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Fiona J. MacLellan

DESIGNING REMOTE EDUCATIONAL FUTURES

Fiona J. MacLellan

23 December 2022

This research project was funded through the Creative Futures Partnership with Glasgow School of Art and Highland and Island Enterprise, with additional support for Scottish Graduate School for Arts & Humanities, Scotland's Futures Forum, and Comhairle nan Eilean Siar

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ABSTRACT

Keywords: Educational Futures, Remote Schooling, Service Design, Participatory Futures

Designing Remote Educational Futures is a Master of Research project which asks: In what ways can design research methods enable learners and teachers in island schools to participate in the creation of educational futures? The project follows a designer's exploration of educational reform across the archipelago between 2016-2019. This culminates in a case study, with approaches for building educational futures with remote school networks. Analysis of the case study identifies opportunities for innovation in design research methods and participatory educational reform in Scotland. The thesis provides a practitioner's guide for the five-phase approach to 'design with social impact' and novel methods including 'walkshops' and 'futurescapes'.

The project works across three areas: people, place, and policy. There is a focus on the people that make up a school network, including learners, parents/carers, teachers, and the broader connected community. These stakeholders share the need for increased creative participation in shaping their future, with attention paid to the agency of mainstream learners (4-18 years old). Secondly, the study is embedded in place - unpacking the identity of islanders from the far north-west of Scotland's mainland, and defining the role of schools in rural island communities. The third contextual focus explores the policies and publications that have led to a transformation in digital learning in recent years, and how these blueprints affect the plausibility of visions of the near future. The policies include Curriculum for Excellence and Scottish Approach to Service Design.

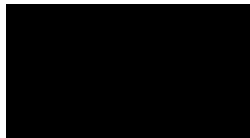
The study was conducted by a designer who uses creative and participatory methods to engage with the subject matter. Walkshops were conducted with key stakeholders and design-led workshops were held in five schools across the archipelago and one online virtual learning environment (e-Sgoil). These engagements culminated into a set of diegetic prototypes (futurescapes) which illustrate near-future aspirations and were shared at Scottish Parliament's Future's Forum and the Goodison Group Scotland, an educational think tank. Further methodological analysis resulted in contributions to the fields of Educational Futures and Service Design.

The impact of *Designing Remote Educational Futures* is found across two main groups. Firstly, to increase educationalist awareness, particularly in Education Scotland, of the role of young people in shaping their future. Secondly, to generate impact through feeding into the Scottish Approach to Service Design with guiding principles and methods set for creative engagement that promote agency.

PRESENTATION OF SUBMISSION

This is the practice-based thesis submission for Master of Research (M.Res) Post-Graduate Research (PGR) at Glasgow School of Art, Innovation School by Fiona J. MacLellan, dated 23 December 2022, as approx. 20,000 word textual submission.

Signed:



PRACTITIONERS STATEMENT

My name is Fiona Jane MacLellan. I am currently working as a Service Design Lead in the Scottish Government's Digital Directorate, enabling large scale digital transformation, and designing equitable services for the public sector. I specialise in design for social impact. My practice emerged through my time at Glasgow School of Art, Köln International School of Design, and ENSCI-Les Ateliers (L'École Nationale Supérieure de Création Industrielle). Now, I play key role in developing the User-Centred Design community for Scotland and hope to support others to create practitioner's guides for the Scottish Approach to Service Design practice.



Figure 1: Fiona (in yellow) in dialogue with teachers during a design-led workshop, 2017

The field research for this thesis was conducted between 2016 to 2019 as part of practice-based Ph.D. funded through the Creative Futures Partnership between Glasgow School of Art and Highlands and Islands Enterprise. I converted this into a M.Res for this submission in 2022. This conversion was largely down to the challenging personal circumstances compounded by the Coronavirus pandemic.

After three fantastic years of researching the future of remote education in the Outer Hebrides the funding stopped, but the submission was not completed. As an independent mother of two young children I needed to prioritise income. I got a fulltime job and this project lived in boxes for years. With support from my employer, the Scottish Government, and encouragement from my main supervisors, Prof. Gordon Hush, I sought to pick it up again. My journey to bringing about this final write up has been a great personal achievement.

