

Improved Students' Level of Achievement, Autonomy of Learning, and Metacognitive Strategies through Teaching Social Studies Using New Media

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This study explored the relationship between teaching social studies and the use of new media technologies such as *Genyo* LMS, Facebook messenger, web-and-cloud-based software like *Lucidchart*, *Powtoon*, *Prezi*, *toondo.com*, *Wikimedia*, *Rubistar*, and *Rubricmaker* for assessment and improvement of students' level of achievement, autonomy of learning, and use of metacognitive strategies. Through the use of a one-group pretest-post-test design, and the administration of a Teacher-Made Assessment Test and a Self-Regulation Questionnaire-Academic to 35 Grade 9 students, it was revealed that the use of new media technologies in teaching social studies had a significant effect on the students' level of achievement, and that there was a substantial change in their autonomy of learning. Moreover, it showed that it had significant effects on the metacognitive strategies of students such as planning, evaluating, and reflecting. The results revealed a positive-weak correlation between the students' level of achievement and their autonomy of learning. Hence, researchers and educators are recommended to continue exploring other new media technologies that make the learning process more interesting and engaging for students. This study offers innovative approaches to teaching and learning social studies in the 21st century.

Keywords: *Social Studies, new media, achievement, autonomy of learning, metacognitive strategies*

Introduction

Today's learners are considered 21st-century learners. They are different from other generations because of their ways of accessing and processing information. According to Eaton (2012), 21st-century learners have a high level of digital literacy. They do not know a world without computers. They want to connect with others using their own communication devices. They have the skills to access all the information they need and consider themselves both consumers and creators of media messages.

Despite information, media, and technology skills being embedded in the K to 12 Basic Education Curriculum, these are not explicitly stated in the Social Studies curriculum goals in the Philippines; thus, innovations in technology integration in teaching Social Studies should be made. The utilization of new media technology in teaching Social Studies is one of the global-digital era's learning advances and is stated in the visions of the National Council for Social Studies (NCSS): Through this, the three core skills of the 21st-century, namely learning and innovation skills; information, media, and technology skills; life and career skills are strongly supported (Farisi, 2016).

The use of technology in teaching Social Studies positively affects students' achievement (Cener et al., 2015). For example, after using online discussion forums, students were found to give better performance in their final tests (Chang et al., 2013). In addition, students' achievement and retention are also found to increase in using digital lessons (Ozerbas & Erdogan, 2016).

Students' achievement is related to the autonomy of learning (Afshar et al., 2014; Hashemian & Soureshjani, 2011; Little, 2007; Guay et al., 2013). Hafner and Miller (2011) found out that digital video projects and associated technological learning environments promoted students' autonomy in learning because they encouraged students to take responsibility for, monitor, and reflect on their learning. In the Philippines, Bonifacio (2013) found that Information and Communication Technology (ICT)

raised learning quality, stimulated motivation, supported the mastery of basic concepts, and developed higher order thinking and lifelong learning skills.

The aforementioned literature demonstrates that studies conducted in the Philippines about the effects of using technology on students' academic performance are in Science and Mathematics and that there are limited investigations into the said topic in Social Studies. In the case of autonomy of learning, much of the research on this in the Philippines is in the field of linguistics, and there are no studies on promoting this in Social Studies. Hence, this study was conducted to analyze and assess the implications of teaching Social Studies using new media for the students' achievement and autonomy of learning and metacognitive strategies.

Specifically, this study aimed to answer the following questions:

1. Is there a significant improvement in the students' level of achievement with the use of new media technologies in teaching Social Studies?
2. Is there a significant improvement in the students' autonomy of learning with the use of new media technologies in teaching Social Studies?
3. Is there a significant relationship between the students' level of achievement and their autonomy of learning?
4. How does the use of new media technologies in teaching Social Studies affect the students' metacognitive strategies?

This study discusses the suitability of teaching Social Studies using new media with the characteristics of 21st-century learning and in enhancing 21st-century skills. The 21st-century skills include information, media, and technology skills, learning and innovation skills, communication skills, and life and career skills. These skills are embedded in the K to 12 Basic Education Curriculum, which learners must go through (DepEd, 2019).

The data were gathered from a selected section of Grade 9 students of a private high school

institution in Makati. The information gathered on teaching Social Studies using new media was solely based on the school where the research was conducted.

This paper hopes to show that the use of new media in teaching Social Studies had a positive impact on the students' achievement, improved their learning autonomy, and enhanced their metacognitive skills. It hopes to offer teachers innovative approaches to teaching and learning social studies in the 21st century.

Literature Review

Teaching Social Studies

Social Studies is the study of the social sciences and humanities that fosters civic competence. Its primary goal is to assist young people in making informed and reasoned decisions for the public good as citizens of a multicultural, democratic society in an interdependent world (NCSS, 1992). This purpose can also be found in the definition of social studies by the Department of Education as the study of people and group, community and society, and on how they lived in the past and live in the present, their relationship and interaction with each other and with the environment, their beliefs and culture, to create an identity as Filipino, as human, and as a member of the society and the world and to understand the society and the world. The Department of Education also mandated the embedding in the Social Studies curriculum and all other subjects of 21st-century skills: (1) information, media, and technology skills; (2) learning and innovation skills; (3) communication skills; and (4) life and career skills. These 21st-century skills can be developed by integrating technology in teaching and learning Social Studies (Farisi, 2016).

