21st Century Education on the Dalton Plan

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Abstract – The use of modern devices like smartphones and tablets offers a wide variety of advantages in education, and mobile technology is becoming more or less ubiquitous in the lives of today's students. However, technology alone will not be effective in learning and the appropriate use of these technologies relies on having an appropriate teaching theory in instruction. Along with a quick glance at previous studies done on the benefits of mobile technologies in education, the main aim of the study is to provide information about the Dalton Plan, implementation of Bring Your Own Device (BYOD) into the classroom and applying Dalton Plan principles as a framework to guide BYOD in teaching. Taking the theory of Dalton Plan into consideration, instructors can utilize BYOD in 21st century classrooms in order to help digital native students become more independent and responsible, to enable them to efficiently communicate with others, and to control their own learning. The study attempts to develop insight into effective instruction to prepare todays' students for a challenging real life.

Keywords – Bring Your Own Device (BYOD), Dalton Plan, Digital Native Students, Mobile Technology.

I. INTRODUCTION

In recent years, the use of mobile devices is rapidly increasing amongst young people - "digital natives", who are growing up in a digital age [26]. The world in which today's students live is fundamentally different from the past, using different technologies such as computers, smart phones, personal digital assistants (PDAs), tablets, PCs, and laptops to communicate and to access all over the world [32]. The digital world in which students have grown up had changed their attitudes, aptitudes, behaviors, thinking and learning habits [22] [24]. As Prensky [26] stated that with the rapid development of technology, today's students have a unique way of thinking: "It is now 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." (p. 1). Dede [10] describes 21st century students as multitaskers giving an example of his daughter doing her homework while at the same time reading her textbooks, listening to music, surfing the net, emailing and sending messages to her friends. Regarding the massive dominance of mobile technologies in students' lives [38], students should be allowed to bring their personally owned devices to their classroom for educational purposes. Adopting the technology model, Bring Your Own Device (BYOD) provides students with a precious opportunity to learn skills that are necessary for 21st century [43]. BYOD offers multimedia resources such as videos, audios, texts, and etc. that students can easily have access anytime and anywhere [9]. The application of technology devices gives students the chance to access and collect information and different materials for the interpretation of the content and involve them in discussions in which they play an active role and can develop their independence and interaction [2].

However, in spite of today's world of rapid changes, instructors prefer to maintain applying the existing traditional teaching methods [30]. For example, Lak, Soleimani and Parvaneh [16] point out that the traditional teacher-centered approach has been dominant in Higher Education (HE) in the Iranian education system. To use mobile technology effectively, it is essential for teachers to know what teaching methods is the most effective to meet the needs of today's students. It is essential to revise instructional methods, teacher and students' roles,

leaning tools and learning environment to shift from a teacher-centered to a learner-centered approach, giving students more responsibility to drive their own learning inside and outside classroom.

Therefore, over the last decades, the rapid technological advances in people's lives have received considerable attention of educators in the field of education [1] [19] [31] [42]. Several studies attempted to examine the effectiveness of using mobile technology in language learning [35] [5] [23] [28] [4] [15], and some research studies have investigated the impact of mobile technology on students' motivation [13] [37], engagement [33] [11] [12], and collaboration [29] [8] [36]. For example, Al-Okaily [3] conducted a survey to evaluate the effect of using personally owned digital devices on language learning and engagement of university students. The results showed that using personal mobile devices increased students' engagement and achievement. Students seemed to feel more independent to learn anywhere anytime when using their own devices. This finding is in line with Wang, Shen, Novak, & Pan's [41] study, indicating that the use of mobile devices has a positive effect on students' engagement, giving students a more active role in their own learning. In another study, Moosavi, DeWitt and Naimie [21] investigated undergraduate EFL students' readiness towards using their own mobile devices for their English courses. The study results showed that all students had access to a smartphone, but they used their mobile phones mainly for entertainment and communication rather than for learning English. The findings also indicated that students had a positive attitude towards using mobile technology for their studies.

While many research studies verified the effectiveness and acceptance of mobile technologies in education, there is only limited research to help teachers and students decide how to use their personal mobile devices in the learning process effectively and appropriately. Dalton Plan principles, with their focus on the needs and interests of students, seem to be a good match for integrating BYOD into instruction to maximize students' engagement and enhance students' responsibility, autonomy and cooperation.

II. DALTON PLAN PRINCIPLES

Dalton Plan is the educational method developed by the American teacher Helen Parkhurst in 1919. Parkhurst advocated the Dalton Laboratory Plan, aiming to tailor the educational system to students' needs, abilities and interests, and to enhance students' responsibility for their own learning. Schools should provide students with experience during learning: "Experience is the best and indeed the only real teacher" [25, p.152]. But this cannot be achieved by traditional education in which students are passive recipients of knowledge. Based on the Dalton Plan, students learn more by planning their schoolwork themselves and freely cooperating with one another and their teacher [27]. The Dalton Plan provides students with affective and attractive learning resources and textbooks, creating conditions to budget their time, work at their own pace without being disturbed, and take control of their own learning (how, where and when to do work) [39]. The Dalton Plan "creates conditions which enable the teacher to teach and the learner to learn" [25, p.34]. Parkhurst based the Dalton Plan on three principles: freedom, responsibility and cooperation. In the Dalton Plan, freedom is the opportunity for students to continue their work on any subject in which they are interested. In this way, they can carry out their work at their own rate of speed and organize it in their own way and in their own time, particularly undisturbed. But freedom does not mean that the student is allowed to do what he likes. On the contrary, freedom will perform the miracle with the second principle, responsibility. The student looks upon the work as his own and feels responsible for it. When students are in charge of planning and conducting their learning, they are more engaged and learn better [7]. The last principle of the Dalton Plan is "cooperation" which students are allowed to interact with one another, with

their teachers, with resources and learning materials and with the subject matter, in different groups, in different locations [39]. Therefore, teaching and learning through the Dalton plan principles enable learners to develop their responsibility and independence and provide learners with specific situations to communicate and cooperate with others for their common benefit [25]. Considering Dalton Plan principles, instructors can use facilitate students' learning through BYOD.

