

Broadening Horizons Through 21st Century-Oriented Language Education

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Abstract

In the last two decades, the world has witnessed notable developments in technology which have affected the way people live, communicate, learn, and teach dramatically. Paradigms in education have also changed radically from the traditional transmission model to active learning based on experiences. Learners are expected to acquire these skills like communication, collaboration, critical thinking, creativity, and digital literacy skills along with knowledge in various areas as they prepare for the future workforce (Larson & Miller, 2011). The present work reviews different frameworks which present the so-called 21st century skills, their definition and implementation in education and in language classrooms. Different innovative learning methodologies integrating digital technologies that can be used to improve students' second language and the relevant skills are presented in detail.

Keywords: 21st century skills, English as a foreign language, technology

Introduction

The 21st century has brought dramatic changes to the world in every aspect of life. The world has become an interconnected one in which the “rapid flows of various components such as capital, people, goods, images, and ideologies draw more and more of the globe into webs of interconnection” (Inda & Rosaldo, 2002, p. 4). People are surrounded by instant transformations and overflowed with a pool of information in every field (Tan et al., 2017). To make sense of, and function well in this world, individuals need an expanded set of skills, competencies, and flexibility and prepare for a continuous learning and reskilling process through their lives and careers. The global landscape for learning is constantly reshaping itself, transforming the way we approach learning (Fandiño, 2013), and the way “we learn and teach” (Eaton, 2010, p. 16).

Societies encounter with numerous difficulties in this age and education has a major role in promoting skills that strengthen both students and teachers to confront these challenges.

Learners need to be ready for jobs that are non-existent for now, for upcoming technologies and to tackle unexpected complications. Educational institutions at all levels need to proceed in accordance with the emerging standards, review their approach and reshape their curriculum (Tan et al., 2017) as it is not possible to “win the future with the education of the past” (Prensky, 2012, p. 2).

However, the real challenge of the knowledge age resides in how an education system can meet the needs and potential issues of 21st century society. Educational systems are under pressure to accommodate a whole range of new, so-called 21st century skills, next to the existing ones to prepare students to survive and prosper in the globalized world of today as well as future (Halverson, 2018).

Thus, in today’s highly globalized and digitized world (Brown et al., 2008), education is experiencing a notable transformation. Knowledge transmission is replaced by active learning and construction. The essence of learning in the 21st century can be seen as an overriding concept of education that is promoted as a unified response to changing conditions by the educators. Main components of the learning process encouraged by various learning models of the 21st century include an increased focus on collaboration, critical thinking, communication and creativity and employment of ICT as tools for “knowledge construction and co – construction” (Chai & Kong, 2017, p. 1). Such education is also of utmost importance for L2 learning and language learners from early childhood on need education appropriate for today’s world. In order to integrate the skills successfully into the educational programs and into language learning programs as well – and even go beyond them – the skills need to be “clearly defined” for every stakeholder in education (Bloom, 2007, p. 5). Before discussing this transformation, information about the 21st century skills is provided in the following section.

21st Century Skills for Learners

The ‘21st century skills’ are defined as the set of abilities for accessing and assessing information, thinking critically, solving problems, taking part in collaboration and effective communication through employing an array of ICTs (Redmond, 2016). The concept might be recognized as contemporary; however, these skills are “not new, just newly important” (Silva, 2009, p. 631). They have always been important in history ranging from Socrates’ philosophy to Dewey’s argumentation (Silva, 2009), yet gained increasing importance because of the up – and-coming requirements of knowledge-based economies (Pedró, 2006).

21st Century Skills Frameworks

A number of international organizations have proposed 21st century skills frameworks, namely Organization for Economic Cooperation and Development Competencies (OECD), Assessment and Teaching of Twenty-first Century Skills (ATCS), and Partnership for Twenty – first Century Skills (P21). The skills proposed in these frameworks are not completely different

from each other; however, the categorization of skills differ slightly as will be discussed in the following sections.