Social Studies is often considered a boring subject because of the instructional strategies being used and the lessons in the classroom. Students have a preconceived notion that Social Studies is not important because of the lack of instructional time devoted to the subject (Kelley, 2021). It is less valued by students as compared to

other subjects such as math and science. According to Milo (2015), the strategies employed in teaching social studies focus on memorization and are dominated by textbooks that do not motivate the students to learn. The use of technology in the classroom can address this and improve the interest of the students (Wieking, 2016). It is important to emphasize technology in developing interest and motivation as a factor in the improvement of students' academic performance. In the study by Stokes (2011), where 50 teachers and 35 students from seven states in the United States were interviewed on the utilization of new media in teaching, the teachers agreed that social media improved students' motivation and encouraged them to participate in classroom activities. The students showed a high interest in doing assigned tasks using technology, and collaboration among them improved. The activities performed by the students using technology were done with high quality especially when these were published on the internet. According to Eyyam and Yaratani (2014), students, who were instructed to use technology, had significantly higher academic performance than the students who were instructed without technology.

New Media Technology

New media are a broad term that emerged in the late 20th century that is used to identify communication using the Internet and social media. They are more accessible for users, allow more interactivity, and allow more creative participation and feedback than traditional media (Allen, 2017). New media are distinct from old (traditional) media because they are more transferable from one device to another. They are also more personal as they allow customizations and user-preferred settings that can range from choosing the media content to creating personalized media environments (Jones, 2016). New media, which include digital and social media (Jones, 2016), provide access to content and interactive feedback, and provide opportunities for creative participation of users at any time and from any location on any digital device (Khan, 2015).

Digital media are a type of media that is encoded in machine-readable formats that are made, streamed, modified, shared, and kept on digital electronics devices (Das, 2020). Social media meanwhile are a type of new media used for social interaction using the internet and encourage users to participate, contribute, and create topics or discussions. They are a group of new forms of online media such as social networks, blogs, wikis, podcasts, forums, content communities, and microblogging characterized by participation, openness to comments, exchange of ideas, creation of online community, expansion of networks and connections (Mayfield, 2008). The emergence of new media has bombarded the education sector with expansive information and data. They provide supplementary learning tools that are essential in the education sector (Shilpa, 2014). New media tools such as podcasts, blogs, search engines, *YouTube*, and other similar platforms offer a wide range of possibilities for teaching (Udoudo & Ojo, 2016). These tools may improve literacy and learning regardless of the demographics of students (Highley & Seo, 2013). New media technologies provide learning tools and content and could serve as a learning platform (Pappas, 2013) where deep learning and knowledge creation are possible (Mnkandla & Minnaar, 2017).

E-Learning

E-learning is a learning method used for the delivery of instruction via the internet or any other electronic media such as multimedia, compact discs, satellites, or other new education technologies (Gul, 2015). One feature of e-learning is the engagement of students in either synchronous or asynchronous learning environments. Students can participate in chat rooms in real-time or asynchronously by posting to newsletters or forums (Morrison et al., 2019). The main objective of e-learning is to increase accessibility to education, particularly the improvement of students' level of achievement (Oye et al., 2012). E-learning could be an alternative to face-to-face learning or conventional instruction where teachers and students are

physically present in a classroom. It allows students to choose other learning options and be responsible for their learning (Collis & Moonen, 2008; Oye et al., 2012). Online education, also known as distance learning, observes time and space dichotomies. It can be either synchronous or asynchronous and can be done in either the same or different locations (Nortvig, 2014). According to Oye et al. (2012), synchronous interaction like chat needs the virtual presence of the users at the same time. The collaboration in this kind of interaction happens in real-time and prevents communication disruption. In contrast, asynchronous interactions like email, blogs, and threaded discussions provide an opportunity for the students to access learning resources anytime. Asynchronous interaction has a significant benefit especially for students who live in different places which makes gathering or meeting at the same time difficult. The growing demand for the management and organization of e-learning has led to the development of learning management systems (de Oliveira et al., 2016).

Learning Management System

One of the earliest innovations of e-learning is the learning management system (LMS). Learning Management System or LMS is a web-based platform for online learning content delivery in an online (occurs via the internet through a web-based platform), face-to-face (in person learning where teachers and students interact), or blended mode (form of learning which has features of online and physical learning) (Rottmann et al., 2020). LMS is a technology for learning which can be used for course material making, managing, and uploading (Sabharwal, et al., 2018). It improves student learning as it provides a collaborative environment during instructional time, and it allows teachers to design appropriate and significant learning activities (Kattoua et al., 2016). LMS remains the main online education infrastructure ((Dahlstrom et al., 2015) and the technology that is most important to online education (Legon & Garrett, 2017).

