

Challenges of Senior High School ICT Teaching and Learning in Times of Pandemic: Perspectives from the Lens of Social Reconstructionism

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Abstract

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Purpose- The purpose of this research is to examine social reconstructionism, as a philosophy of education in ICT learning in Philippine senior high schools. It will also explore the online teaching and learning methods being used in senior high schools during the pandemic.

Design/methodology/approach- Thirty senior high school teachers who are active in the scouting movement and who believe in their role as social change agents were surveyed and interviewed. Data were analyzed thematically through manual coding in Excel.

Findings- Results suggest that senior high school teachers find it harder to do their activities online to instill social action among the students since they are used to face-to-face activities. They experimented with some online activities that can still instill awareness of social issues and continued with some face-to-face activities such as community feeding by social distancing and wearing masks. The teachers believe in their important role as social change agents in developing social awareness among their students before they exit senior high school education, especially during the pandemic. However, they reiterated that the responsibility should not lie on them alone, but rather on the entire school system.

Originality- This research connects social reconstructionist practices with fostering online teaching and learning in a pandemic era, and provides recommendations to the Philippine Department of Education.

Keywords: social reconstructionism, philosophy of education, senior high school teachers, ICT teaching and learning, Philippines, pandemic

Introduction

Before the COVID-19 pandemic, ICT learning was just an option in schools as a consequence of technological change and needed economic growth. Information and Communication Technology (ICT) has transformed how education is delivered to and received by learners (UNESCO, 2011). The introduction of technology in the classroom changed education delivery to students because programs

and materials were made available "through electronic means"(Chinnanmai, 2005). Reinforcing the digital abilities of the students became urgent to their success later on (Miraschiyski, 2016).

When the pandemic came, ICT use in schools is not just an option, it became compulsory in all nations, not only the developed ones but most especially the third-world countries that include the Philippines. Almost all schools needed to adhere to ICT in education to ensure that students can still learn from their home confines. "On March 18, 2020, the UN Educational, Scientific and Cultural Organization estimated that 107 countries had implemented national school closures related to COVID-19, affecting 862 million children and young people, roughly half the global student population" (Viner, Russell, et. al., 2020). ICT in education then became the needed option while the schools were closed. According to Cohen & Kupfer Schmidt (2020), more than half a billion children became virtual-school learners as they shelter in their homes due to the Covid19 pandemic.

The senior high schools in the Philippines were very much affected because, for the first time in the history of the Philippines and the world, graduations started happening virtually in 2020. The senior high school graduates belong to the new set of batches to graduate in senior high school in the Philippines since the implementation of RA10533, K to 12 programs, which was implemented only in 2013. Prior to the passing of the Republic Act (RA) 10533, the Philippine education system was only following ten years for basic education, while most countries require 12 for basic education. The Philippine education system and government addressed this shortcoming through RA 10533, which added two years to the basic education system thus creating a K-12 curriculum (Philippine Gazette, 2012). This new curriculum was first adopted in the 2012-2013 school year for Philippine public schools. In addition to expanding the years of basic education, RA 10533 also requires the Philippine Department of Education (DepED), the Commission on Higher Education (CHED), and the Technical Education and Skills Development Authority (TESDA) to work together to enhance the nation's basic education curriculum (Asis, 2020). DepED is the government department that is responsible for evaluating and improving the quality of the Philippines' basic education system while CHED oversees the country's higher education system, and TESDA manages the development of the country's technical education and skills.

Despite the new education reform, ICT for Education framework (ICT4E) was not made an integral part of RA 10533. Several studies indicate that most of the schools follow the framework of UNESCO which was adopted by the Philippine Department of Education as part of its ICT program for schools from 2005-2010(UNESCO, 2011). There is no specific competency framework developed for the ICT in senior high schools in K to 12 after the execution of RA 10533. There is no specific directive changing or updating the ICT4E framework. It is not even included in the latest Department of Education Order number 21 released last 2019(Department of Education Order no. 21, 2019).