Framework of Organization for Economic Cooperation and Development Competencies (OECD)

Organization for Economic Cooperation and Development (OECD) developed a framework for 21st century skills to provide researchers, educators, and policymakers with the “orientations for the design of educational policies and practices that address the requirements of learners in the knowledge of society” (Voogt & Roblin, 2012, p. 303). To illustrate, OECD’s categories include a) *Communication* referring to interacting in heterogeneous groups, b) *Information* referring to interactive use of tools, and c) *Ethics and Social Impact* referring to acting autonomously to protect and proclaim rights, interests, boundaries, and desires. Communication has a significant role in the development of 21st century learners as it provides them with the ability to “communicate exchange, criticize, and present information and ideas,” as well as utilize ICT tools to interact in digital environments and bring value to the digital culture (p. 10). Information is about “such as accessing, evaluating, and organizing information in digital environments” (Ananiadou & Claro, 2009, p. 9). This category includes research and problem-solving skills owing to the fact that they necessitate “defining, searching for, evaluating, selecting, organizing, analyzing, and interpreting information” (Ananiadou & Claro, 2009, p. 9). Ethics and social impact category is about the concept of “globalization, multiculturalism and the rise in use of ICT” all of which collectively cultivates ethical challenges (Ananiadou & Claro, 2009, p. 10). Hence, 21st century citizens should possess competencies regarding ethics and social impact.

Partnership for 21st Century Skills (P21)

Formed by a group of business leaders, educators, and consultants in 2009, P21’s framework consists of fundamental subjects such as “English, Reading, Language Arts, World Languages, Arts, Mathematics, Economics, Science, Geography, History, and Government and Civics as well as interdisciplinary themes global awareness, financial, economic, business, civil literacy, health literacy, and environmental literacy” (Albahlal, 2019, p. 144). These subjects and themes are categorized on three fundamental skills: a) Learning and Innovation Skills, b) Information, Media, and Technology Skills, and c) Life and Career Skills.

Information, Media, and Technology skills include information literacy, media literacy, and ICT literacy to access and use information, to create and analyze media products, and to apply technology effectively (Trilling & Fadel, 2009, p. 67). Life and Career skills category includes “flexibility and adaptability, initiative and self-direction, social and cross-cultural skills, productivity and accountability, and leadership and responsibility” (Okros, 2020, p. 155). The learning and innovation skills category stresses that 21st century learners should attain creativity, collaboration, critical thinking, and communication skills, also known as 4Cs, to prepare for the requirements of the global world in terms of both work and life (Gilbert,

2016). The aforementioned skills provide students for a better preparation for collaborative and innovative professional life.

Assessment and Teaching of 21st Century Skills (ATCS)

In 2010, Assessment and Teaching of 21st Century Skills framework suggested a model to define ten globally acknowledged 21st century skills into four major categories of competencies: Ways of Thinking, Ways of Working, Tools of Working and Living in the World. Skills to develop each competency are given in this framework. To illustrate, creativity and innovation, problem-solving are related to the ways of thinking, communication and collaboration are necessary ways of working, ICT literacy is one of the tools for working and local and global citizenship is a skill to be developed for living in the world.

The frameworks discussed so far are related to all fields in education; American Council on the Teaching of Foreign Languages (ACTFL), on the other hand, specifically focuses on the integration of communication, creativity and innovation, collaboration, critical thinking and problem-solving skills along with new Literacies (Media, Information, Technology), flexibility and adaptability, initiative and self-direction, social and cross-cultural skills, productivity and accountability, and leadership and responsibility in L2 learning. Within this framework, language teaching aims to provide students with “opportunities to use language beyond the classroom” (American Council on the Teaching of Foreign Language, 2011, p. 4) and to attain online literacy, multimodal and technological literacy, and information literacy, not be limited with the knowledge and skills they gain in the classroom.

The frameworks consist of a wide range of skills. However, skills such as collaboration, communication, creativity and critical thinking are the prevalent ones across these frameworks with ICT skills in the core (Voogt & Roblin, 2012). They all emphasize that 21st century knowledge and skills do not only repose on core content knowledge but also include information and communication skills, critical thinking, and problem-solving skills as well as skills to apply the 21st century tools such as ICT technologies. In all frameworks, the integration of digital technologies is highly focused on transforming traditional learning and mobilizing those skills that are necessary for an emerging digital environment.