An example of an LMS is *Genyo*. The *Genyo* LMS is the first LMS at the basic education level in the Philippines. It provides an exclusive

subscription to massive multimedia resources that are based on the curriculum of five learning areas: Math, Science, English, Filipino, and Araling Panlipunan. It has the following features: games, quizzes, assignment, videos, tutorials, blog, flashcards, and e-portfolio. In 2004, *Genyo* became a certified Sharable Content Object Reference Model (SCORM) that serves as the standard in the field of e-learning. The SCORM allows the teachers to track the performance of students and creates a complete lesson package using various multimedia resources incorporated in the system like video, audio, images, pdf, word or presentation documents, and other file formats. One of the benefits of SCORM is its capacity in allowing teachers to design (mix and match) content that is appropriate and relevant to the needs and learning styles of the students (Diwa Learning Systems, 2012).

Autonomy of Learning and Metacognition

Learner autonomy was first introduced by Holec (1979, 1981) as the capacity of the learners to be responsible for their learning. It aims to develop among learners participatory democracy and active involvement in various social and political activities (Little, 2007), both of which are included in the goals of teaching Social Studies. Little (1991) describes autonomy of learning as the psychological connection of students to the content and learning process which is important in the development of critical thinking, decision making, and own action. According to Breen and Mann (1997), autonomous learners have a high desire for learning and develop metacognitive skills that allow them to initiate change, communicate, and optimize the learning environment wisely. This includes the evaluation of wants, needs, interests and choosing appropriate strategies to achieve them. This is attainable in an environment or condition where teachers support students in discovering and using effective learning strategies. This kind of change in the learning condition, from a teacher-dependent to a teacher-independent environment, may not be that easy for the students who have been used to a teacher-led classroom environment.

According to Little (1999), the definitions of autonomy of learning may be summarized into three principles: (1) the basis of learner autonomy is the acceptance of responsibilities for one's own learning; (2) the development of learner autonomy depends on the actualization of responsibility in continuous understanding of the knowledge or subject matter he is studying; (3) learner autonomy can eliminate the gap between the formal learning and his environment.

According to Garcia (2010, as cited in Ismael, 2015), autonomy of learning cannot be separated from metacognition. It means that autonomy of learning is being promoted in the development of metacognitive strategies such as planning, monitoring, evaluating, and reflecting. Metacognition is the awareness of an individual of his own knowledge and skills to understand, control, and manipulate his own cognitive process (Meichenbaum, 1995). Metacognition is thinking about thinking which includes knowing when or where a particular learning strategy can be used to solve a problem or a challenge as well as knowing how or why a particular strategy will be used. Metacognition can also be described as the ability that is used in a specific task, the use of processes to solve a problem, reflection on and evaluation of the results, and the modification of the approaches of the individual when necessary.

According to Lai (2011), metacognition has two components: (1) knowledge and (2) regulation. Metacognitive knowledge includes knowledge about oneself as a learner and the factors that might impact performance, knowledge about strategies, and knowledge about when and why to use strategies. Metacognitive regulation or strategy is the monitoring of one's cognition. This strategy includes the following components: planning activities, awareness of comprehension and task performance, and evaluation of the efficacy of monitoring processes and strategies. Planning is the main component of metacognition. It serves as a guide in the processes or procedures in performing a task. It focuses on the ability of the students to evaluate learning needs, identify objectives, and plan for the strategy that will be employed (Panahandeh & Esfandiari, 2014).

Rigney (1980) identified the skills for self-monitoring that were important for the successful implementation of a task such as awareness of the steps to undertake, and identification of errors and correcting them. In the evaluation phase, students identify strengths and weaknesses and the factors that affect the implementation of the activity or task based on a set of standards. They then evaluate the process and product of the learning. Students also evaluate the effectiveness of the strategies they employ in the implementation and attainment of the objectives (Cambridge Assessment International Education, n.d.). Reflecting refers to the ability of the learners to think and to evaluate the progress of their tasks. It is a thinking process used to attain the learning objectives or to achieve the expected result (Moon, 1999). Reflecting through writing journals, diaries, or blogs about the learning experiences is a process for learners to think about the knowledge and skills they used in performing a task. These records provide an opportunity for students to analyze perspectives, compare the changes, and review the factors for success or errors in the implementation of an activity (Costa, 1981).

Conceptual Framework

The Social Studies Curriculum continues to develop amid the fast development of technology. Despite this, students continue to have a negative attitude towards Social Studies as a boring subject because of the instructional strategies being used and the curriculum in the classroom (Kelley, 2021) and treat as a less-valued subject (Dundar & Rapoport, 2014) because the strategies employed in teaching social studies are based on memorization and dominated by textbooks that do not motivate the students to learn (Milo, 2015).