Between 2016-2019 the work was shared with the public through exhibitions in the Reid Gallery, the Centre of Contemporary Arts, The Lighthouse and presented in the Scottish Parliament. During the field work phase, I collaborated on conference papers and facilitated workshops at Design Research Society 2016/2018, Scottish Educational Research Society Conference 2019, Goodison Group, Scotland's Futures Forum, and Scottish Parliament 2018-2019. These events created opportunities for widening the impact of the research and open it up to discussion early.

I come from the Highlands of Scotland and have first-hand experience of being a reluctant leaver. I have seen my goal realised through this study; with under-represented views brought to the centre of the political stage. Now in a textual submission, I can begin disseminating the methodological contributions amongst fellow practitioners.

GLOSSARY OF TERMS & ABBREVIATIONS

TERM/ABBREVIATION	MEANING
Archipelago	Islands in the Outer Hebrides, Scotland, including Lewis, Harris, North and South Uist, Benbecula, Eriskay, Barra and Vatersay
Curriculum for Excellence (CfE)	The Curriculum for Excellence (CfE) is the national curriculum for Scottish schools, it was formulated in 2002 (following the National Debate on Education) and fully rolled out in 2010 for learners aged from 3-18 years old.
Change-makers	Those in charge of making decisions that impact educational reform
Design with social impact	Phase created by Fiona MacLellan. Including the sub-domains of Service Design, Social Design, Design Innovation, Participatory Design
Diegetic prototypes	Diegetic prototypes have become a core concept in the practice of design fiction “as a technology that does not yet exist in the real world but is considered real and functional in the fictional narrative” (Ambe et al., 2019).

e-Sgoil	E-Sgoil, launched in 2016 in Outer Hebrides, is a digital learning resource for the region, with plans for wider roll out. As an educational pilot, it delivers online learning experiences to supplement learning in schools. The pilot was selected for a series of creative interventions of a qualitative nature because of its innovative ambition.
Futurescape	Image (often collage) to depict visions on the future supported with speculative short story, layering multiple sources of research data into sharable output.
Goodison Group	The Goodison Group, established by Sir Andrew Cubie in 2004 is a charity focused on improving educational experience in Scotland.
Practice-based	A project driven by the individual’s act of doing, in this case socially engaged design research
Preferable futures	Future visions can be categorised as possible, plausible, probable, and preferable futures. ‘Possible’ are far-reaching and fanciful, the stuff of Science Fiction, and least likely to be rooted in reality. ‘Plausible’ and ‘probable’ hold a credible and believable viewpoint. Within that sits ‘preferable’ future predictions, which hold the values and aspirations of the creator/s.
Scottish Approach to Service Design (SAfSD)	Scottish Approach to Service Design, launched in 2019 by the Scottish Government as a framework for designing public services

<p>School networks</p>	<p>A group of interconnected people who play a role in education e.g. pre-school children, learners, teachers, school leavers, support staff, parents, carers, before/after school childcare providers, educationalists, school faculty, transportation staff.</p>
<p>Scotland Futures Forum</p>	<p>Scotland’s Futures Forum is the Scottish Parliament’s futures think-tank. It works on a non-party basis to promote futures thinking and the public’s engagement in discussions around Scotland future</p>
<p>National Performance Framework (NPF)</p>	<p>National Performance Framework (NPF) is the performance overview that tracks progress towards National Outcomes across 81 indicators.</p>
<p>Walkshops</p>	<p>Method created by Fiona MacLellan. Semi-structured walking interview. The dialogue between the researcher and participant (who leads) moves from past, present to future visions before returning to the current day following a circular route.</p>

ACKNOWLEDGEMENTS

Thanks to the generous funding provided by the Creative Futures Partnership, between Glasgow School of Art and Highlands and Islands Enterprise and with further support from The Scottish Graduate School of Arts and Humanities, Comhairle nan Eilean Siar and The Scottish Parliament. Embarking on a research project as an independent parent would have been financially impossible without this support.

