

EDUC 5204 – ACTION RESEARCH Proposal Template: 2700 words**STUDY TITLE: Does ICT use in secondary classrooms help or hinder student learning?****Introduction and Statement of the Problem/Area of Improvement**

The very nature of how we integrate Information and Communication Technology (ICT) in schooling has rapidly changed over the last 30 years. ICT practices continue to evolve in education and society. In many ways learning experiences have been enhanced in schools, classrooms and beyond with students having greater ability and access to learn and collaborate in online environments. Teachers can support students learning, anywhere, anytime, particularly through email and interactive computer technologies (internet, google classroom, YouTube et cetera).

Teachers are also faced with the challenges of adapting and adopting pedagogies that develop students' skills and abilities as digital citizens of the 21st century. This presents a number of issues. Firstly, teachers (and students) need to be competent and confident in integrating ICT in education. Teachers must develop the necessary skills and access equipment and adequate training to meet the requirements for teaching and learning with ICT.

Secondly, many students excel in the use of ICT in schooling mainly as a result of wider access and availabilities of ICT both in the classroom, school and wider community. Yet, there is a prevalent digital divide that exists between 'using and abusing' ICT in schooling. During my pre-service placement I observed a number of ICT related issues in secondary classrooms. These issues developed due to the easier personal accessibility of laptops, mobile phone devices and iPads. Specifically internet usage for games, music applications and easy access to search engines appeared to distract students from effectively engaging in classroom learning and mobile phone technology being used in the classroom as a social means amongst teenagers to SMS

and chat with peers. I also observed an over reliance on ICT practices for teaching and learning. Specifically, using the internet as the dominant form of research for learning activities; students and teacher's frustration and battle with Internet connectivity; ICT as a 'time filler' activity; and a focus on independent ICT use amongst students as opposed to collaborative ICT practices between teachers and students. Such issues led me to wonder if education is 'too reliant' on ICT and whether ICT was enhancing or diminishing the learning experience in secondary classrooms.

With the requirement for teachers to develop ICT capabilities in the Australian Curriculum and a number of government and school based policies, goals and objectives supporting ICT practices in schooling, the very nature of inquiry needs to focus on how we as teachers (education and research practitioners) can promote the effective and efficient use of ICT in the classroom so it enhances the learning experience. Furthermore, to identify the best practices and processes for schools and teachers to incorporate ICT in ways that improve the teaching and learning process. As a teacher who strongly believes in the development of positive social and emotional health and wellbeing, I am left questioning if all this 'screen time' is promoting more unethical practices in ICT use and further inhibiting our literacy standards, social and communication skills. Furthermore, how are these sedentary practices affecting our overall social and emotional health and wellbeing? Whilst some of these wonderings may not be covered in depth in this research I believe this is a necessary area of inquiry that can identify a number of problems, issues and areas for improvement in ICT practices for consideration on a wider school, society and government level.

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Purpose of the Research: The aims and focus of the research

The research aims to investigate if ICT use in secondary classrooms helps or hinders students learning. The purpose is to determine best practices for teachers to ensure integration of digital technologies is enhancing not diminishing the learning experience. The research is focused on ICT practices in secondary schooling and spans across several classes and year levels 8-12. This research will take the form of a case study approach within an Action Research design. The research will be conducted across the core subjects of Dance, Drama and English at a secondary school location.

The research aims to benefit participants and the wider school community by contributing knowledge and understanding about ICT practices to enhance the teaching and learning experience and improve individual wellbeing. It will enable pre-service teachers to gain skills or expertise and develop their capabilities as a teacher-researcher for future employment in schools and the education sector.

TERMS AND DEFINITIONS

ICT

ICT is an abbreviated term for Information and Communication Technology (Hardy 2000.) Information and communication technology is used to refer to 'the variety of tools and techniques relating to computer, to communication both directed and broadcast, to information sources such as CD-ROM and the internet and to associated technologies such as robots, video conferencing and digital TV' (Tinio 2002).

Case Study

For the purposes of this research the term case study refers to "a systematic inquiry into an event or a set of related events which aims to describe and explain the phenomenon of interest" (Bromley 1991, p.229).

Action Research

Action Research refers to 'a wide variety of evaluative, investigative, and analytical research methods designed to diagnose problems or weaknesses—whether organizational, academic, or instructional—and help educators develop practical solutions to address them quickly and efficiently' (*glossary of education reform*, 2015).