The continuous development of technology gave birth to the emergence of new media technologies which subsumed digital and social media (Jones, 2016). These technologies can be utilized in teaching to improve students' interests, academic performance, and autonomy of learning. The teaching of Social Studies using new media technologies is one way of promoting technology integration in the learning process which will contribute to the attainment of the goals of the Department of Education, one of which is to produce holistically-developed students equipped with 21st-century skills (DepEd, 2019) and other relevant characteristics of 21st-century learners (Eaton, 2012).

Figure 1

Conceptual Framework

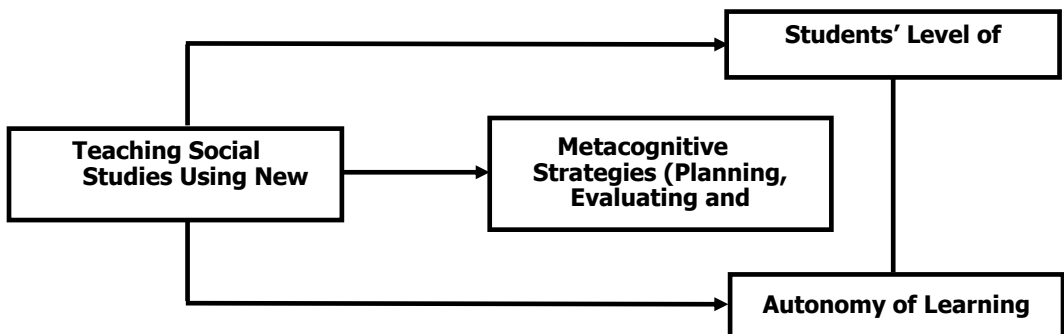


Figure 1 shows the relationship of the research variables based on the literature. The arrows represent the effect of teaching Social Studies using new media technologies on students' level of achievement, autonomy of learning, and metacognitive strategies. Students' level of achievement may be improved because of their enhanced interest and motivation and the potential of new media technologies

in teaching Social Studies and in developing characteristics of the 21st-century learners. Learners' autonomy may also be improved because of the opportunities provided to the learners to be responsible for their own learning in using new media technology in Social Studies. The use of metacognitive strategies may be promoted and improved using new media technologies in the planning, evaluation, and reflection of the students. The improvement of students' level of achievement may be correlated with the improvement of learners' autonomy.

Methodology

The researcher employed a one-group pretest-post-test design where scores were measured before and after treatment after which the difference between the pretest and post-test scores was compared (Creswell, 2014). The respondents of the study came from one section of Grade 9 students of a private high school institution in Makati enrolled in S.Y. 2014-2015. The school had been using the *Genyo* Learning Management System (LMS) since the school year 2008-2009. The said LMS was used to support the academic subjects English, Filipino, Math, Science, and Social Studies. This LMS was an example of instructional technology which students had been using together with other instructional technologies such as Movie Maker, *Prezi*, YouTube channels, and news videos before the conduct of this study.

The researcher used a Teacher-Made Assessment Test (TMAT) and a Self-Regulation Questionnaire-Academic (SRQ-A) as instruments in the study. The TMAT was administered to measure students' level of achievement. To ensure the content validity of TMAT, a table of specifications (TOS) was formulated based on the learning competencies prescribed by the Department of Education (DepEd). The TMAT is a fixed-response multiple choice type of test with four options and open-ended questions with a corresponding rubric. The TMAT was checked by experts and pilot tested among a group of students to measure its validity in terms of the level of comprehensibility, language use, clarity of instructions, and time allotment to finish the test. From the result of pilot testing, the

TMAT underwent item analysis using statistical analysis software. From the original sixty (60) questions, it was reduced to forty (40). To test the reliability, it was then administered to the same group of students for the second pilot testing. With the researcher using Cronbach Alpha, the result 0.72 was obtained, which is an acceptable level of internal consistency (Hair et al., 2010).

The Self-Regulation Questionnaire – Academic (SRQ-A) used in this study was employed to measure students' level of autonomy of learning. It was adopted from the Center for Self Determination Theory. Each question is followed by several responses that represent the four (4) regulatory styles namely external regulation, introjected regulation, identified regulation, and integrated regulation or intrinsic motivation. The combination of the four (4) regulatory styles creates the Relative Autonomy Index (RAI) that describes the level of autonomy of the respondents. Through the four (4) regulations, the behavior of the students can be determined as either autonomous or controlled. Controlled behavior is the behavior or the kind of motivation that a student has based upon external factors while autonomous behavior is the behavior or the kind of motivation based on internal factors (Ryan & Connell, 1989). Furthermore, controlled behavior can be determined if the score of combined external regulation and introjected regulation is higher than the combined score of identified regulation and integrated regulation. In contrast, behavior is autonomous if the combined score of identified regulation and integrated regulation is higher than the combined scores of external regulation and introjected regulation. To determine the relationship between students' achievement (TMAT) and autonomy of learning (SRQ-A), the Pearson product-moment coefficient was utilized. Other data from the teacher's observation notes, blog entries, and e-portfolio of students, and the focus group discussions were considered particularly in determining the effects of using new media on students' metacognitive strategies.