Thanks for the excellent supervision from Prof. Gordon Hush, and thanks to Dr. Marianne McAra for joining the team towards the end and helping me to visualise the end. I would also like to give a shout out to Highlands and Islands campus cohort, particularly Saoirse Higgins and Alicia Smedberg, for the long debates and endless encouragement. Those walks in the woods helped me to see the trees. Thanks to Professor Lynn-Sayers McHattie and starting us all off on this journey and Jayne Wallace for being such a fantastic Viva examiner.

A special mention to my children who have grown so much since I set out with this work. I hope you learn that to ‘think on’ you must plough your own furrow. Lastly, and most especially, I would like to thank Santini Basra, for getting me started and being there with me through it all.

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Comhairle nan
Eilean Siar



HIE



The Scottish Parliament
Pàrlamaid na h-Alba

CCA: Centre for
Contemporary Arts

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CHAPTER 1. INTRODUCTION

‘We are called to be architects of the future, not its victims’

R. Buckminster Fuller

Designing Remote Educational Futures centres around the archipelago at the north-west edge of mainland Scotland. This thesis follows the past, present, and potential futures of Scottish schooling (4-18 years old) from a remote island perspective. In chapter one the research project is introduced. The key contextual areas presented including SAAtSD, CfE, Outer Hebrides schools, preferable futures, and educational reform. The research question: *in what ways can design research methods enable learners and teachers in island schools to participate in the creation of educational futures*, sub-questions, aims and objectives are unpacked and I provide a brief overview of the methodology and research design follows, and an outline the thesis structure, spanning six chapters.

The use of the first-person has been selected for this write up after consideration. It is used throughout the thesis, written from the point of view of a reflexive practitioner (Schön, 1987). The first-person works well at describing stance, field work and discussion around findings, enabling the writer to make clear their role in the work. Given my intended audience (fellow design research practitioners, peers and colleagues) this approach is particularly suitable.

Where is this study based?

The Outer Hebrides, or Eilean Siar, is an archipelago off the north-west coast of Scotland. Located on the very edge of Europe the cluster of islands stretches 130 miles with the Atlantic Ocean running to the west. The figure below shows the moorlands in the north-west coast of Lewis. A landscape full of contrasts, between nature and industry; people and rurality; sky, land, and sea.



Figure 2: The Moors in North Lewis, 2018

The council area, or local authority, is known as Comhairle nan Eilean Siar. Distinctly different from that of the mainland, it is the only place where Scottish Gaelic is the leading spoken language, and English language second. The population of the Outer Hebrides is nearing 27,000 people, with over 20,000 in the main city, Stornoway. The rest of the archipelago is very sparsely populated with over 100 islands uninhabited. This is a diverse and breath-taking

landscape. The locals, both indigenous and newcomer are committed to a life that is divergent in many ways to that of mainland Scotland (BBC, 2019; Danson, 2017). Key insights of island schooling are unpacked in chapter 2 in the literature review.

Jim Hunter, Highlands and Islands Enterprise chair wrote a paper in 2002 that talks confidently of the region’s future, ‘far from being merely at the edge, the Highlands and Islands can become Europe’s Cutting Edge, a progressive and prosperous rural region’ (Hunter, 2002:3). Hunter’s insight into the region’s potential came with guidelines; he stressed the need for support in the knowledge-based infrastructures. Hunter is referring to educational provisions, including schools, learning hubs, universities, and colleges. Access to public services, specifically educational facilities, are vital to the islands ability to thrive. During the study, much of the communities’ conversations about schooling centred around recent rationalisation, where 25 small schools were closed over a period of ten years (2005-2015). The figure below shows the active community mobilising around the loss of these community hubs.