ICT Literature: key issues and debates

The key issues and areas of debate surrounding ICT examined in the literature reviews in secondary schooling include:

- ICT in the Australian Curriculum
- Creating positive learning environments with ICT
- ICT, literacy and social inclusion
- Embracing ICT and resistance to change

The literature presents arguments and evidence and key debates on the benefits and limitations of ICT in secondary schooling through the lenses of an educator.

One area of debate is the effectiveness of ICT in schooling. This depends on wider attitudes and practices towards new technologies and teachers ability to integrate ICT into their teaching and learning process. Key issues are also the processes for teachers to incorporate ICT capabilities and prioritise curriculum outcomes at the same time.

Embracing ICT is linked to teacher's desires and abilities to obtain professional learning to integrate ICT effectively in secondary classrooms.

Another area of debate refers to the impact of ICT use on student's health and wellbeing. In particular, the negative issues educators encounter in 21st century classrooms with highly integrated ICT practices (time wasted on connectivity, the distraction of music apps such as *Spotify* and easily accessible video platforms such as *YouTube*).

Another key issue is the effectiveness of classrooms that highly integrate ICT in teaching and learning. Students may become too reliant on laptop technology which can cause further frustration and anxiety for both students and teacher's. This information is relevant because it is possible that such issues are only arising now in the present time. This could give reason for a possible lack of integration of ICT practices by teachers.

Another area of debate is the benefits of ICT in schooling to improve and enhance ICT Integration in the classroom; to be more prevalent and accessible to teachers and students. This opens a pathways to explore through action research the negative impact (hindering factors) and positive impact (helpful factors) of ICT use in secondary schooling on social and emotional wellbeing. Furthermore the action research can explore the tools, resources and services teachers can access to improve their knowledge, skills and capabilities; to support and create positive learning environments that enhance teaching and learning through integrated ICT practices in the classroom.

Justification for research

Proceeding with this action research study that examines the use of ICT in secondary classrooms (years 8-12) will introduce possible tools and methodologies for analysing ICT that can be incorporated by teachers to encourage the role of teacher as researcher in the classroom. By identifying and examining the factors or conditions and practices that hinder ICT use, we can create and experiment with more effective practices that will help enhance teaching and learning practices, pedagogies and assessments utilised by secondary classroom teachers. This will enable students to develop and enhance their skills and capabilities in ICT, as highlighted in the ICT capabilities model. In addition to this, it may also address the issue of teachers' beliefs and attitudes towards using ICT by further developing their confidence and competence to strengthen ICT practices within the classroom.

Ethical Considerations

This study aligns with research codes, statements and frameworks as outlined below:

- Australian Code for the Responsible Conduct of Research
- National Statement on Ethical Conduct in Human Research
- UniSA Framework for the Responsible Conduct of Research

A number of ethical considerations have been taken into account for this research however there are still many challenges with students and or teachers that may want to ensure anonymity. Also as a teacher-researcher you want to minimise any harm or discomfort to participants within the research project. To respect autonomy in the school students and teachers will participate in the research project on a voluntary basis. It is not anticipated that there are any risks to participation in this study beyond

those encountered during everyday life. Challenges of facilitating teacher-research may include the availability of time to schedule focus group interviews and/or to have participant's complete questionnaires. Issues may arise pertaining to the privacy of information collated and the publishing of findings of the research project.

Participant Consent Form

Each participant (student/teacher) will be required to authorise their participation in the project via written consent (teacher, student and parent / guardian) that identifies both the participant and the researcher's rights and responsibilities; in alignment with the secondary schools confidentiality and privacy policies. This will help to ensure permission is granted to access data, ensure confidentiality, to minimise harm and help to avoid any unnecessary animosity occurring throughout the action research process. Furthermore, providing candidates with a sufficient level of understanding to decide whether they wish to participate or not partake in the Action Research. Refer to Appendix I for consent form and Appendix II for the participant information sheet.

In the case of pre-service teachers an ideal candidate for the research project is the mentor teacher whilst on placement. The mentor teacher is compensated for their time in working with student-teachers on placement so they may be more willing to participate or assist with the required research and successfully fulfil the requirements of the study.

