Research Study Proposal

Mr. Manuel F. Negron

New Jersey City University

Literature Review

This literature review will focus on the effects of the digital-divide inclusive of the digital-use divide and its effects on active learning in urban schools. This review will analyze the limited accessibility and use of technology in urban schools whose population is comprised of minorities and students from low-income households.

The role of technology and its effectiveness in active learning is vital. As teachers integrate and model various forms of technologies throughout their lessons, they actively engage students and resulting in a creative and invigorating learning environment (Kenney, 2011).

Throughout the country, mandated state assessments are administered to students through a technological platform. School districts are also administering district summative assessments using online platforms. Teachers struggle daily in their efforts to provide students with effective instructional delivery focused on content standards. When students take state assessments, content knowledge and standards mastery is half of their challenge. The second half of the challenge is having the technological abilities and skills needed during open-ended and mathematical questions using the technological tools embedded in the platform for students to use. The academic success of the students on state assessments is reported on the overall school assessment performance report, which compares the school to other schools within a district, the state, and the United States. The school assessment performance report identifies the overall results of the assessment and determines if it is high or low performing, regardless if students lacked technological skills.

**Digital-Divide**

Digital-divide is commonly known as the gap between those who have accessibility to technology and those who do not, while the digital-use divide is referred to as having the accessibility to technology but not using it. These terms have been commonly used in educational discussions throughout the years. Accessibility and the use of technology is vital in todays’ society because it influences how we communicate and learn. It also has a major impact in how we operate in our day-to-day lives. Although technology plays a major role in our lives, the digital divide continues to be evident amongst urban neighborhoods, which affects the education of students.

When comparing the digital-divide and digital-use divide in education, studies haves shown that the greatest disparities were amongst minorities and students from disadvantaged neighborhoods. This could be the result of students from low-income homes not being able to afford the technological device or the high cost of internet service providers. The lack in student internet access at home results in the term referred to as a “homework gap”. The “homework gap” is the inequality amongst students who have home internet access and those that do not. Minority students and those from low-income households account for the more than five million children that do not have home internet access (Anderson, 2017). Influences of the digital divide negatively affects schools in low-income neighborhoods, while giving the students from backgrounds that are more affluent an advantage.

**Achievement Gap**

The National Center for Educational Statistics reports, that from 1990 to 2015, Caucasian fourth and 8th-graders scored higher in math and reading scores than students of African American and Hispanic backgrounds. “Achievement gap” refers to the disparities in academic performance inclusive of all student subgroups towards achieving academic success.

The biggest achievement gaps between African American and Caucasian students in large urban educational systems across the country and amongst Caucasian and Hispanic students when compared to other major educational systems and the nations’ average were identified in a study based on the National Assessment of Educational Progress in 2011, at the Washington, D.C. public schools (Layton, 2011).

**Accessibility to Technology**

Students must have a foundation of basic skills and be provided with the opportunities for motivational learning to show growth in academic achievement. Students’ lives are impacted in a positive manner by authentic engagement in content lessons through technological assistance, which sparks students’ imaginations. When students have accessibility to technology while conducting research and organizing information, they tend to use these skills throughout their lives. Confidence, self-esteem, and pride is built through technology use amongst students while engaging in effective learning environments (Costley, 2014).

Accessibility and integration of technology throughout the curriculum allows all students to increase their academic performance. Having adequate teachers, support services, and financial budgets are some of the major challenges that schools comprised of disadvantaged students face. The students’ lack of technological devices and internet service at home is an additional problem that schools face (Darling-Hammond, 2014).

**Use of Technology – Teaching & Learning**

Digital natives are known as people who have been exposed to technology from an early age. Most of the students today are digital natives, yet upon entering schools, students are not authorized to use most of their devices. Schools must take advantage of all opportunities available to improve teaching and learning through the effective use of technology to build upon various skills and enhance academic experiences (Dagget, 2014).

Using Technology to Support At-Risk Students’, report released in 2014, established three areas for essential technology use with students in urban schools:

• Effective technology through creativity and exploratory lessons

• Effective integration between teachers and technology in the content

• Lessons designed for interactions amongst students

Lessons that integrate technology and allow for exploration and creativity provide students with opportunities to steer away from the traditional “Drill and Kill” strategy used when technology replaces teachers and students are expected to memorize information and are then assessed on it (Darling, Goldman, and Zielezinski, 2014).