Globally, the improvement of these 21st century skills is strived for from early childhood to higher education levels (Benner & Hatch, 2010; Lindeman & Anderson, 2015; Germaine et al., 2016). However, when designing education for the 21st century in primary school or at tertiary level, there are several questions to be addressed in all subject areas; a) what pedagogy, curricula, activities and experiences contribute to 21st century learning and b) how technology can be utilized to have a better learning atmosphere while promoting the necessary skills. These questions are not specific to any field, and language education has focused on these issues as well.

Integrating 21st Century Skills into Language Education

As globalization has advanced and the world has become more interwoven through various business partnerships and technological advances like the Internet, the need to connect and team up with people with various languages and cultural backgrounds amplified. The demand has grown for people to integrate communicative language ability along with techniques to steer the recent technologies and encounters of the 21st century, primarily through the use of English, which reportedly is the most frequently ‘learned’ second language globally (Crystal, 2012).

The language classroom is also expected to update its instructional methods to stay up-to-date and contribute to skills necessary for aggressive modern world. It has to adapt itself to the age of digital technologies and knowledge and to the changes in didactics and teaching methods. Pedagogy of the 21st century differs from that of the previous one and English is not a simple linguistic symbol or as a set of prescribed competencies. In its place, English is seen as a universal language that can be utilized by people to convey their distinct identities and to interact efficiently with the world (Crystal, 2006) and today’s language classrooms can no longer concentrate on grammar, memorization and rote-learning. They should indeed be conceived as a place to learn how to use the language communicatively and cultural awareness as a way of communicating with others around the world. English teachers should acknowledge the evolving and fluid nature of literacy that deals with fields as diverse as innovation, interactive media, relationships and culture. In the English classroom, the textual is expected to relate to the graphic, the auditory, the spatial, and the behavioral.

Thus, teachers are expected to resort to new and innovating approaches as well as to incorporate 21st century skills into their instruction as with these skills students will be able to; “a) access, synthesize and communicate information; b) work collaboratively across differences to solve complex problems; c) create new knowledge through the innovative use of multiple technologies” (Fandiño, 2013, p. 193). One major issue is whether teachers are ready to apply the new approaches and can succeed in all these expected changes.

Many studies were conducted on the attitudes of English teachers regarding the development of 21st century skills both in Turkey and abroad. Exploring prospective English teachers’ beliefs and attitudes towards 21st century learning with a specific stress on 4Cs, Bedir (2019) revealed through questionnaire and semi-structured interview that prospective teachers mainly were moderately familiar with the integration of 4Cs into their lessons. Kurt and Önalın (2018) investigated pre-service English teachers’ perceptions of creativity, one of the key 21st century skills. Data stemming from semi-structured focus-group interviews with eight pre-service teachers discovered that the participants professed themselves as moderately creative yet believed to be unrehearsed to teach creativity.

There are also a few studies conducted with in-service teachers. Tsourapa (2018) investigated Greek EFL teachers’ attitudes toward 21st century skills development. A considerable part of the participating teachers had positive attitudes towards the development of 21st century skills and

were eager to use various digital tools to contribute 21st century skills in the EFL class, such as blogs, wikis, social networks, WebQuests, digital storytelling, and videos. However, lack of time, training, or technological equipment inhibits the use of some of these tools in everyday teaching.

Studies conducted with students also underscore the importance the 21st century skill integration into curriculum. In a study with technical college students, Garrison (2018) have revealed that students are aware of the need for 21st century skills for their future careers and hold positive attitudes toward learning these skills. Another study conducted with 760 secondary school students also indicated that students have positive attitudes towards 21st century skills defined by enGauge framework in their content subject lessons (Soh et al., 2010). The study further indicated that integration of 21st century skills into courses had a significant effect on students' attitude towards content courses. In a more recent study with 30 college – level EFL students, Wongdaeng and Hajihama (2018) assigned projects involving 21st century skills and survey findings showed that students' communication and collaboration skills developed and there was an increase in their motivation and positive attitudes.

