, opportunities for teachers to examine their thinking and beliefs about teaching and learning, and opportunities for teachers to construct their own knowledge in an environment that supports and encourages risk taking and reflection (Borko & Putnam, 1995, p. 56). In conclusion, by having enough knowledge in the use of ICT, teachers don't have to feel anxiety over being replaced by technology or losing their authority in the classroom and of course it needs support from every staff related to this process, such as education administration, technical support specialist, as well as the head master.

In order to ICT integration programs to be effective and sustainable, Tinio (2000, p. 23) explains that administrators themselves must be competent in the use of the technology, and they must have a broad understanding of the technical, curricular, administrative, financial, and social dimensions of ICT use in education. And Tinio believes that without on-site technical support, much time and money may be lost due to technical

breakdowns. But most importantly, teachers play the main role in the application of ICT in the class room, Hannafin and Savenye identify in Tinio (2000, p. 22) that some of the reasons for this reluctance: poor software design, skepticism about the effectiveness of computers in improving learning outcomes, lack of administrative support, increased time and effort needed to learn the technology and how to use it for teaching, and the fear of losing their authority in the classroom as it becomes more learner-centered. These are all issues that must be addressed by both pre-service teacher education and in-service teacher professional development programs if schools and other educational institutions are to fully exploit the potential of computers and the Internet as educational tools.

Though character education is everybody's responsibilities - staff development, teachers, administrators, superintendents, head master, parents, as well as students themselves - especially Islamic characters and it is important to establish that character education is wanted and needed. Research shows that the correct use of modern technologies require a comprehensive understanding to the reality of change that happens to the community. Thus, this requires concerted efforts through full cooperation among all sectors of society, from family to government institutions, along with the presence of useful awareness programs supervised by these institutions and pursued by the family to utilize the modern technologies accurately in order to ensure and protect the future generations. Younes and Al-Zoubi (2015, p. 85)

The one who play the most important role in the implementation on molding the students' character is teacher, starts from they are pre-service teachers until they become the teachers in their classroom, since we can say that teachers are the one who have the opportunity interact with the students in the classroom. According to *Integrating ICT into pre-service teacher education programs: Challenge and Response,* "There is an

expectation that contemporary teacher education programs prepare graduates use ICT effectively as an integral dimension of their teaching and their students' learning" (p.2).

Narvaez & Lapsley (2008) state that effective teaching or moral character aligns with best practice instruction for academic achievement. Furthermore they note that Pre-service teachers should consider not only how instructional practice influences academic learning but also how it shapes student character development. Solomon, Watson & Battistich (2001) as cited in Narvaez & Lapsley believe that effective teaching promotes both moral and academic excellence. Higgins & Moseley (2001, p. 16) hold that an important component in the use of ICT in the process is information about pupils' progress so that beliefs about effective practices generally, and about the effective use of ICT in particular, are grounded in the impact that such beliefs and practices have on pupils' learning.

Besides transferring knowledge, teachers also have to educate and guide the students in Islamic rules. The best filtering tool is having faith (*Iman)* and virtue (*Taqwa)*. Internet gives people the permission to act freely in almost everything. However, they are responsible for how they manage their freedom. Freedom and choice are related to responsibility, and everyone is responsible for his freedom and choice. (Hosseini, Ramchahi, & Yusuf, 2014, p. 138)

Further Hosseini, Ramchahi, & Yusuf (2014, p. 138) said Freedom and the right to choose between good and evil is an ongoing test. Allah Almighty says:

وَنَفۡسٖ وَمَا سَوَّىٰهَا ۝٧ فَأَلۡهَمَهَا فُجُورَهَا وَتَقۡوَىٰهَا ۝٨ قَدۡ أَفۡلَحَ مَن
زَكَّىٰهَا ۝٩ وَقَدۡ خَابَ مَن دَسَّىٰهَا ۝١٠

> *The human soul-the way He moulded it and inspired it with knowledge of its evil and its good - bears witness to the fact that indeed he, who cleanses it [of all impiety]shall be successful while he, who corrupts it shall face doom." (Qs. al-Syams: 7-10)*

All of this integrate won't achieved its purpose without any support from head master as the decision maker to the authority. Because to achieved it, a school needs to have an open-minded Head master and the openness from the teacher to learn something new for the sake of the students and hopefully the professional development can be done in a long-term, teacher-directed, and as flexible as possible in order for the program to be success.

Building Students' Islamic Characters through ICT

Islam does not need computers; in many parts of the 'Muslim world', Islam is practised without computer interfaces or the use of a mouse, and the Internet may remain a rumour or a luxury in the hands of an elite. So, why write about Islam and the Internet? Bunt (2014, p.1) said that although Islam as a religion would function effectively, a substantial minority of Muslims and Islamic organisations would be bereft of their significant propagation and networking tool, unable to dialogue, research and disseminate their message to followers or to interested (Muslim and other) observers. Some would be bound by the shackles of state censorship, unable to access other forms of media, and restricted in the forms of local and global contact and dialogue facilitated through the Internet.

Here's the islamic characters play its role. Ibrahim, Hassan, and Hashsim said that (2016, p. 51) instilling Islamic ethics in the mind of Muslim students are considered as one of the fundamental objectives of Islamic education and the establishment of Islamic schools. The character building in Islam means to learn value and follow all those moral values which Islam has focused on and to avoid all those traits which Islam determines as unpleasant. The

moral system of Islam enables an individual to distinguish between right and wrong and live his life accordingly (Muhaimin, 2014, p. 15). Further Al-Attas mentioned (1979) "The purpose of Islamic education is not to cram the pupil's head with facts but to prepare them for a life of purity and sincerity. This total commitment to character-building based on the ideals of Islamic ethics is the highest goal of Islamic education".