Even before the pandemic, there were challenges to teacher ICT readiness and the digital divide faced by schools and senior high schools in particular. There was research that found that there are problems with the teachers' readiness. Their capability training was problematic because there was no hands-on training on the internet and no echo training for teachers. In addition, there was no follow-up training for teachers. There was also a lack of hands-on exercises and a short training period for the Computer and Internet Literacy Course (CILC). To aggravate the situation, the teachers had very fast-paced training. There was also a lack of skillslearned in website development training (Lorenzo & Lorenzo 2013). The whole K to 12 education is affected, particularly, the senior high school level.

Although past studies have criticized the effectiveness of the new Philippine educational curriculum under RA 10533, other studies have suggested that teachers play an important role in establishing effective teaching practices at the individual school level (Abdurahman and Omar, 2021). More so, when it comes to ICT learning. In the ICT4E teachers' competency framework, it was clear that the teachers' role would shift from the traditional provider of knowledge to the facilitator of learning and eventually become a social change agent. It is a principle that adheres to the philosophy of social reconstructionism. Although the pedagogical approaches of the enhanced K to 12 as stated in RA 10533 are "constructivist, collaborative, inquiry-based, reflected, differentiated and integrative", it also mentioned that the curriculum is "inclusive, student-centered and developmentally relevant and appropriate" (RA 10533, 2013). The policy issuance in 2019 from the Department of Education mentioned that the program is a "response to community, national, and global needs." Despite this direction, it is not transparent how ICT in education is positioned to achieve the goals. It is an indicator that the written agenda and direction is very much different from the practice. The present government created the Department of Information and Communication Technology (DICT) in 2016 through Republic Act No. 10844. This could have been a signal to develop a new ICT4E but there is still no national ICT4E vision and a clear policy direction in the Philippines. The DICT established the TECH4ED program, otherwise known as Technology Empowerment for Education, Employment, Entrepreneurship, and Economic Development program. It provides ICT-enabled services to communities that have "minimal access or no access to ICT and government services" (DICT, 2020). The absence of a comprehensible vision and strategy from the national government left schools to go through their assets to adapt to online teaching and learning. Hence, this paper will answer four research questions that will serve as the basis for the analysis. First, "How do the SHS teachers describe their roles in a virtual classroom?". Second, "How do the SHS teachers implement approaches in teaching on online platforms?". Third, "What is the pieces of evidence that the SHS teachers are not only facilitators but also social change agents?". Lastly, "What policy framework may sustain the ICT education for social change agents?"

Although several studies have been conducted to evaluate the effectiveness of RA 10533, there is a dearth of literature that connects social reconstructionist best practices with fostering online teaching and learning during the pandemic. This research aims to address this gap by exploring the approaches of Philippine school high school teachers in implementing their role as social change agents in the online platform. *Social Reconstructionism* in this research refers to the philosophy of education that heavily emphasizes "social questions and questions about society itself in a better effort to create a more successful society in the future" (Brameld, 1974). The center of Brameld's philosophy is the community. A diagram was developed to illustrate this (Annex A). In the schools, this philosophy is intended to instill ways on how to resist oppression, invent and reinvent the world, reconstruct and systems must change. Under the systems change are dialogue community-based learning, social reform, critical consciousness, and social action. Under social reform is the learning environment which includes the development of awareness, student experience, and process of inquiry. The diagram was a result of Brameld's original theory which was his reaction to World War II. He correctly recognized the potential for either human annihilation through technology and human cruelty or the capacity to create a society that was better through the use of technology and pure human compassion. He emphasized respect for the existing culture and the awareness of education. He claimed that while trying to change the world, "one cannot do so in isolation from the culture and current events" (Brameld as cited by Kostylo, 2012).