Studies conducted in the field of language education and general education as well have indicated that though teachers around the globe think that it is necessary to develop each skill in their language classes, many have not much information about how to do this. Many pre – service and in-service teachers equate technology-rich classrooms with 21st century learning irrespective of whether students are grasping 21st century skills. Indeed, the capability to employ technological tools nowadays does not necessarily mean that students know much about global awareness or have developed learning and innovation skills, life and career skills, or critical thinking skills. Teachers sometimes make the mistake of copying the traditional activities when renovating the lesson plans to embed 21st century skills. This results in students using a word processor software for an essay task instead of instructing them to carry on a research, visit local libraries, and create presentation. Adjustments at this scale do not encourage students to delve deeper into the topics resulting in no or little effect on success. The frameworks mentioned above suggest that 21st century skills should be systematically integrated into standards and assessments, curriculum, and instruction to transform classroom practice. Educators need to be familiar with pedagogies and innovative approaches to language development as they deal with the needs of a new generation that have lived in an incredibly globalized world.

Project-based Learning

Project-Based Learning (PBL) is one of the main approaches for 21st century knowledge and skill development (Harun, 2006). It is a student-driven and teacher-facilitated learning process, exploiting inquiry, and skill improvement (Markham, 2011). While PBL directs students to collaborate autonomously with the aim of coming up with a real-world products and presentations, teachers undertake the facilitator role leading students in the process with their help and feedback. PBL in language pedagogy is a versatile methodology that leads to various skills to be enacted. Beckett and Slater (2005) argue that PBL can “promote simultaneous

acquisition of language, content, and skills” (p. 108) as it “engages students in learning important knowledge, and developing 21st century competencies through an extended, student – influenced inquiry process structured around complex, authentic questions, and carefully designed products, and learning tasks” (Markham et al., 2003, p. 4). Real-world problems and issues used in different lessons allow learners to gain skills necessary for critical thinking and problem solving as well as deepen student learning. In the language classes, PBL utilizes creative short video creation (Lubis et al., 2018), storytelling and role-playing projects (Maulany, 2010), Web 2.0 integrated fieldwork activity (Farouck, 2016), career planning projects (Kovalyova et al., 2016), Facebook projects (Chang, 2014), occupation-related projects (Bakar et al., 2019), and investigation of reports on social issues (Kettanun, 2015) which are found to enhance students’ communication skills. PBL centers around an authentic global concern and it requires collaborative work in pairs or groups (Levin-Goldberg, 2012).

In the Facebook example, students collaboratively worked on projects for which they wrote a labor contract for an imaginary company, conducted research, and performed a presentation at the end (Chang, 2014). In addition to those, online learning environments (Lou & Kim MacGregor, 2004; Papanikolaou & Boubouka, 2010) can be employed in language classes in the context of PBL. As an example, in a study on an e-learning environment called MyProject, students, using the platform, generated ideas, studied hypermedia content, presented their work, and proposed solutions in a language learning environment (Papanikolaou & Boubouka, 2010).

According to Setiawan and Bharati (2018), students can benefit from mini-drama projects as well. In the mini-drama project, students work in groups to compose the drama text and plan the roles cooperatively that is followed by the final performance. In the video creation projects, the students discuss the content related video, construct a new scenario cooperatively, practice the scenario, and video-record it followed by the evaluation of the final video product (Rochmahwati, 2015).

Regardless of the context, level, or age studies have highlighted project-based learning’s strong ties to increased creativity, and innovation in EFL contexts (Clark, 2009; Ford & Kluge, 2015; Takeda, 2016; Mohammed, 2017; Lubis et al., 2018; Putri, 2018; Setiawan & Bharati, 2018). For instance, filmmaking projects (Ford & Kluge, 2015) and law-projects (Burkšaitienė, 2013) are found to make significant contributions to the creativity of the learners. With PBL’s concrete product requirement in mind, students can also design a brochure, an artifact, a poster, a video, or a booklet (Mohammed, 2017), and a wall magazine leading to increased creativity (Kurniawati et al., 2019).