The topics taught using new media technologies were as follows: (1) *Ang Pag-usbong ng Europa sa Panahong Medyibal*; (2) *Ang Pag-usbong at*

Paglakas ng mga Bourgeoisie; (3) Renaissance; (4) Repormasyon; (5) Unang Yugto ng Imperyalismong Kanluranin; and (6) Rebolusyong Siyentipiko at Industriyal. The lessons were based on the competencies mandated by the Department of Education in the third quarter of SY 2014-2015. The study was conducted in eight weeks from October to December 2014. The first and last weeks were allotted for the administration of TMAT and SRQ-A pre-test and post-test. The weekly lesson was integrated with various new media technologies such as Facebook Messenger for planning and communication; web-and-cloud-based software like *Lucidchart, Powtoon, Prezi*, word search generator, *toondo.com, movie maker, Wikia, and Wikimedia* for instructional and presentation material preparation; *Rubistar and Rubricmaker* for the creation of assessment tool; *Youtube channels* for supplementary instructional videos; and the *Genyo LMS* as the general platform for the delivery of instruction. The weekly new media outputs were as follows: *Prezi* presentation, mind map, digital timeline, word search and puzzle, talking photos, digital storytelling, digital comic strip, and wiki. The students were grouped for the creation of weekly new media outputs. The creation of group output was started with planning in class during the subject period and continued at home through Facebook Messenger. The classes were conducted in a computer laboratory to allow students to use computers and access the internet for the delivery of instruction and creation of the outputs. The output of each group was presented and evaluated by both students and the teacher during the class. All the new media outputs were uploaded

to their e-portfolios through the student's individual *Genyo* account.

The researcher used a t-test for correlated samples ($\alpha=.05$), two-tailed to explain the changes in the scores in TMAT and SRQ-A pre-test and post-test, and Pearson Product-Moment Coefficient to see the level of correlation of scores in TMAT and SRQ-A. Descriptive data were also utilized to explain the information gathered from the participants on how the teaching of Social Studies using new media technologies affected their metacognitive strategies.

Results

Effects on Students' Achievement of Teaching Social Studies Using New Media

Student achievement refers to the behavior being measured by standardized tests (Simpson & Weiner, 1989). In this study, the level of student achievement was measured through the scores of the participants from the Teacher-Made Assessment Test (TMAT) that was administered during the pretest and post-test. The TMAT was based on DepEd Order No. 73 s. 2012 where the assessment consisted of four components, namely: knowledge, process or skills, understanding, and performance (KPUP Assessment). The performance component of the KPUP assessment was excluded in the TMAT and was rated separately. The knowledge and process questions were a multiple-choice type of test while the questions for the understanding component were open-ended and were graded using rubrics.

Table 1

Mean Scores, (SD) and Mean Gains Pretest and Post-Test using TMAT

Components	Mean Scores (SD) Pretest	Mean Scores (SD) Post-test	Mean Gains
Knowledge (K)	8.03 (2.32)	12.74 (1.07)	4.71
Process (P)	9.20 (2.92)	12.91 (1.29)	3.71
Understanding (U)	3.57 (1.36)	13.83 (1.82)	10.26
Total (KPU)	20.80 (4.72)	39.49 (2.85)	18.69

$N = 35$

Table 1 shows the mean scores (SD) and mean gains pretest and post-test using TMAT. It could be noticed that all the mean scores of the three components such as knowledge, process, and understanding had significantly increased in the post-test as compared to pretest. It may imply that the use of new media technologies significantly affected students' understanding as highlighted by the highest mean gains. Overall, the total mean score of 20.80 in the pretest and the mean score of 39.49 in the post-test obtained a mean gain score of 18.69. The total mean gains indicated that there was a significant increase in the students' level of achievement based on TMAT. The mean gain score signified that there was an increase in the test scores of the participants between the pretest and post-test. The score of $t(34) = -20.29, p < .05$ using t-test for correlated samples ($\alpha = .05$) indicated that there was a significant change between the pretest and post-test. Based on the scores, the use of new

media in teaching Social Studies had a significant effect on the students' level of achievement using the TMAT. This result affirms the finding by Higgins et al. (2012) and by Eyyam and Yaratan (2014) that the implementation of technology-based instruction has a positive effect on the level of students' academic performance.

Effects of Teaching Social Studies Using New Media on the Autonomy of Learning

To measure the change in the level of students' autonomy of learning, the Self-Regulation Questionnaire – Academics (SRQ-A) was used. The tool was adapted from the Center for Self Determination Theory. A paired y-test or t-test for correlated samples with a significance level of 5 percent ($\alpha = .05$), specifically a two-tailed test, was used to describe the scores obtained by the students from the SRQ-A pretest and post-test for each sub-scale and Relative Autonomy Index.