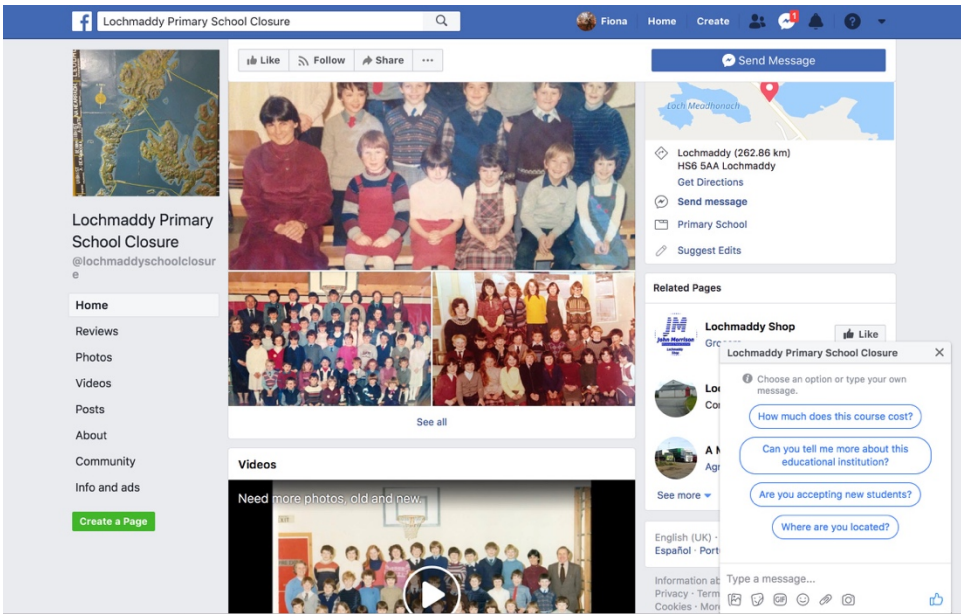


Figure 3: School closure group on Facebook, Lochmaddy Primary

What context does this study focus on?

Education was selected as the chosen focus for this study (over that of healthcare, local industry, democracy, or tourism), given that there has been a steady spread of a dominant model across the world, and the consideration that education has often been an instrument for social change (Milojević, 2005).

Scotland has had devolved powers of education since the parliament was established in 1999. This devolution of power saw Scotland designing its own curriculum. The Scottish Government oversee education in Scotland, with the government agency Education Scotland responsible for ensuring quality and improvement. This agency created The Curriculum for Excellence (CfE), which has social mobility at its core (Patterson, 2016, *Learning and Teaching Scotland*, 2011), with the following vision outlined:

Education should open the doors to opportunities which enable children and young people to become successful learners, confident individuals, responsible citizens and effective contributors to society. (Scottish Government, 2019)

The challenge for the agency tasked with delivering quality educational provision (Education Scotland) has been to deliver on their promises of educational innovation, despite cuts to funding following a period of austerity. Now, over a decade after the CfE's first implementation, teaching practitioners are still decoding the documented visions amidst their low-functioning classroom environments (Robinson, 2014; Collard, 2018).



Figure 4: e-Sgoil Learning Hub on Opening Day, 2016

E-Sgoil, an interesting example of educational innovation, launched in 2016 in Outer Hebrides, housed in the old museum building in Stornoway as shown above. It is a digital learning resource for the region, with plans for wider roll out. As an educational pilot, it delivers online learning experiences to supplement learning in schools. The pilot is a key component of this study, I was embedded within the project team, positioned to conduct design research with learners and teachers across the archipelago.

Why does this study matter?

The thesis seeks to document an under-represented narrative, zooming in on young people's views who are part of a group who are most distant from the centre (in remote island communities). Given the importance of inclusiveness with the growing popularity of widening participation, including the Year of the Young Person (YoYP) and the First Minister's campaign to improve equity through the attainment challenge.



Figure 5: Steps in Scottish Parliament, 2019

As part of the study I spend 18 months part-time collaborating with Scotland's Futures Forum, in the Scottish parliament, addressing emerging trends as a Futures Fellow whilst disseminating key insights from the study amongst change-makers. This opportunity to position island aspirations in the centre of parliamentary activity led to impact being delivered, unpacked further in the discussion chapter.