Methodology and Analysis

Research Design / Approach

Case studies generally involve a mix of quantitative (surveys and questionnaires) and qualitative (interviews, focus groups, classroom observations, document analysis) data collection techniques. This study will be carried out using a quantitative approach

first to analyse data and qualitative strategies will be employed to further examine the meaning of trends identified in the research. (reference)

Context Statement:

In this study, ICT use refers to the teaching tools to help students learn in secondary dance, drama and / or English classes across years 8 – 12. The case study approach will examine the levels of engagement and collaboration in learning and assessment activities that utilise ICT tools in comparison to learning and assessment activities that do not. This cross-examines with the teachers' level of engagement and collaboration with ICT tools for learning and assessment activities. The case study will be conducted with up to 5 teachers and up to 30 student participants across the 8-12 year level. The study will take place across all three discipline areas in the secondary school context (placement location) to assess if ICT helps or hinders student learning.

Surveys / Questionnaires

Surveys or questionnaires will be completed by participants to collect quantitative research data (See Appendix III). According to Frankel, Wallen and Hyun (2012), 'a cross-sectional survey is information collected from a person in the population at one-point in time.' The first instrument of data collection is the questionnaire in the form of an online cross-sectional survey. The online questionnaire is aimed to determine the depth, levels and prevalence of use of ICT for student learning across the discipline areas. It also aims to identify perspective views on ICT use for engaging students in tasks and activities that enhance the learning process. The online questionnaire is divided into three parts: Part A, Part B and Part C. Part A contains questions about personal demographics (Age, gender, class, year level and subject) and multiple choice answers about ICT availability and access at school and outside the home. In

part B participants will answer 10 multiple choice questions about engagement with ICT in the classroom. Answers will be on a scale of 1 – 5 as follows and calculated as points:

5 = Highly likely, 4 = Likely 3 = Somewhat likely, 2 = Less likely, 1 = Most unlikely

In part C there are 10 questions about the effectiveness of ICT use in the discipline area for both teacher and student participants. Questions are in multiple choice form as “Yes” or “No” answers. See appendix III for questionnaire form. The questionnaire will be designed using survey monkey or google forms and made available to participants online.

Focus Groups Interviews

The second instrument for data collection is the focus group interviews. The purpose of the interview process is to provide continuity of research and data collated from the questionnaire surveys. Two focus group interviews will be established to survey research participants (both students and teachers) across the Arts (Dance and Drama) and English discipline areas. One focus group will consist solely of students and another will consist of classroom teaching faculty. Structured interviews will be conducted amongst the focus groups to collect and analyse information pertaining to participants and respondent’s personal background, knowledge, experience and opinions about the use of ICT in secondary classrooms across the year levels and three discipline areas. The focus group interviews will be audio recorded and transcribed. The interviews in addition to classroom observations will shape the

findings of the final written report. The focus groups interview questions are located in appendix IV.

Data Collection methods

The research will be conducted over a 4-week period with voluntary participants comprising of classroom students and teaching staff across these subjects in varying year levels (8 to 12). The purpose of analysing both secondary students and teachers perspectives across year levels is because both populations use ICT in the teaching and learning process for engagement and collaboration in various ways.

Observation checklist

As there is limited time in the field both the teacher-researcher and teacher participants will complete in-class observations using an observation checklist. The purpose of the observation checklist is to collate observational data that provides insight into the use of ICT in the student learning process. Observational data that may be ascertained includes the use of ICT to solve problems, model skills or interact with peers. This enables the teacher and teacher-researcher to discover what conditions success is most likely, what students do when they encounter difficulty, how interaction with others affects their learning and concentration, and other information that may enhance or modify future instruction. The observation checklist is divided in to 10 sections with multiple question's pertaining to ICT practices in the classroom.

Observational data will be recorded in the following format:

3 = Strong 2= Apparent 1= Not Displayed

The observational checklist can be used to observe individuals or groups in the learning process. The checklist includes blank spaces to allow for additional comments or notes not captured in the checklist. The date field is included at the top so observations can be recorded that reflect different periods of time in the different learning contexts. The observational data collated will enable broader comparisons (eg: collaborative vs independent ICT practices) to be established that may improve accuracy of data in identifying whether ICT practices help or hinder classroom learning.

Document Analysis

Additional forms of data and evidence that will be collated for the research study will include student's test results (quizzes, homework and academic results) and or portfolios of work from summative or formative assessment tasks. Collating this evidence will help teacher – researcher's to gain further insight in the use of ICT for secondary students in the assessment phase.

In addition teacher-researchers may have access to parent-teacher interviews which may provide insight into ICT use and improving or enhancing learning (homework/ access) between home and the classroom environment.

Personal Writing / Reflective Journaling

Essentially Reflective Practice is 'a method of assessing our own thoughts and actions, for the purpose of personal learning and development' (www.businessballs.com).