Table 2

Mean Scores, (SD) and Mean Gains Pretest and Post-Test using SRQ-A

Subscales	Mean Score (SD)	Mean Score (SD)	Mean Gains
	Pretest	Post-test	
External Regulation (ER)	2.91 (0.46)	2.65 (0.38)	-0.26
Introjected Regulation (InR)	2.78 (0.5)	2.56 (0.33)	-0.22
Identified Regulation (IdR)	3.26 (0.43)	3.36 (0.43)	0.17
Intrinsic Motivation (InM)	2.45 (0.65)	2.69 (0.47)	0.24
Relative Autonomy Index (RAI)	-0.45 (1.73)	0.87 (1.44)	0.42

Based on the Relative Autonomy Index, the mean score in the pretest of -0.45 and the mean score in the post-test of 0.87 obtained a mean gain score of 0.42. This indicated that there was an increase in the score between the pretest and post-test. The score of $t(34) = -3.56, p < .05$ using t-test for correlated samples ($\alpha = .05$) meant that there

was a significant change in students' autonomy of learning using new media in teaching social studies. The result is supported by Hafner and Miller's study which suggests that integrating technology in students' learning experiences provides learning opportunities that promote learners' autonomy.

Table 3

Students Behavior based on SRQ-A

Behavior	Pretest	Post-Test
Controlled	20 (57%)	2 (5.71%)
Autonomous	15 (43%)	33 (94.29 %)

$N = 35$

Another data generated from the SRQ-A were the category of students' behavior which was either controlled or autonomous. Table 3 shows the number and percentage of students who were distinguished as having controlled and autonomous behavior based on the administered SRQ-A in the pretest and posttest. *Out of 35 students, twenty (20) or fifty-seven percent (57%) were identified to have controlled behavior while fifteen (15) or forty-three percent (43%) were identified to have autonomous behavior through the pretest. It was noticeable that more than half of the class possessed controlled behavior. It was relatively higher than the number of students who possessed autonomous behavior based on the pretest of SRQ-A. The post-test of SRQ-A was administered after the implementation of the intervention. Based on the result of the post-test, out of thirty-five (35) students, two (2) or 5.71% were identified to have controlled behavior while thirty-three 33, or 94.29% were identified as autonomous. From the results of the post-test of SRQ-A, the number of students who possessed autonomous behavior became higher than the number of students identified with controlled behavior.*

Table 4

Students Behavior Using New Media in Teaching Social Studies

Initial Behavior Identified during the Pretest of SRQ-A	Students' Behavior Identified during the Post-Test	
	Autonomous	Controlled
Controlled (20)	18 (90%)	2 (20%)
Autonomous (15)	15 (100%)	0(0%)

N = 35

Table 4 shows the changes in students' behavior after the implementation of using new media in teaching Social Studies. From twenty (20) students who were identified as possessing controlled behavior upon the administration of the pretest, eighteen (18) or ninety percent (90%) of them changed their behavior from controlled to autonomous while two (2) or ten percent (10%)

remained with controlled behavior. The behavior change indicated the effects of using new media in teaching Social Studies while the unchanged behavior meant that the use of new media in teaching Social Studies did not affect students' behavior. On the other hand, the fifteen (15) students who identified themselves as processing autonomous behavior upon the administration of the pretest remained under that category. Since none of them changed from having autonomous to having controlled behavior, this meant that the use of new media in teaching social studies promoted and supported students with autonomous behavior.

Table 5

Combination of Students' Behavior Using New Media in Teaching Social Studies

Combination of Behavior	No. of students (%)
Controlled → Autonomous	18 (51.43%)
Controlled → Controlled	2 (5.71%)
Autonomous → Autonomous	15 (42.86%)
Autonomous → Controlled	0 (0.00%)

N = 35

The different combinations of behaviors are presented in Table 5. There are four combinations of behavior, namely: controlled to autonomous, controlled to controlled, autonomous to autonomous, and autonomous to controlled. Based on the data presented, the controlled and autonomous combination of behavior showed the highest number and percentage of students, which was eighteen (18) students or (51.43%). They were the students who showed a change in behavior from controlled to autonomous. According to Self-Determination Theory (Deci & Ryan, 1991), this behavior change was caused by the process of identification or a full internalization in which the initially controlled behaviors were made more autonomous and students became more responsible in performing the assigned tasks using new media. Because two (2) or 5.71% of the students remained to have controlled behavior and fifteen (15) or 42.86% of the students remained to have autonomous behavior, this students'

unchanged behavior indicated that the use of new media in teaching Social Studies did not affect behavior. The result of having "students who remained to have controlled behavior" might mean that whatever tasks were assigned to them their behaviors were influenced by extrinsic motivations such as the desire to achieve high grades (Ryan, 1982). The result of having "students who remain to have autonomous behavior", on the other hand, suggested that their behaviors were influenced by intrinsic motivations and they performed the tasks assigned to them using new media out of interest or personal importance (Ryan & Connell, 1989).