III. BYOD AND DALTON PLAN

Integrating new mobile technologies into education does not guarantee its success in learning, but the inappropriate uses of mobile devices can make the learning process harder and more challenging. In a rapidly changing the world, teachers have to recognize the need for teaching approaches to prepare students for the 21st century. Teacher-based approaches are not efficient to engage today's students in learning process. Students will need to be able to actively receive new information on their own. The Dalton Plan principles seem to meet the needs of 21st century students, especially in the areas of interaction, cooperation, autonomy, and responsibility. Students who are taught based on the principles of Dalton Plan "grow into harmonious, responsible beings, able and willing to lend themselves consciously to cooperation with fellows for their common benefit." [25, p. 15]. The Dalton Pan principles not only facilitate students' learning, but also prepare today's students for their real life [25]. Therefore, this study uses the principles of Dalton Plan as a framework to demonstrate how students' personal technologies may be used to meet the challenges and demands of the 21st century. Three basic Dalton Plan principles are:

A. *Freedom*

The access to a wide range of devices provides students and teachers with the opportunity to take full advantage of learning opportunities using their own devices. Through this principle, teachers and students can benefit from all the features and applications that are commonly found in most mobile devices. This principle offers flexibility and gives students the freedom to use devices and services they wish. The first principle of Dalton Plan is consistent with BYOD allowing students to have anytime-anywhere access to technology and have chance to make decision about their preferred platform and a wide range of materials and choose what, where, when and how to learn [14]. All students using BYOD in class are free to learn and excel at their own pace. As Simmons and Page [34] state, it is important that students are given power, voice and control over their own learning, otherwise, they cannot achieve their excellence and embrace empowerment over their learning. This principle gives digital native students choice to use text, audio, video, or picture with freedom of time and location restriction. Therefore, through this principle, teachers have opportunities to create a more flexible environment by offering a wide range of materials and resources tailored based on students' learning styles, needs and interests. Each learner is offered with a wider choice of learning resources to choose from, download, remix and republish a wide variety of learning materials [20]. Although Dalton Plan offers students freedom and flexibility to enter the world of anytime, anywhere learning, there should be a balance between their freedom and responsibility to lead to their learning.

B. *Responsibility*

Making choices allows students feel empowered and motivated to control their own learning, and this, in turn, makes students responsible for their learning [18]. Instead of the teacher-centered instruction where the students

are passive receivers of knowledge from a single source, the learning process requires the active engagement of the students who are expected to be active and accountable for regulating and controlling their own learning [17]. Through this principle, students have multiple choices of resources and media to actively choose from, learn, share information and express themselves. When students have the opportunity to bring their own personal electronic devices to the classroom, they have to take greater responsibility for devices which they own. This requires them to take responsibility for protecting their own device from theft or damage and the teacher are not responsible for lost, stolen or damaged devices [6]. Students must be responsible for the administration, charging, maintenance, and software installation of their mobile devices. They are also accountable to update the privacy, security and software on their mobile devices. They are responsible to organize their time to complete their learning activities. Dalton plan enables students to take charge of their own learning. However, it is difficult for students to take responsibility for their own learning because they are used to being passive and expect their instructors to make decision for their learning. Therefore, they need their teachers' support in order to learn how to control their own learning and discover what is the best for them. According to Babuscakova [7], teachers should introduce a wide range of different learning strategies in the classroom and students should discover their most suitable strategies to make their learning more efficient and effective.

C. *Interaction*

Students should be able to interact and collaborate with their peers and instructors without going to the classroom, library or computer lab whenever their need arises. Instructors can use BYOD to engage students not only with their peers and teachers but also with the learning materials in order to seek information, share it with others, and post their comments and views. Utilizing bring your own device (BYOD) should foster collaboration, communication and creativity for students from any location and at any time [40]. Zohri and Laghzaoui [43] continue that students can learn how to interact and collaborate firstly by sharing internet connection, analyzing knowledge, and doing research in groups.

IV. CONCLUSION

The main aim of the study is to provide guidance for the effective use of technology to support learning and teaching. If BYOD is implemented purposefully, digital native students can take advantage of their own devices to have access to learning materials and resources, exchange ideas and interact with their peers and teachers anytime and anywhere. Therefore, the effective implementation of BYOD has the potential to make today's students much more autonomous and foster lifelong learning. Using Dalton Plan principles as a theoretical framework for BYOD programs can engage students in educational activities and encourage them to be actively involved in and take responsibility for their own learning. Integrating technology into Dalton Plan class allows students to have more control over their learning that fit their needs and interests. Using Dalton Plan principles allows BYOD as a powerful learning tool to help students to promote communication, collaboration, creativity and problem solving which are vital for today's students to be prepared for future job market.

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