What is the timely nature of this study?

The pandemic of Covid-19 forced many changes in educational delivery and highlighted the need for digital transformation and the role of the classroom. The fieldwork for this project was conducted prior to the pandemic (between 2016-2019) and the analysis was revisited in 2022 with a new heightened significance post-Covid-19. Educational reform, decentralisation of power and digital transformation continues to be topical due to the current climate of cuts, increasing devolution of power and post-Covid lessons learned.

In Scotland, the CfE was first created by Education Scotland in 2004, with politicians, educationalist, and teaching practitioners seeking a fresh narrative towards learner-centred educational system. This involved moving beyond evaluation and towards an inclusive approach for change, where agency across all levels of authority is increased. Nearly 20 years since its birth, Scotland’s teaching practice is still experiencing the disparity between theory and practice. This disconnect is a key outcome of the OECD’s recent review, quoting ‘the ongoing implementation of Curriculum for Excellence has lacked structure and long-term perspective’ (OECD, 2021). The CfE is further explored in chapter 2.

Research Questions

This practice-based research project centres around the principle research question: **In what ways can design research methods enable learners and teachers in island schools to participate in the creation of educational futures?** This can be broken down into three areas: the research field, the context, and the opportunity for design with social impact as shown in the figure below.

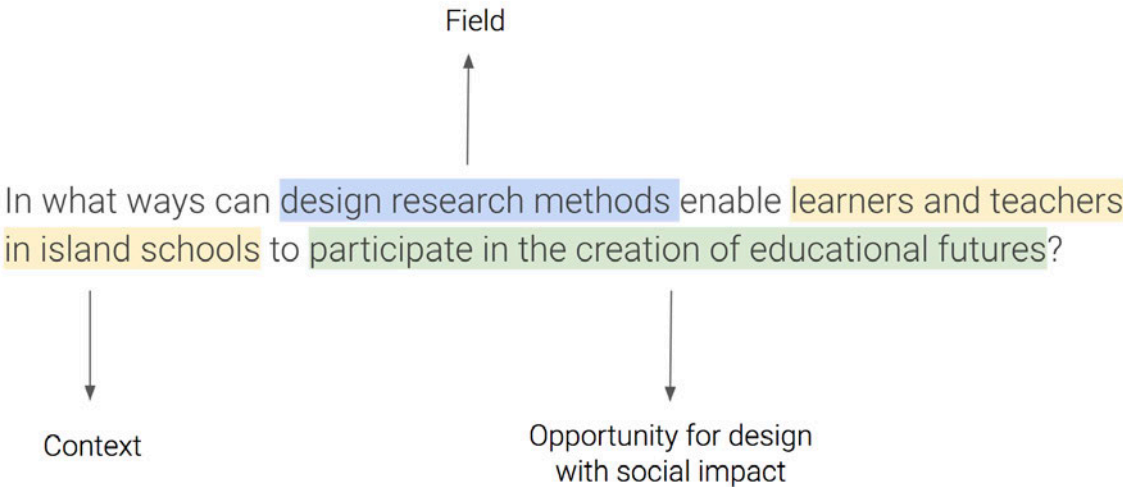


Figure 6: The principle research question with field (blue), context (yellow) & opportunity (green)

The principle research question was approached through answering two sub-questions, which offer a breakdown on the impact of the study as follows:

SUB-QUESTION 1. What is a design practitioner's approach to working with school networks in remote geographies?

SUB-QUESTION 2. How might we increase the diversity of thought in discussions around educational futures?

In sub-question two, by 'we' I am referring to the community of design practitioners, specifically those aligned with the SATSD and design with social impact.

Aims & Objectives

The research questions are answered throughout the thesis, aligned to aims and objectives. There are three overarching aims to this study. Research aims one: **to explore school networks in the Outer Hebrides of Scotland experience of education.** This aim is achieved through the following research activity:

- Joining an educational pilot in the archipelago (e-Sgoil) as a design researcher between 2017-18, documenting observations through videography and fieldnotes.
- A series of walking interviews (method named as 'walkshops') with key stakeholders across archipelago to unpack hopes and fears for island schooling.