So, in the case of building an ICT for senior high school, there is a need to take current events and other gaps into consideration. By doing this, we are following the guidance of Brameld when he called both the two attitudes that characterize reconstructionism (Brameld, 1974). According to Brameld, there are different roles of teachers, students, and educational leaders in a school. And these roles will lead them to the creation of social change. In his writing in *Social Frontier*, a journal of education and political critique, he argued for a radical philosophy that focused on analyzing the weaknesses in the social, economic, and political structure. He considered democracy as the core of his educational philosophy and asserted that education needed a reconstructed perspective in his work, *Ends, and Means in Education* in 1950. He considered no issue out of bounds for discussion and critical analysis. He considered teachers as social change activists. To reiterate, social reconstructionism believes that the function of the school goes beyond its academic aspect, as "it should also serve as an agency for resolving problems in society and should work for social change." (Acido and Muega, n.d.) Brameld was also committed to intercultural education and education for a world community, which is accepted as global education at present. Moreover, *ICT learning- ICT* (Information-Communications Technology) learning is equated to online learning and teaching in this research to indicate conformity with the papers reviewed. "*Information and communications technology* mean computers, mobile phones, digital cameras, satellite navigation systems, electronic instruments and data recorders, radio, television, computer networks, satellite systems or almost anything that handles and communicates information electronically, including both the hardware(equipment) and the software (computer programs in the equipment)" (UNESCO, 2018).

Select senior high school teachers who believe in their role as social change agents and who implemented activities in their online classes were utilized for the study. This research aims to provide recommendations to the Philippine DepED for developing an ICT framework for senior high schools and basic education in general by deriving available approaches and practices. The research methods are further described in the subsequent materials and methods section.

Materials and methods

The researcher used relevant qualitative methods and techniques to answer the research question. This section describes the sampling, data collection, and data analysis methods that were utilized in the study to derive the results in the next section. Detailed descriptions of the methodology components are provided in the subsections below.

Sampling

This research used purposeful sampling to determine participants. This particular method of sampling was selected to derive information-rich cases to study in detail (Patton, 2002), and to include individuals and groups that are highly knowledgeable about the role of teachers as social change agents (Cresswell and Plano, 2011). Palinkas *et al.* (2015) describe four different types of purposeful sampling methods. Of their descriptions, this research best fits that of homogeneity, which they state is used to, "describe a particular subgroup in depth to reduce variation" (Palinkas *et al.*, 2015, p. 534).

The researcher consulted with her colleagues in the scouting movement to locate the senior high school teachers in the organization. Thirty teachers met the criteria. Upon selecting the senior high school teachers who are at the same time believers in their role as social change agents, the researcher located them, their email addresses, and their social media handle. For the purposes of this research,

“*teachers as social change agents*” refer to teachers that are seen as key players in securing change within communities (Freire, 2005; Tikly and Barret, 2013). Recruitment letters were then sent out to prospective teachers to explain the research study. A total of thirty senior high school teachers were surveyed through a google survey with an informed consent cover letter and after they submitted the survey forms, ten were interviewed for clarifications. The researcher follows the guidelines of the British Educational Research Association (BERA) to ensure the ethical conduct of the research. Letters were assigned to each respondent to protect the privacy of participants.

Data Collection

After selecting the thirty senior high school teachers, data was collected through an online survey and phone interviews. These were the selected method of data collection so the researchers could gain a detailed understanding of participants’ perspectives by learning about their experiences with online teaching and applying approaches to instil the need for social change (Patton, 2002). Google survey submissions were collated in an Excel file and notes were done for the phone interviews to clarify or follow up on answers in the survey. The mode of survey is online, and the interviews are through phone to comply with the protocols during the pandemic. The google survey and phone interview processes took place between September and December of 2021.

Data Analysis

The role of senior high school teachers as social change agents in the online platform was examined through thematic analysis. The thematic analysis was employed since the data gathered were based on preconceived themes on the social reconstructionism theory and online teaching/learning. Thematic analysis is a method to identify, analyze and report patterns or themes within the data (Collingridge and Grant, 2008). It included a strategy for research questions as the basis for eligibility and inclusion in the analysis. The data from the surveys were entered into an MS Excel spreadsheet and collated. The same is true with the data collected from the interview. All the questions were analyzed using qualitative methods, where the responses were analyzed using open codes and then with axial codes to categorize and synthesize emerging themes (Creswell, 2007). The coding of data highlighted answers or texts that are related to the Research Questions.