It is possible and natural to adopt PBL without technology; however, positive findings related to the impact of technology-enhanced projects on 21st century skills have been well documented in the literature. A range of Web 2.0 tools (Elam & Nesbit, 2012), different modes of wikis (Chu, 2008; Chu & Kennedy, 2011; Popescu, 2014; Chu et al., 2017), Facebook projects (Chang, 2014), and online learning environments (Lou & Kim MacGregor, 2004; Papanikolaou & Boubouka, 2010) have been impactful. In the TWiki projects, students co – construct the

knowledge by knowledge capturing, sharing, and transferring in groups and at the end of this project, the groups create chapters for a Wikibook (Chu, 2008).

As has been previously reported in the previous section, PBL is more effective when supported with technology (Marwan, 2015; Prensky, 2018). However, many educators around the globe, in moulding future generations, continue to employ the technologies of yesterday. A question arises at this point as to; *If we are teaching the individuals of tomorrow, why aren't we using the technology of tomorrow as well?*

Emerging Technologies for 21st Century Skills

In the literature, a wide array of activities enriched with digital technologies have been employed to contribute to students' 21st century skills and studies show that life-long exposure to technology has changed 21st century learners' expectations regarding learning environments (Vallera et al., 2019). Students of today are now in favor of interactive, collaborative, and entertaining learning opportunities (Bressler et al., 2018). Providing these and being one of the future technologies, Augmented Reality (AR) allows users to experience pop-out video, picture, audio, or animated 3D objects upon scanning a marker picture on mobile devices (Ro et al., 2018). AR has the potential to contribute to "digital-age literacy, creative thinking, communication, collaboration, and problem-solving ability" (Papanastasiou et al., 2019, p. 425). In a research project carried out with high school students in environmental science class, various AR-enhanced projects such as "Environmental Detectives" and "Murder Investigation" were role-played by students resulting in improved collaboration skills (Klopfer et al., 2005, p. 312). In a study conducted with 64 seventh grade Taiwanese EFL learners, a sensor and handheld AR-supported English learning environment called HELLO was created by teachers (Liu, 2009). Students found opportunities to interact with peers and digital content and hence, higher communication skill was observed. For an AR-enhanced project, students aged 10-16 from science, social studies, and language arts classes pretended to be journalists investigating historical student protests in Madison, Wisconsin in 1967 (Squire et al., 2007). During the project, students researched the topic in local newspapers and interacted with the digital content including multimedia materials online. Students were able to analyze the matter from multiple perspectives and given these points, students' critical thinking skill was developed. As a part of a project, EFL learners, in groups, enriched the photos on the coursebook with augmented reality experiences including animated 3D objects and videos by employing both ready-made applications on the market and the stand-alone application developed by them; in brief, students' creativity was observed to improve (Karacan, 2019). In essence, AR-enhanced projects are well-suited with 21st century skills.

Problem-based Learning

Another pedagogical strategy that can be used in language education is conducting real-world scenarios through problem-based learning. Problem-based learning, a type of project

learning, centers around complex and real-world problem solving employing a case study approach in which students, in groups, conduct investigative research followed by a proposed solution to the problem (Trilling & Fadel, 2009). In developing 21st century skills, problem-based methods “outshine the traditional methods” (Trilling & Fadel, 2009, p. 112). While learners are engaged in problem-based learning activities; they collaborate, communicate, and create a solution together. Educators ought to educate learners to think critically by scaffolding higher levels of thought to focused problems, and practice effective communication skills, foster and inspire imagination by exploring ideas and different ways of speech. In the literature, it is seen that problem-based learning has been widely utilized in EFL classes for developing 21st century skills. To exemplify, Beltran and Perez (2016) employed problem-based learning in an EFL class covering social values to teach vocabulary by instructing them to find a solution to real-life problem scenarios in which students felt disrespected. Results concluded more quality social interactions as well as increased communication skills.

Discovery-based Learning

Discovery-based learning, a constructivist theory based on the principle that learners construct their meaning and knowledge by experiencing and reflecting, has strong and empirical ties to 21st century skills (Putra et al., 2020). Putra et al. (2020) in an experimental study found that the group employing discovery learning attained higher scores in critical thinking skill, communication skill, and collaboration skill tests. Employing discovery-based learning in EFL context, Dönük (2016) makes use of corpus to deliver an opportunity for her students to familiarize themselves with the real language use as well as practicing digital literacy. With the aim of enhancing critical thinking and creativity in writing, a series of steps ranging from observing to creating announcement texts were proposed in the language learning context (Kusumawardani et al., 2019).