Relationship Between Students' Achievement and Autonomy of Learning

Another aim of the study is to determine the relationship between the students' level of achievement and autonomy of learning. Using Pearson product-moment coefficient, the relationship between students' level of achievement and autonomy of learning was identified in the value of $r_s = 0.125$ which fell under the category of weak positive linear correlation. This meant that these variables were positively correlated. As the students' level of achievement increased, their autonomy of learning increased slightly. Furthermore, it also showed that when the students' level of autonomy increased, their level of achievement slightly increased. The result is supported by Hashemian and Soureshjani (2011) where they found out that autonomy of learning had a positive correlation with the level of students' achievement. Similarly, the study conducted by Afshar et. al. (2014) in which the GPA was compared with the level of autonomy of learning of the students also showed a positive correlation.

The Metacognitive Strategies in Teaching Social Studies Using New Media

Learners become more autonomous through the use of metacognitive strategies (Salcedo & Suarez, 2013). According to Wenden (1998), metacognitive strategies are planning, evaluating,

learning, and reflecting skills. Autonomy of learning is promoted through the development of different metacognitive strategies such as planning, evaluating, and reflecting. In this study, the metacognitive strategies are enhanced in the different classroom activities (group and individual) integrated with new media.

Planning

The planning stage of the students started inside the classroom but due to the limited time allotment for the subject the planning continued online through synchronous and asynchronous tools like the Facebook group chat of the class. Based on the focus group discussion, it showed in the responses of the students that the Facebook group chat served as an effective way for group planning.

CN 32: *The Facebook group has been a great help because you don't even have to go to your classmate's house to plan what the group will do.*

CN 14: *Through the FB group, it is easy to communicate and plan business activities even when classmates live far from each other.*

CN31: *This helps because when there are group activities, they can be planned by the whole group even if they are not together.*

Facebook group chat helped in the planning of activities and served as a communication tool and platform for the exchange of ideas between and among students during the planning session.

CN 22: *The Facebook group helped students provide or present an idea for planning tasks.*

CN 6: *Having a Facebook group gives our classmates a way to prepare and communicate easily with the help of the internet.*

CN 1: *Creating a Facebook group has helped as it has served as a means for the class to talk about lessons, exams, and the activities set by the group.*

Facebook messenger enabled students to collaborate and interact both in synchronous and asynchronous modalities. It also enhanced students' collaboration and communication skills. These results are supported by Nortvig (2014) and Oye et al. (2012).

Evaluating

The role of new media in the evaluation element of instruction focuses on the technical aspect of making rubrics and using material generators. A rubric is a scoring tool that is used to evaluate a particular task, activity, or project based on a set of criteria which has corresponding points. It is used in evaluating alternative forms of assessment that measure students' skills that cannot be evaluated by traditional forms of assessment (Sebastian, 2013). Students' involvement in assessment is paramount in raising students' interest and motivation for taking an active part in the advancement of their learning achievement (Tillema, 2014). All the outputs that they were evaluated on were part of the students' e-portfolio that could be found in the personal Genyo (a learning management system) account of each student.

Students expressed their thoughts on the role of new media in evaluating their outputs and tasks during the focus group discussion.

CN 30: *The e-portfolio as a form of new media has affected the assessment as we have seen the performance of our classmates while working on various e-portfolios, and we have critiqued and rated them using the agreed rubric.*

CN6: *Since the e-portfolio is on the internet, access to it is easier so we are able to provide a quality evaluation of our works and our classmates'.*

CN 15: *It is easy to see the quality of students' output especially when they are found in one place.*

Based on the focus group discussion conducted on the role of new media in evaluating different

outputs, students believed that the e-portfolio served as an effective form and means of evaluation. It made students aware of the criteria for grading their outputs. For them, the evaluation of e-portfolio was convenient and easy because it could be accessed through the Internet. By making evaluation part of the student's learning experience, they were able to monitor the status of their work and outputs by seeing them in their e-portfolio.

Reflecting

New media served as a platform for writing and expressing the learning experiences of the students from different classroom activities. At the end of every lesson, students were tasked to write a weblog or blog as a retroactive self-report to express their learning experiences from the different classroom activities with new media and their understanding of the lessons. According to Wenden (1991), writing a self-report is a process of promoting autonomy. Most of the blogs of the students were statements of what they learned from the discussion and synthesis or summary of the topics discussed.

"Feudalism and Manorialism... are the political systems used in the Medieval period. Feudalism and Manorialism are systems by which the lands owned by the landlord or owner are farmed by his constituencies in exchange for protection and land..." CN 1

"The Scientific Revolution has really helped so much in today's world. Too many machines have been made since this revolution. One is the 'Steam Engine,' which contributed so much to our world. This led to the making of 'vehicles.' Train, for example, is a vehicle made because of the 'Steam Engine.'" CN 8

Some students expressed their feelings of fulfillment as a result of their perseverance to accomplish the assigned tasks, and one expressed his sense of being considerate to his classmates and appreciative of their outputs despite his high expectations.

"When I finished the video, there was fulfillment. I think I experienced it because I

stayed up late and exerted much effort just to finish the video. Although the video quality was not very good, I found that I needed to find a way to submit it whatever the situation was. Also, one of the problems I faced was my group member's output and my perfectionist nature. I planned not to include his work, but I thought all the members of the group should contribute because we are all equal and every member should be given the opportunity to work, so I still included his work .” CN 5

There was also a student who expressed his thoughts on the importance of group activities, participation, and camaraderie with his groupmates to have a quality output.