Summary

Promoting active learning, enhancing lessons, and improving teaching and learning through the integration of technology are key efforts towards closing the digital divide and narrowing the achievement gap. Technology’s purpose is not meant for teacher replacement, but rather for lesson enhancement. Teachers’ unique individual humanistic traits are not replaceable by technology as they provide students with positive and emotional support during challenges faced. As students use technology during content lessons, teachers provide interventions needed during times of struggle so that students persevere.

Decision-making in terms of large budget allocations for technology must include meticulous planning with involvement of all stakeholders to assure that all key factors are taken into consideration in support of the proposed initiative. The planning phase of budget allocation and decision-making must include a needs assessment of current technological devices, network/infrastructure, and training to support both teachers and students towards effective technology integration to enhance the academic teaching and learning experience.

Brief Description of the Study

Throughout the United States, many school districts are placing a strong focus on technology integration throughout the curriculum to enhance the levels of active learning in the classroom and improve the overall teaching and learning process.

Even with the focus being placed on the integration of technology, there are still many schools that do not have sufficient technology and therefore students lack accessibility and use of it. In K-12 public schools, students from low-income households and minorities face the biggest disproportion in regards to the lack of accessibility to technology and the use of it. According to studies, when comparing minority students against households of the majority, fewer minorities own computers (Chisolm, 2001). The disparity of technology amongst schools, classrooms, and students is referred to as the “digital divide”. Schools and classrooms that do not use technology throughout their content lessons even though they have technological devices and full accessibility, is an example of what is referred to as the “digital-use divide”. This study will look at the effects of the digital-use divide on active learning as perceived by school administrators.

Need of the Study

To improve the teaching and learning process towards achieving academic success, the integration of technology must be a focal point in the lessons that are delivered to students. The revision of curriculum across K-12 public school districts must occur to assure that technology is integrated across all content areas to enhance the academic learning environment.

The level of accessibility and use of technology that teachers and students have is vital if the result desired is to have an effective teaching and learning process. If public schools continue to face disproportions in the accessibility and use of technology for both teachers and students, achievement gaps will continue to broaden amongst students from low-income families and minorities. Technology in todays’ society is crucial in the opportunities it provides in the competition of global development of the world. In order for individuals to achieve a higher socioeconomic status in todays’ society, it is obligatory to have technological skills and training (Eisner, 1985).

Theoretical Framework

This research study will be based on the fourth cluster of genres of research in multicultural education from Bennett’s (2001) conceptual framework of societal equity. The societal equity framework is broken down into the following three genres:

1. Demographics

2. Culture and race in popular culture

3. Social action

Demographics genre incorporates trends in population inclusive of the educational attainment and socioeconomic status gained by various ethnic groups. Culture and race genre focuses on the identification of biases in classroom materials to include media and textbooks throughout the content. Social action genre places its focus on the actions that need to be taken to create changes needed in homes, schools, and communities. For this study, the researcher highlights the effects of the digital divide on active learning in order to identify a solution to the problem.

The social equity framework places a focus on “equitable access” is using social resources (Bennet, 2001). This framework will be used in this action research study to narrow the digital divide in urban schools to improve active learning. To attain equitable access, there must be equality in the distribution of technological resources, accessibility, and usage to improve student achievement through active learning by narrowing the digital divide.