- Exploration of school rationalisation between 2005-2015 across the archipelago with visits to key sites and documenting through photography, creating cultural probe to further unpack the impact on the archipelago

‘Walkshops’ are a novel method developed through the study to combine design-led workshop technique with qualitative walking interviews. This method involves the researcher and participant following a semi-structured conversation guide. The guide moves the dialogue from past, present, future visions returning to the current day along a circular route. The participant proposes the route to increase agency in the dynamic between researcher and participant. The visioning begins at a chosen ‘destination’ of significance, with the return journey back to the starting place used to discuss the feasibility of reflections, next steps and leave time for other reflections to be shared. In the case of this study these dialogues centred around remote education but this method could be applied in multiple contexts where the researcher wishes to explore.

Research aim two: **gain insights into how to work with learners and teachers to enable representation of alternative visions for an audience of educational change-makers.**

This aim was achieved by:

- A series of classroom and staffroom workshops with schools in Lewis, Harris, Benbecula, South Uist and Barra between 2017-2018 to explore preferable educational futures for islands
- Analysis of creative outputs developing common themes communicated through a series of ‘t’ with accompanying future fictions (as diegetic prototype)

- Diegetic prototypes presented to the Goodison Group, Scotland's Futures Forum, and Education Scotland in 2019 and contributed to Scotland 2030 Programme: Education

Design approaches were applied to generate the qualitative data required for analysis. These include a combination of methods to run the design-led workshops, primarily - observation and probes - (Mattelmäki, 2006) in order to generate future focused outputs. The idea that 'multisensory stimuli, which allow analogies, associations and multiple interpretations can enhance the results' is key here. With stimulating visual prompts and speculative imagery and language in the probe packs helping to position the participants mind-set to a future focus. These culminated in a set of three 'futurescapes' with accompanying future fictions which were a novel way of presenting the rich data from research.

The final research aim is to: **provide design researchers, specifically: Scottish Approach to Service Design practitioners, with an applied edge-case study of the approach in action.** Here the research aim is achieved through these actions:

- Align research with Scottish Approach to Service Design principles
- Analysis of practitioner's stories collections between Jan-Apr 2021 to situate opportunity for development
- Develop recommendations for next step within the community of practitioners applying the Scottish Approach to Service Design

Methodology

Attempts to impact the systemic nature of how we are educated fits the characteristics of a wicked problem; non-formulaic, no clear end, no right or wrong solution and multi-faceted

(Conklin, 2006). Working in this space requires a nonlinear approach, (Gray and Malins, 2004). Methods are used, as tools, to conduct the research and help to reveal or *generate* answers. Rational for one method over another, and the approach with which the enquiry is undertaken, is explained through the methodology. A methodology will provide the broad strategy for accomplishing the research goals and provide transparency of my approach.

This research project is for design researchers, specifically SAtSD practitioners, with alignment with Participatory Action Research (PAR) approaches in education and Participatory Futures Methods. I focus on methods for better understanding the edge-case context (remote school networks). The focus is therefore in the pre-solution-and-delivery phase of the design process, from 1. Understand the problem to 2. Solve the problem (SAtSD, 2019). My five-step framework is unpacked further in chapter three: methodology. The figure below, gives a snapshot of the area in focus (highlighted in yellow).