We do realize that it creates vary styles of learning and provide students choices to broader their horizon. As it believes by Koc (2005, p. 2) that technology allows us to better serve the diverse learning styles of our students and educate them for a wider range of intelligence. For teachers being mastered in the use of ICT in the classroom will maximized students' in gaining the targeted knowledge. Ibrahim, et al (2016, p. 51) found that instructional video drama is considered to be a useful and an appropriate learning resource for Islamic education, because it relates to both theoretical and ethical aspects of knowledge.

According to Lecaroz (2000, p. 78) the developments in technology influence two important aspects of education. One is the way schools train prospective teachers (pre-service) and the other is how schools design continuing education for their teachers to learn on the job either at the physical workplace or at virtual learning (in-service). To these teachers, Lecaroz (2000, p. 83) believes that technology offers both the tools and the opportunities to draw a personal road map that would bring them to better practice and to becoming an active contributor to growth of new knowledge.

Some researchers argue that ICT has the potential to support current pedagogy and improve attainment within the frameworks that schools already operate (e.g. Underwood & Brown, 1997 on the role of ILS): these may perhaps be called retrospective pedagogies for ICT. Honey & Moeller (1990) suggest that unless teaching practices change, technology will not be widely integrated

into primary classrooms because of a mismatch between teachers' beliefs about teaching and learning, and their perceived value of educational ICT. Furthermore, there is also growing evidence that existing approaches to teaching and learning have a powerful inertia and that schools tend to assimilate, rather than accommodate new approaches, particularly with ICT (Tyack & Cuban, 1995).

As *the implementation of character education manual* (2011) published by the Ministry of national education mentioned that a good character education must involve moral knowing, loving good (moral feeling), and moral action so that the embodiment of students behavior can be formed (p.2). Furthermore, according to *Pusat kurikulum pengembangan dan pendidikan budaya dan karakter bangsa: pedoman sekolah* (2009, p. 9 – 10) there are 18 values identified in the education unity, religious, honest, tolerate, discipline, hard work, creativity, independent, democratic, curiosity, spirit of nationalism, achievement, communicative, peace, reading habit, environmental care, social, responsible.

As it is mentioned by the Universal Peace Federation, USA in *Introduction to Character Building* (2011, p. 25) once consensus about the need for character education is built, a committee or committees may be formed to study exactly what the stakeholders want emphasized in a character education program. It states that there are many different programs available and the committee might want to design their own program. They might want to take an eclectic approach. By integrating the use of ICT and Islamic character in harmony, students are expected to have balance knowledge to build their character.

Tinio (2003, p. 6 – 7) adds one of the most commonly cited reasons for using ICTs in the classroom has been to better prepare the current generation of students for a workplace where ICTs, particularly computers, the Internet and related technologies, are becoming more and more ubiquitous. She believes that

technological literacy, or the ability to use ICTs effectively and efficiently, is thus seen as representing a competitive edge in an increasingly globalizing job market.

Research shows that teachers who use computers do so because their conceptions of using ICT already fit within their existing notions of effective teaching practices (Hadley & Sheingold, 1993) or that they assimilate innovative practices using ICT according to these beliefs (Drenoyianni & Selwood, 1998; Moseley et al, 1999; Higgins & Miller, 2000). In other words, by the time teachers get used to with ICT, it would mold their perception in the use of technology.

With the development of teacher knowledge in the use of ICT in the classroom, they are expected to be mentors for students in optimizing their knowledge in the use of technology as a preparation for students in the future that requires them to have the ability to empower the technology, to compete with other nations that have prior knowledge in the use of ICT their classroom. More than that, teacher can use the ICT as one of the media for students to be the future generation with Islamic character.

At the end, the support, respectively, not only come from the teacher and educational staff but also come from parents that playing the most important role when students are not at school. According to Islamic Educational, Scientific and Cultural Organization (2009) it is necessary for both education professionals and parents to raise their voice to the denunciation of the excesses and contentious content that can be found in the internet by having ethical reflection and sensitize its users to the risks of 'cultural standardization' caused by the 'internet landslide'.

Conclusion

Some teachers have through indifference or intellectual incompetence or through circumstances, for tons of reasons. The lack of time, lack of opportunities due to the remote locations to get in touch with, lack of resources and many others. With ICT, it offers the tools and same opportunities to help teachers assume a personal responsibility for shaping their learning.

Although technology can be very helpful in providing much useful information to wider their targeted knowledge, there is another issues face by teachers in the validity information available in the internet. As Peace (1998, p. 394) mention cited in Blurton (1999, p. 49) "While a wide realm of information is available on the internet, it must be remembered that there is no monitoring agency and no restriction on posting false information for all to see". However, Peace recommends, "Care must be taken by the instructor that students are made well aware of this situation, and that policies are develop to deal with the inevitable dilemma raised by a student citing incorrect information, found legitimately on the internet, in support of a flawed argument" (Peace, 1998, p. 394).

Teachers can't be replaced by the massive improvement of the technology. Teachers and staff development works hand in hand in providing the suitable needs for students in empowering the technology to enrich their knowledge. As we know now, teachers are not the only source for students to broaden their knowledge, technology also plays the important role in the education. But teachers don't have to feel anxiety to be replaced by the technology, because teachers can be the integrator, guide, architect and facilitator to improve their way of teaching and learning style especially in guiding the students to grow up in enviroment that has high morality. As Tirmizi mentioned in his Hadist "They asked what is the best thing given to man?" He replied: "Best moral character" (Tirmizi). Along with the students teachers become co-learners and discover new things in this digital era.

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