“Our group has met the requirements. In my opinion, we can do it well and without resentment, if everyone learns to cooperate and contribute well. Here I see the beauty of the activities. We will not only learn how to collaborate with other students but also how to get along with them while working on the task. Sometimes life just needs a reformation to see and fix what needs to be fixed in life.” CN 6

There was also a student who valued the strategies employed by his teacher to gain the interests of the class.

“In my opinion, teaching through a video presentation method is an effective teaching style because you get the attention of the students and they become interested in the topic. In teaching, you should always make the topic you teach interesting; otherwise, no one will listen. Good teachers are those who find ways to determine their students' interests and incorporate them in their teaching. To achieve this, teachers should use different references, as did this project, create a comic strip to make it easier to understand the entirety of the assignment, use a video presentation to make students more interested and a timeline for students to see the sequence of events and also make a wiki to explain the entirety of the lesson.” CN 29

At the end of the grading period, students

expressed their learning experiences in their Social Studies class using new media.

“I have learned a lot from all that I have experienced during the 3rd quarter. I have been responsible, hard-working, patient, and determined. I realized that nothing great ever came that easy; you have to work hard for the things you want. Most of the tasks allowed me to unleash my potential. I was really struggling not only with the tasks but with the tests as well; I had to study well. I learned a lot from the activities in the 3rd quarter. I experienced a lot, and I have discovered a lot about myself which at first I thought I never had.” CN 30

The enhancement of different values and life lessons can be seen in the blog. The activities integrated with new media challenged the students and provided them opportunities to showcase their potentials and accomplish the things they thought they could not accomplish.

Writing blogs served as an opportunity for the students to express the knowledge and insights they acquired. It also served as reflections of their attitude and behavior in accomplishing assigned tasks and of their intentions and desires to do their tasks with quality.

The practice of metacognitive strategies such as planning, evaluating, and reflecting is a way of promoting the autonomy of learning. The students who employ metacognitive strategies are students who have control in the learning process and may be considered to possess autonomy for their learning (Wenden & Rubin, 1987). This is proof that the use of new media in teaching Social Studies developed metacognitive strategies such as planning, evaluating, and reflecting, which are significant factors in promoting autonomy of learning.

Conclusion

Based on the results of this study, it was found out that the use of new media in teaching Social Studies had a positive impact on the students' achievement. This is because new media

technologies have the novelty and features that attract the interest of 21st-century learners. They offer innovative ways of teaching and creating students' outputs that promote a positive attitude among students towards social studies. Social studies teachers should continuously keep themselves abreast with emerging new media technologies and with how these technologies can be best employed in promoting technology-based instruction in a social studies classroom. Based on the gathered data, there was an improvement of learners' autonomy in social studies classrooms using new media technologies. Autonomy of learning can be enhanced if teachers are conscious of promoting it in a social studies classroom by using approaches, teaching strategies, or learning experiences that allow students to be more responsible in performing tasks assigned to them. Metacognitive strategies are enhanced by utilizing new media technologies that allow students to plan and communicate among themselves about assigned tasks and that make them reflect on their learning experiences and evaluate their output, their performance, and their classmates.

The results of the study will contribute to the body of literature on innovative strategies that focus on teaching social studies using new media to improve students' achievement, autonomy of learning, and metacognitive strategies. Students would acquire knowledge, skills, and attitude in social studies in more engaging, interactive, and interesting ways through the use of new media technology in the classroom. Teachers should undergo training on how to utilize new media technologies in the delivery of instruction to improve students' achievement, autonomy of learning, metacognitive strategies, and attitude toward social studies. This study offers school administrators the opportunity to see the importance of using new media as an effective strategy in the delivery of instruction, and it serves as a concrete basis in crafting a school's technology plan, formulation of policies, and curricular programs that promote technology-based instruction. Based on the results of this study, curriculum designers may design a social studies curriculum that includes learning objectives and content on the impact of technology on social skills;

and strategies and assessment using new media that aim to improve students' metacognitive strategies and autonomy of learning.

In terms of the web-based applications used in the study, a number of recommendations are put forward. Although the study utilized Facebook as the primary tool of communication among students, it did not include its potential as an e-portfolio platform for compiling students' outputs. Thus, for teachers who want to use Facebook as an e-portfolio platform, they must undergo training-workshops and conduct a thorough review of the curriculum to successfully integrate it in their classroom. YouTube served as a source of instructional and educational videos in the study; it is recommended that teachers help students learn how to identify credible materials on YouTube and how to access them. Furthermore, it is recommended that teachers continue to investigate its educational benefits as a platform for exhibiting audio-visual outputs of students. Furthermore, the study only utilized one learning management system in an environment that combined face-to-face and online learning. In this regard, a study may be conducted using a different learning management system in a purely online setting.

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