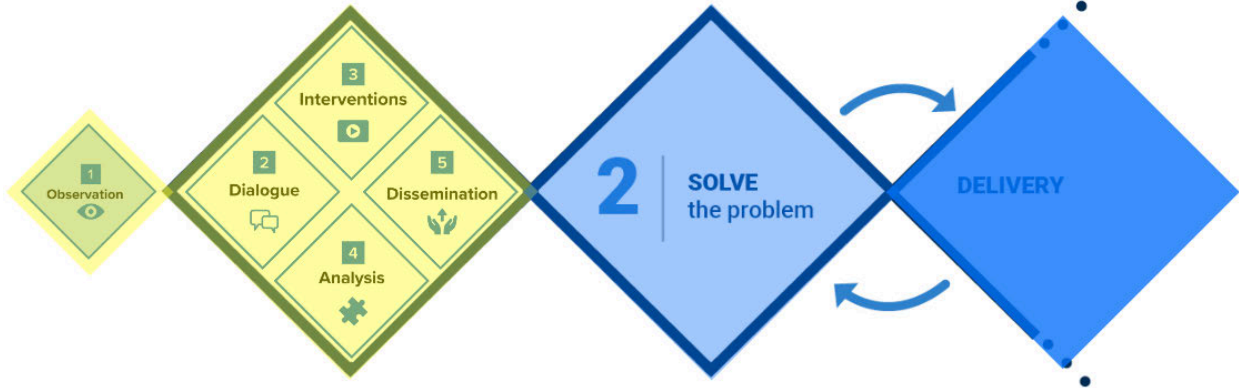


Figure 7: Design framework for understanding the problem

Research Design

As shown in the figure directly below, the setting for schooling is divergent to that of city-centric areas, yet blanket policies are often rolled out for teaching practitioners to apply in

their classrooms, often with small class-sizes, mixed age groups ranging across primary levels, and limited resources.



Figure 8: Island school in Harris, set amongst the sand dunes (2016)

Conducted over three years, I followed a five-step framework for engaging with learners and teachers in island schools. Research data was collected from:

1. Across the archipelago (western isles council area)
2. Across the mainstream school stages (early, first, second and third level and senior phase)
3. From school staff (teachers and support staff)
4. From educational pilot employees (e-Sgoil)
5. From centralised educationalists (through public exhibitions in galleries)
6. From educational change makers (Goodison Group)

The research data culminated to form a series of insights around the preferable future with of island schools as well as practitioner’s guidance for inclusive methods of engagement (design-led workshops for participatory futures) with learner, teachers, and change-makers. The timeline for the project is presented below.