Data Collection

NJCU IRB approval will be required prior to the data collection to assure that this study meets all ethical standards. Creswell and Plano Clark (2011) stated, “Permission needs to be sought from multiple individuals and levels in organizations, such as individuals in charge of sites, from people providing the data and from campus-based institutional review boards (IRBs) to collect data from individuals and sites” (p. 175). Once IRB approval has been granted, the researcher will seek permission from the Superintendent of Schools to conduct the surveys and interviews in his/her district. This qualitative study will use a semi-structured interview protocol to interview school administrators (Principals and Assistant Principals) along with a survey that will be distributed to school administrators to explore the effects of the digital-use divide on active learning as perceived by school administrators. The researcher selected purposeful sampling for this study as it is often used in qualitative research for the identification and selection of information-rich cases for the most effective use of limited resources (Patton, 2002). Purposeful sampling involves the identification and selection of individuals/groups that are knowledgeable about or experienced with a specific interest (Cresswell & Plano Clark, 2011).The population for this study will be school administrators from three large urban school districts in Northern, NJ. These districts were chosen because of the similarities in student enrollment inclusive of all subgroups, percentage of students who receive free or reduced lunch, and membership in the same NJ District Factor Group (DFG). The group represents an approximate measure of the socioeconomic status of a community. The classification system is useful when comparing student achievement amongst similar school districts. School administrators were chosen through purposeful sampling to target all of the school administrators in each district. The ABC school district is an urban school district with over 17,000 students in 21 schools. The entire district receives free breakfast and lunch and more than 85% of the student population is Hispanic. All 46 potential participants will be contacted via email and through a phone call.

The XYZ school district consists of 22 schools with over 10,000 students from preschool through high school. All 45 potential participants will be contacted via email and through a phone call. The QRS school district consists of 12 schools with over 9,000 students from preschool through high school. All 38 potential participants will be contacted via email and through a phone call. In total the population consists of 129 school administrators from three large urban school districts in Northern, NJ from District Factor Group A. The sample size for this study will be dependent upon the number of participants.

Limitations

Potential limitations that may occur are a lack of participation by school administrators due to time, reluctancy to participate in the interviews/surveys, and/or to respond in an honest professional and candid manner. Once all authorizations and approvals have been granted, the time to conduct the data collection is also a possible limitation due to the number of possible participants in these large school districts. Professional experiences, perceptions, and biases, have the possibility of influencing participants’ approaches, interpretations, and responses to the study.

Research Questions

This study will seek to answer the following three research questions:

1. How do school administrators define the term “digital-divide” and “digital-use divide”?

2. How do school administrators view the “digital-divide” and “digital-use divide” in their schools?

3. What is the relationship between the accessibility and use of technology in the classroom and active learning in terms of student achievement?

Methodology

This research study used qualitative methods to explore the effects of the digital-use divide on active learning as perceived by school administrators and develop an understanding on its impact on student achievement. Data is collected from words of groups of individuals so that the views of the participants are identified. Qualitative research is used most appropriately to address a research problem in which you do not know the variables and need to explore (Creswell, 2015). This research study will use a qualitative approach for collecting data through the use of observations, surveys, and interviews.

This research study will be based on the fourth cluster of genres of research in multicultural education from Bennett’s (2001) conceptual framework of societal equity. The societal equity framework is broken down into the following three genres:

1. Demographics

2. Culture and race in popular culture

3. Social action

The social equity framework places a focus on “equitable access” is using social resources (Bennet, 2001). This framework will be used in this action research study to narrow the digital divide in urban schools to improve active learning.

Instruments

The survey and interview questions for this study will include a range of various types of questions including opened-ended to allow the participants to feel free to answer in as much depth and detail as they feel necessary. The participants should not feel limited in their responses and should include their feelings, understandings, and perceptions. Appendix C and D include a list of the questions that will be asked as well as the link to the actual live survey to be taken by participants.

References

Anderson, M. (2017, March 22). Digital divide persists even as lower-income Americans make gains in tech adoption. Retrieved April 30, 2018, from <http://www.pewresearch.org/fact-tank/2017/03/22/digital-divide-persists-even-as-lower-income-americans-make-gains-in-tech-adoption/>

Bennett, C. (2001). Genres of Research in Multicultural Education. Review of Educational Research, 71(2), 171–217. https://doi.org/10.3102/00346543071002171

Chisholm, I. M., & Carey, J. (2002). Information technology skills for a pluralistic society: Is the playing field level? Journal of Research on Technology in Education, 35(1), 58-79.

Costley, K. C. (2014). The Positive Effects of Technology on Teaching and Student Learning. Online Submission.

Daggett, B. (2014). Addressing current and future challenges in education.