Results and Discussion

The following section presents the results of the senior high school teachers’ responses to each of the interview questions that were guided by the research questions. Policy recommendations for the senior high schools and the Department of Education are also provided to address challenges and gaps that were identified for specific components in the interviews.

The Role of Senior High School Teachers in Virtual Learning

The senior high school teachers who responded provided different roles they do in their online classes. Just like face-to-face classes, they continue to be facilitators of knowledge to ensure that their students can still learn with quality even though the platform became different. But for them to connect, the SHS teachers needed to enhance their ICT capabilities, so they became co-learners themselves to cope with the digital mode of teaching. Since the teachers surveyed are all active volunteers in the scouting movement, they would not give up their belief that they need instill social consciousness among their

students, especially the senior high school students. Hence, they take their role as social change agents at heart. Due to this, they have created some online activities to continue developing social awareness and continuing students' experience of the real world. Even some of the face-to-face community activities were continued with the condition of following the protocols which include, wearing masks, physical distancing, and getting themselves and their students vaccinated. Other different descriptions of their roles include being a motivator, mentor, tutor, and instant counselor due to the effect of the pandemic on the student's mental wellbeing. They are now performing more roles during the pandemic compared to the pre-pandemic times.

Senior high school teachers' approaches to teaching on online and digital platforms

Online education represents a different form of course delivery compared to face-to-face, but it is subject to the same need for monitoring and assessment (Greener, 2008). The online experience is different for everyone. The different learning styles of an online learner may differ from one student to another. To be successful in the learning process variety is needed. When building an online course, the teacher considers the learners and what they might accomplish on their own while working at their own pace. There is still socialization in the sense that learners still must work with each other which can be similar in a face-to-face setting but this time, on an online platform. Online strategies include synchronous and asynchronous modes. (Jung, Choi, Lim, & Leem, 2002). The senior high school teachers who were surveyed employed both the synchronous and asynchronous methods. Their synchronous communication methods included phone or live video chats in real-time such as through zoom, google meet, teams Meet and others. Asynchronous communication methods included the sending of communication through email, postal service, discussion boards, or multimedia that can include graphics, video, and animation. One strategy is group work that is done in google Classroom. This can support both synchronous and asynchronous communication. There are benefits and drawbacks to both designs. Some students prefer synchronous courses because they need to feel involved, in real-time, with the class experience (Haslam, n.d.). In an asynchronous course, the teacher and student do not meet at the time of content delivery, but through discussion boards, and emails (Dağ & Geçer, 2009). The two learning types can be integrated and utilized to support student needs within an online learning environment called blended learning. The senior high school teachers got students to become active and involved in their learning which was achieved by designing activities that promote student interactions and can build a sense of community among the students and faculty (Lombardi, 2007).

Evidence that SHS teachers still act as social change agents online during the pandemic

In a face-to-face mode of learning delivery, the learning environment described by Brameld in his social reconstructionism theory is already institutionalized in some schools. This learning environment includes development awareness, student experience, and the process of inquiry. In this part where SHS teachers who act as social agents are asked to show evidence that they can still do the same principles in the digital mode, they mentioned additional activities they had to develop online, in order to instill in the students, the awareness to social issues and to experience a community where their action can bring out change. Even the process of inquiry changed in the online platform but the focus was centered on an authentic process of inquiry and learning how to distinguish true sources of information and fake ones. Some of the respondents from the public schools have been active in organizations like Girl Scouts of the Philippines and Boy Scouts of the Philippines. Their purpose is to