The Teacher – Researcher and classroom teacher participants will keep a project journal over the course of the 4-week period to record personal experiences during each phase of planning, acting, observing and reflecting. The Teacher – Researcher and classroom teacher participants can record observations and experiences for self-growth, personal development or new knowledge, skills acquired and insights gained throughout the research process. In this study, participants will follow Gibbs reflective cycle (1988) to assist with the journaling process (see appendix VI.) The process is essentially a cycle or loop, containing the following elements:

1. **Description** - What happened?
2. **Feelings** - What were you thinking and feeling?
3. **Evaluation** - What was good and bad about the experience?
4. **Analysis** - What sense can you make of the situation?
5. **Conclusion** - What else could you have done?
6. **Action Plan** - If it arose again what would you do?

The benefit of using this model is that it encourages critical reflection (views, perception, feelings, challenges) and provides a clear framework and methodology to follow.

The project journal entries will be every 2-3 days. As this study focuses on ICT the journal will need to be in electronic form. The teacher researcher will keep a physical

journal that can be used daily to record field notes and observations. 'Field notes will be taken while students are working and after class when the students are no longer present; all notes will be written objectively' (Brady et.al, 2006) However, it would be more suitable to keep all Journal reflections electronic where possible.

The observation checklists will also be a valuable tool to assist with writing the reflections. Through the journal keeping process the teacher –researcher and teacher participants are developing lifelong learning skills and communication skills in being 'reflective practitioners'. Whilst the journal will predominantly be personal in nature, there will be themes and patterns identified and key insights within the entries that may benefit focus group discussions and the analysis and report writing phase of the study. Holly's article (1996, pp.28-34) discusses the benefits of writing as a way of collecting and analysing experiences and concrete guidelines on how to proceed with a journal.' This is useful literature to provide teacher participants with a methodology for reflecting, collating and analysing experiences throughout the study using journal writing.

Analysing Data

Data analysis for the focus group interviews, observations/surveys and journal reflections will include reading the necessary collated responses and transcribing any notes or materials such as audio recordings. The responses will then be collated into tables according to patterns, themes, major outcomes or reactions. The themes will be based on the relevant ICT areas identified in the literature review.

The data from the interviews will be coded to identify recurring patterns and themes such as cognitive engagement and project collaboration to describe the data. (See appendix VII) a combination of descriptive statistics will be used with inferential statistics. Microsoft Excel's descriptive statistics tool may be useful to collate and analyse the data.

Given the broad nature of this research study across disciplines and year levels and limited time frames, it is feasible to use purposive sampling techniques (homogenous sampling) in representation of the wider classroom population. This will assist the teacher-researcher to identify similar characteristics and analyse information that is most relevant to provide the best data to answer the research question. It also assists in creating a more manageable research process.

Written Report

The purpose of the final report is to organise and share the insights and knowledge obtained throughout the research process and deepen the teacher-researcher's own personal knowledge and professional development. In this study, the final report will be shared with the participants of the research project and the relevant bodies (lecturers/assessors) from the University of South Australia as a possible final placement research study assessment piece. The first phase will be planning and drafting the report. The teacher-researcher will refer to examples of existing action research reports to develop the structure and presentation of the final written report.

Procedure

Please see appendix VIII for the detailed action plan of this research topic.

Outcomes / possible impact

This action research study may assist future teacher-researchers and the wider school community in identifying the main factors that influence the integration of ICT secondary schooling. Furthermore, providing a step-by-step process to assist and support future teacher-researchers and secondary schools that may want to conduct this study in their classrooms.

By undergoing this process teacher-researchers can analyse what it was that worked effectively and what did not throughout the research study. Data analysis is a skill that can be developed over time so it would not be expected that a first-time teacher researcher would be highly proficient in executing this research methodology. The action-research process can therefore be critically examined at the completion of the study and in the report development phase.

Critical analysis encourages more reflexive teaching practices in examining the decision-making and change process and methods selected for this study.

Another potential outcome of the research study may determine that the negative findings are just as important as the positive findings in helping to develop future teaching practice, pedagogy and assessment utilising ICT. The research may also identify what factors contribute to a positive classroom learning environment and the best practices for utilising ICT to enhance student's health and wellbeing.

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Appendices List

I.....Consent Form
II.....Participant Information Sheet
III.....Online Questionnaire Forms
IV.....Focus group interview questions
V.....Observation Checklist
VI.....Gibbs Reflective Cycle
VII.....Data Analysis Table
VIII.....Action Research Plan