Darling-Hammond, L., Zielezinski, M. B., & Goldman, S. (2014). Using technology to support at-risk students’ learning. Stanford Center for Opportunity Policy in Education. Online https://edpolicy. stanford. edu/publications/pubs/1241.

Creswell, J. W. (2015). Educational research: Planning, conducting, and evaluating quantitative and qualitative research. Boston, MA: Pearson.

Creswell, J. W., & Plano Clark, V. L. (2011). Designing and conducting mixed methods research (2nd ed.). Thousand Oaks, CA: Sage.

Eisner, E. W. (1985). The educational imagination: On the design and evaluation of school progress (2nd ed.). New York: MacMillan.

Kenney, L. (2011). Elementary education, there’s an app for that: communication technology in the elementary school classroom. *The Elon Journal of Undergraduate Research in Communications, 2*(1), 67-75. Retrieved from <http://www.elon.edu/docs/e-web/academics/communications/research/vol2no1/07Kenney.pdf>

Layton, L. (2011, December 07). D.C. schools have largest black-white achievement gap in federal study. Retrieved from <https://www.washingtonpost.com/local/education/dc-schools-have-largest-black-white-achievement-gap-in-federal-study/2011/12/06/gIQArNnMcO_story.html>

Patton MQ. Qualitative research and evaluation methods. 3rd Sage Publications; Thousand Oaks, CA: 2002.

U.S. Cong. (2010). Teachers use of educational technology in U.S. public schools, 2009: First look (L. Gray, N. Thomas, L. Lewis, & P. Tice, Authors) [Cong.]. Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Dept. of Education.

Appendix A

CITI Program Course Certificate



Appendix B

Consent Letter to Conduct Research

December 2, 2018

To Whom It May Concern:

My name is Manuel F. Negron and I am a Doctoral Candidate at New Jersey City University. I am writing to request authorization for me to conduct a survey and interviews amongst the administrators in your district. My research is titled “Digital Divide in Urban Schools – The Effects of the Digital-Divide on Active Learning as Perceived by School Administrators”. I will be conducting the survey to Principals/Assistant Principals in K-12 public schools.

The survey will take approximately 15 minutes and will not interfere with instructional time. It will be conducted before/after school and/or during lunch. All interviews will be conducted by scheduled appointments and will take approximately 45 minutes. Participation in this study is voluntary and there are no known/anticipated risks associated with its participation. Responses in this study is strictly confidential and will be used for academic purposes only. The names of participants or of the district or schools will not be disclosed in my research.

If you approve, please sign below giving me authorization and consent to conduct this survey in your district. Your anticipated authorization to conduct this survey is greatly appreciated and if you have any questions or concerns, please feel free to contact me at your earliest convenience.

Respectfully,

Mr. Manuel F. Negron

NJCU Doctoral Candidate

Appendix C

Interview Questions

1. Do you feel that students are proficient in the effective use of technology during instructional time? Why or why not?
2. How do students use the computers and internet? Please explain. (Ex. Taking assessments, research, typing reports, project-based learning, etc.)
3. How often do students have access to technology in school? Please explain. (Ex. How many times per week? How many hours/periods per day?)
4. How many computers, IPads, tablets, or any other forms of technology are there in each classroom. What is the ratio of technological device to student? How do students get equal share time of the technology? Please explain.
5. Do you feel that having technology accessible during content lessons promotes active learning? Why or Why not? How does it help them academically?
6. Do most students have accessibility to technology and internet service at home?
7. Is technology integrated into the curriculum across all content areas? Why or why not? Please explain.
8. Is the staff provided with adequate training and professional development on the effective use of integrating technology to improve teaching and learning? Why or why not? Please explain.
9. What are differences between students who have full accessibility and use of technology when compared to those who have limited or none?
10. In terms of how and where technology can be used to enhance teaching and learning, what are other thoughts, ideas, or concerns that you can share with me?