immerse their students in camping to inculcate the love of the environment. Also, learning how to live with the fundamental things in life like food and shelter to survive. But all of these happened in a face-to-face environment. For them to continue these activities in the online platform, they needed to register their students in online webinars with activities that are focused on the student experience. For now, the Scouting leadership activities are also done online. Some SHS teachers from the private schools stated that they have group projects for the SHS students where they can partner with local producers and develop their products. They are sold online and proceeds are used to help nearby barangays. That's how the student experience of community service is done online. Also, for developing awareness, various chat groups were created so that the students can discuss recent events and debate what is authentic and fake news. By dissecting the current happenings, critical thinking and collaboration among students are still developed despite online platforms. The majority of the respondents emphasized how their students are taught to read current events and to be conscious of verified information because fake news is already spread on social media. The process of inquiry among the students only changed in terms of physical discussion and online discussion. The teachers can still participate in question-and-answer avenues with their students online. What hinders the online discussion are the gaps already written in the literature which include inadequate IT infrastructure and slow internet connectivity. The activities online also had to be approved by the school heads which sometimes delay the estimated time of completion.

Policy Framework that can sustain the ICT Education for social change agents

Looking at the ICT framework of UNESCO (Annex B), it is explicitly stated that the ultimate goal of teachers in the ICT learning environment is to facilitate the use of technology that addresses their social needs and cultural identity. This is the framework that is still being followed in Senior high schools, both public and private, according to the respondents. It is an ICT framework for student and teacher competency. But for the analysis of this paper, the focus will be the teacher competency frameworks which comprise several competencies that include the knowledge, skills, and attitudes that enable an educator to establish effective teaching practices. For teachers to teach these skills to their students, they must possess the appropriate digital competencies. Digital competence is broadly defined as the confidence and creative use of ICT to achieve goals related to an activity (Stavros, 2015). The UNESCO ICT-Competence Framework for Teachers became the basis for the ICT framework for teachers' competency in the education agenda of many countries including the Philippines. It has the potential to play a unified and essential role in teacher professional development since it can apply equally in different economies and different aspects of everyday teaching practice (UNESCO, 2011). However, with the same ICT framework in the world, developed countries focused on knowledge creation while developing countries like the Philippines is still in the technology literacy approach. The respondents agree that the ICT Teachers' Competency Framework for all levels are feasible but with a world that is facing a pandemic, there should be an explicit indicator of advancement which factors in what the students can contribute to their communities in the virtual world. Hence, majority of the participants believe that the Department of Education should provide more specific guidelines. The department can review and reconstruct the senior high school curriculum which integrates revisions that can answer the call of the times by connecting the core subjects to real-life applications to contribute to social change. According to them, the ICT framework can continue to focus on the SHS teachers' role as facilitator of learning and as social change agents in the digital platform. To make these changes easier, they should become habitual users of ICT, hence should be trained consistently. There should be a

policy to continue looking for opportunities to upgrade their competencies, share their experiences, create a culture of collaboration to support each other and to develop an avenue to contribute to social reform.

Conclusion

This research examined the role of Philippine senior high school teachers in a digital platform at the same time learning from their approaches to teaching during the pandemic. There are pieces of evidence that they can still act as social change agents despite nonphysical interactions that were discussed to prove that the social reconstructionist way of developing a learning environment is still feasible at this time. Finally, the significance of an ICT framework that is conducive to teaching senior high school students to become social change agents in the Philippines just like their teachers was emphasized. The overall findings indicate that not only teachers but also school heads play an important role in establishing effective teaching practices at the individual school level, ultimately promoting social action. While the SHS teachers are the primary implementer of the ICT in online learning and teaching, the responsibility of teaching social reform success does not lie on them alone, but rather on the entire school system. To further promote participation for social change among Filipino students, it is recommended that the Department of Education adopt the best practices identified in the surveys and interviews of this research to reach other schools throughout the Philippines that do not yet have a learning environment that supports development awareness, the process of inquiry and student experience. It is imperative to make a short and long-term plan of action to make schools the center of social change in our country by involving all stakeholders: school heads, teachers, parents, and students in their future school programs and activities. Senior high school policy should promote a learning environment of social action through awareness development and active participation in the communities whether online or through direct collaboration. This policy will cause the amendment of some provisions of K to 12 to adapt to the call of the times, like in a pandemic or crisis. In terms of research, there is a need for continuous research on the impact of social reconstructionism on senior high schools or the need for a social reconstructionist curriculum in the online environment. Also, research the best practices of schools in terms of their digital learning environment to promote social action. The writer would like to expand this research on all levels, from kindergarten to the senior high school level. If possible, review the role of education to create social changes, following those described by the notable reconstructionists but in the Philippine cultural context. In terms of practice, senior high schools need to aim at educating a generation of problem solvers by identifying the real social problems facing the country and the world. In addition, it is high time to recognize students as significant agents of social change, hence need to be taught problem-solving skills within and outside the school. Finally, the author would also like to expand this research in the future by examining the progress of public schools in implementing social reconstructionist framework in the Philippines.