Inquiry-based Project Learning

Inquiry-based project learning as well as inquiry-based game design learning approaches have also been suggested for the development of 21st century skills (Cynthia, 2015; Chu et al., 2017). Employing inquiry-based learning in the EFL setting, Lee (2014) suggests creating an imaginary shopping scenario in a supermarket by also emphasizing the employment of more creative questions. He further suggests a concert activity in which students inquire about the details of the concert by asking questions to each other in groups.

Game-based Learning

In the development of 21st century skills, game-based learning, an environment with game content and gameplay features enhancing knowledge and skill acquisition, has been mentioned as impactful in the studies. This learning methodology centers around problem-solving and

dealing with challenges with an element of achievement at the end (Qian & Clark, 2016). Research shows that in the context of game-based learning, students in computer game group employing online strategy games surpassed the control group in vocabulary recall and digital literacy skills (Franciosi, 2017).

Students of today and future need to be competent enough to express their ideas using all communication channels (Trilling & Fadel, 2009). In improving communication skills, a range of activities around the globe is employed such as poster presentations, digital presentations, and class discussions related to current global issues (Ananiadou & Claro, 2009). Teachers might also take advantage of student exchange programs, and UN projects such as eTwinning in which students communicate and interact with their peers worldwide and express their ideas on different platforms (Erdoğan, 2019; Palmer, 2015).

Conclusion

In conclusion, various techniques and methodologies have been employed for the advancement of 21st century skills. Although consensus upon the most suitable methodology for the development of these skills has not been reached, there are certain steps or strategies to be followed for the incorporation of the skills. First of all, learning should take place in the classroom where students feel empowered to learn. In language classrooms, teachers should provide learners with the opportunity to be self-learners. The language classroom should be an inquiry-based environment. The above-mentioned pedagogies all emphasize the importance of critical thinking and problem-solving skills which can only be developed in such settings. Language classrooms should be active; it is not possible to develop communication and collaboration skills if students are allowed to express themselves and work in pairs and groups. In today's language classroom teachers need to develop multiliteracy which broaden "the traditional language-based notion of literacy – the ability to read and write – to include not only the ability to produce and interpret texts but also a critical awareness of the relationships between texts and social and cultural contexts" (Fandiño, 2013, p. 202). Through the use of different pedagogical practices, students will be able to participate in diverse discourse communities and cope with interactive linear and nonlinear "texts being delivered on paper, screens or live" (Fandiño, 2013, p. 203).

Having reviewed the 21st century skills into education and language education, it can be stated that the integration of the 21st century skills into the English language learning is a multidimensional process that demands noteworthy adjustments in the curriculum. The mentioned changes bring out the need of reformation the curriculum for 21st – century competencies as well as to the necessity for new instructional methods and evaluation approaches.

Language classrooms today are quite distinct from the that of pre-millennium. It is not possible and reasonable to focus on grammar and memorization; the goal is not only linguistic

acquisition. The focus is on utilizing language and cultural accumulation as a way of connecting people worldwide. Students need to access to the world with the help of their language and cultural skills and succeed with the help of skills necessary for 21st century living. It is important to integrate 21st century literacy themes ranging from global awareness to a variety of literacy modes in cultivating multiliterate learners. In other words, students should be informed about governmental processes, global issues, sound financial and economic decisions as well as develop their competency to reach and utilize the information in, for instance, grasping and reviewing ecological issues and suggesting resolutions.

The 21st century requires the clear and purposeful incorporation of learning and digital skills, ICT skills, literacy skills along with life and career skills. Therefore, education institutes and language teaching context specifically need to deliver activities and tasks related to 21st century skills development.

Teachers, who happen to be the most impactful component of education, should develop themselves with the skills that 21st century requires. By moving away from the traditional conveying figure, teachers should be equipping themselves with a number of skills and approaches. Within this framework, ongoing professional development for working teachers and dynamic, future-oriented pre-service programs are highly emphasized. Both in – and pre – service teachers need to have the opportunity to take part in observations of authentic illustrations and to participate in contextual professional development practices.

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