Appendix D

Qualtrics Survey Instrument Link

<https://njcu.co1.qualtrics.com/jfe/form/SV_bCm1MPnBlhECToF>

Appendix E

NJCU IRB Form

NJCU Institutional Review Board Application for Review of Research Proposal

Email: [IRB@njcu.edu](mailto:IRB@njcu.edu)

|  |  |
| --- | --- |
| **FOR OFFICE USE ONLY** | |
| File Number |  |
| Review Type | Exempt ☐ Expedited ☐ Full☐ |
| PI |  |

Date of Submission

Proposal type:

☐

# December 2, 2018

Original ☐ Revised\*

\*If this is a revised application, there is no need to complete the remainder of this form. However, please describe in detail the changes that you have made in response to the IRB’s

concerns.

N/A

|  |  |
| --- | --- |
| Principal Investigator | Manuel F Negron |
| Proposal title | The Effects of the Digital-Divide on Active Learning as Perceived by School Administrators |
| Proposed start date | September 3, 2019 |
| Anticipated duration of research | 3 months |

## Type of Research

* ■ Student/Classroom project
* Faculty project
* Staff project
* External researcher project (All external researchers must have an NJCU sponsor.)

**NJCU Investigators** (Please list additional investigators as necessary.)

**Principal Investigator** (For all student research, the faculty advisor is the PI.)

Name Department Telephone

Email

# Manuel F Negron Ed Tech Leadership 862-414-5488

[mnegron@njcu.edu](mailto:mnegron@njcu.edu)

**Co-Investigator** (including student researchers)

Name

# N/A

Department

Telephone

Email

**Co-Investigator**(including student researchers)

Name

# N/A

Department

Telephone

Email

**Co-Investigator**(including student researchers)

Name Department

# N/A

Telephone

Email

\*Any NJCU investigator who plans to work on this project either with or for a Principal Investigator or a Co- Investigator at another institution must identify those investigators and their institutions.

## External Investigators

Name

N/A

Title

Institution

Name

# N/A

Title

Institution

Name

# N/A

Title

Institution

Name

# N/A

Title

Institution

**NJCU Sponsor** (if the researcher is not affiliated with NJCU)

Name

# N/A

Department Telephone Email

## Data Sources

Number of participants 67 w/ population of 80 How was this number determined (e.g., power analysis) Does this project require the collection of new data?

# Sample size calculator 95% Confidence level

No

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* Yes

If Yes: How will participants be selected or recruited?

# Voluntary through district email

Will subjects participate on a fully voluntary basis?

Will subjects be compensated for their participation?

If yes: Please briefly describe the compensation.

# N/A

Does this project make use of human tissue or cell lines?

No

Yes No

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* Yes

■

Briefly describe the research methodology(ies) to be used in this study (e.g., focus group, participant observation, survey, experiment).

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Yes

* No

***This research study used qualitative methods to explore the effects of the digital-use divide on active learning as perceived by school administrators and develop an understanding on its impact on student achievement. Data is collected from words of groups of individuals so that the views of the participants are identified. Qualitative research is used most appropriately to address a research problem in which you do not know the variables and need to explore (Creswell, 2015). This research study will use a qualitative approach for collecting data through the use of observations, surveys, and interviews.***

***This research study will be based on the fourth cluster of genres of research in multicultural education from Bennett’s (2001) conceptual framework of societal equity. The societal equity framework is broken down into the following three genres:***

***1. Demographics***

***2. Culture and race in popular culture***

***3. Social action***

# ***The social equity framework places a focus on “equitable access” is using social resources (Bennet, 2001). This framework will be used in this action research study to narrow the digital divide in urban schools to improve active learning***.

# ***In total the population consists of 129 school administrators from three large urban school districts in Northern, NJ from District Factor Group A. The sample size will be dependent upon the participation***.

Does this project use data that have already been collected for a non-research purpose or by another researcher?

Yes

* No

If yes: What is the source of the data?

# N/A

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Are the data accessible in the public domain?

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Y es

* No

If no: Are fields included that would allow identification of individuals, either directly or indirectly?

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Yes

■

No

If yes: Please explain briefly how participant confidentially will be safeguarded

# N/A

## Participant Risks

Will participants be exposed to any stresses (e.g., anxiety, pain, etc.) or physical harm (e.g., injury,

infection, etc.) in connection with this research? Yes

☐

* No

If yes: Please briefly explain what risks may be involved in the research, what specific steps will be taken to minimize and monitor the risk, and what will be done to compensate and/or treat participants who are harmed by the research.