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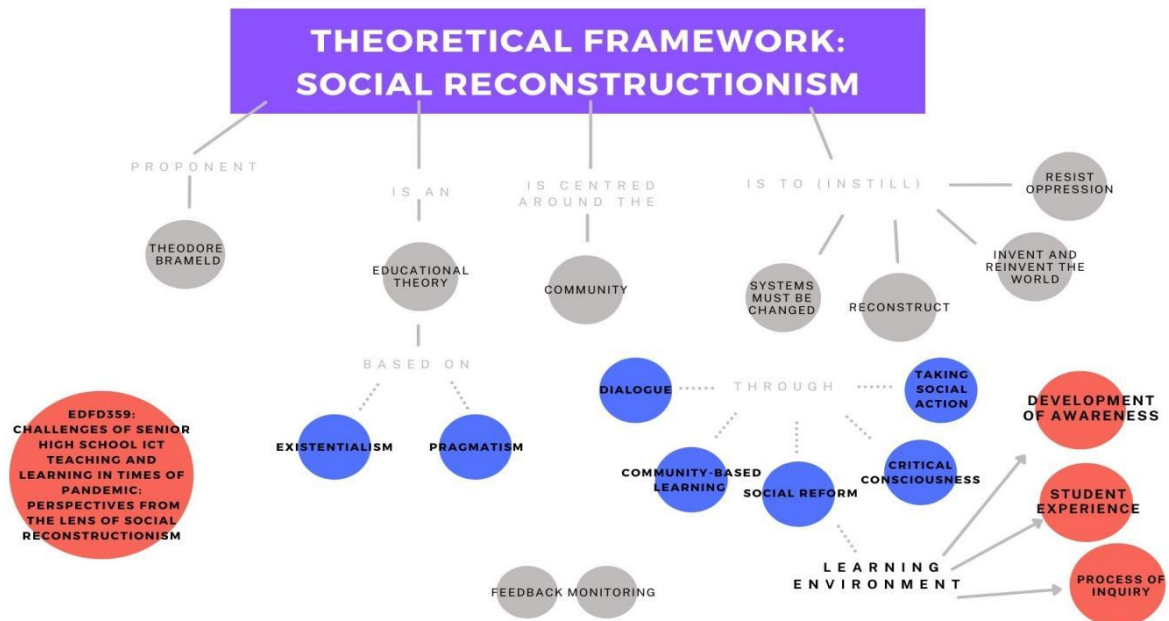
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Annexes

Annex1. Social Reconstructionism Theoretical Framework Used for this paper



Annex2. UNESCO ICT Framework

THE UNESCO ICT COMPETENCY FRAMEWORK FOR TEACHERS			
	TECHNOLOGY LITERACY	KNOWLEDGE DEEPENING	KNOWLEDGE CREATION
UNDERSTANDING ICT IN EDUCATION	Policy awareness	Policy understanding	Policy innovation
CURRICULUM AND ASSESSMENT	Basic knowledge	Knowledge application	Knowledge society skills
PEDAGOGY	Integrate technology	Complex problem solving	Self management
ICT	Basic tools	Complex tools	Pervasive tools
ORGANIZATION AND ADMINISTRATION	Standard classroom	Collaborative groups	Learning organizations
TEACHER PROFESSIONAL LEARNING	Digital literacy	Manage and guide	Teacher as model learner