☐

# N/A

☐

Does the research design require that participants be deceived? Yes

☐

* No

If yes: Please briefly explain why deception is necessary and what steps will be taken to reduce potential harm from this deception.

# N/A

|  |  |  |
| --- | --- | --- |
| **Potentially Vulnerable** |  | |
| Populations Will this research involve: |
| Physically/Mentally Challenged Individuals |
| Young children (ages 0-13) | Yes | * No |
| Older children (ages 14-17) | Yes | * No |
| Senior Citizens (over age 65) | Yes | * No |
| Pregnant Women | Yes | * No |
| Prisoners | Yes | * No |

If yes to any of the above: Please briefly explain how the rights of this (these) population(s) will be protected.

# N/A

## Informed Consent

Will participants be fully informed about:

The voluntary nature of their participation and the freedom to No withdraw without penalty at any time

☐

* Yes

The purposes and procedures of the research No Any reasonably foreseeable risks or discomforts

☐

☐

* Yes
* Yes

No

Any benefits to them or to others from the research

☐

* Yes

No

The extent to which confidentiality will be maintained

☐

* Yes

No

The compensation and/or treatments available if injury occurs No (This question need only be answered for research that involves risks.)

* Yes

Whom to contact for information about the research participants’ rights and any research-related injury

* Yes No

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If the answer to any of the above is no, please briefly explain why the research requires an alteration of the standard elements of informed consent.

# N/A

How will participants’ informed consent be documented? Please check all that apply.

* Signature on written consent document
* Signature on document to be read to the participants and witnessed by another party
* Written documentation of informed consent will not be obtained because one or more of the following criteria is satisfied (check all that apply):
  + The only link between the subject and the research would be the informed consent documentation and the primary risk is loss of confidentiality.
  + ■ The risks to participants, including risks associated with the loss of privacy, are no greater than those ordinary encountered in daily life and the research involves no procedure for which written consent is normally required outside of the research context.

Who will obtain the informed consent from the participants?

* ■ Principal Investigator
* Co-Investigator
* Sponsor (in cases where PI is not affiliated with NJCU)
* Other
* Not applicable

Please include your protocol summary (5 pages maximum) and your recruitment materials (as applicable).

## External Reviews and Funding

Has this protocol been reviewed by an Institutional Review Board or Human Subjects Review

Committee at another institution(s)? ☐Yes ■☐No

If yes: At what institutions(s)?

# N/A

What is its status? ☐Approved ☐Rejected ☐■ Pending (or provisionally approved)

Has this protocol been submitted for Federal Funding? ☐Yes ☐■ No If yes: Agency or Organization: N/A

Submission Date: Funding Start Date:

# N/A N/A

* Anticipated ☐Actual

Contact Person: N/A

Contact's Telephone: \_N/A

Has this protocol been submitted for any other types of funding? If yes: Agency or Organization: N/A

* Yes
* ☐No

Submission Date: Funding Start Date:

N/A

# N/A

* + Anticipated ☐Actual

Contact Person: N/A

Contact’s Telephone:

# N/A

## Proof of NIH or CITI Certification

Please provide documentation of current CITI and/or NIH certification in human subjects research for all researchers involved in this project.

## Certificate of Agreement

**The signatures of all researchers involved in this project must be provided.**

I certify that I agree to comply with the requirements of both NJCU and the Office for Human Research Protection (OHRP) of the United States Department of Health and Human Services as described in 45 CFR §46.

NEGRON.MANUEL.FRANSISCO.1028

Digitally signed by NEGRON.MANUEL.FRANSISCO.1028835155

# 12/02/2108

835155

PI Signature

Co-PI Signature

Co-PI Signature

Co-PI Signature

Co-PI Signature

Date: 2018.12.02 19:49:16 -04'00'

Date

Date

Date

Date

Date

Please submit the completed application and accompanying documents as one document or pdf [to IRB@njcu.edu](mailto:IRB@njcu.edu) and [kresch@njcu.edu.](mailto:kresch@njcu.edu)

All applications must be submitted by the NJCU faculty or staff member who is serving as the Principal Investigator (PI). Neither students nor external researchers may submit an application.