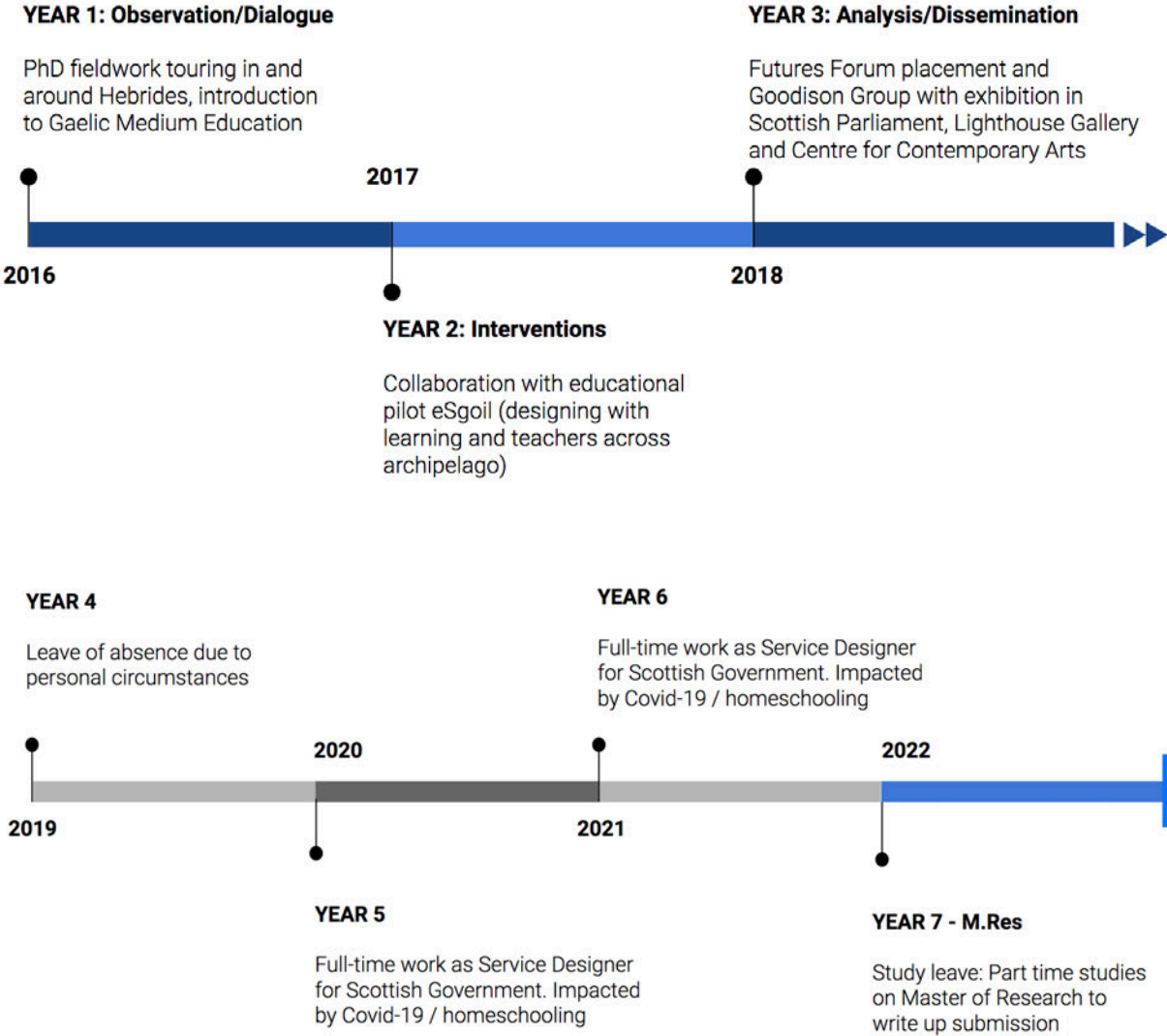


Figure 9: Project timeline (2016-2022)

From 2020 I took on the full-time role as civil servant, after the fieldwork and much of the analysis and dissemination had been completed.

Thesis Structure

Chapter two; literature review follows this introduction chapter. The literature review or scope of context was conducted to evidence the gap this study addresses. Areas of focus include SAAtSD, Participatory Action Research, design for social impact, the Archipelago, Educational Futures, Participatory Futures and finally Schooling in Scotland.

The methodology chapter is next. In this chapter I introduced the research stance (positionality) then the five-step design framework that I created. This framework focuses on adding impact through meaning early discovery engagement with participants and serves as the breakdown of steps involved in the fieldwork. Methodologically this is aligned with SAAtSD, PAR and Participatory Futures methods to delivery design-led workshops with learners, teachers, and change makers.

Chapter four centred around the fieldwork, with a chronological account of the participatory elements of the practice-based study. The appendix is cross-referenced here to provide additional methods guides, workshop materials and outputs. The fieldwork covers 2 years of engagement, and therefore there are various outputs presented in abbreviated formats to allow for ease of reading and flow. The appendix provides additional evidence of practice given the practice-based nature of this study.

Chapter five is focused on analysis and discussion. Findings are formulated through discussion and thematic analysis. The principle and sub research questions are revisited with findings and new insights situated back into field of SAAtSD practitioners.

Chapter six sees the study concluded, summarising key findings within our given context. Research limitation, constraints, replicability, impact, and future recommendations are also presented.

Ethical Research Principles

I conducted this research in an ethical and inclusive manner. Participants gave their informed consent, with rights to withdraw, and data was anonymised according to the research council's requirements. Approval from GSA research council was granted in 2016, this included stage one ethical clearing. Furthermore, the project aligned to SAAtSD's ethical research principles to ensure:

- participants and research are safe
- research is lawful and transparent
- research is inclusive and respectful

An ethical approach to research when working with young people is particularly vital, due to their age leading to potential vulnerability. Disclosure Scotland clearance was granted and with guardian consent and teaching staff always present in research activity. Further information on the ethics behind the research are unpacked in chapter three.

Conclusion

Learners and teachers from island schools are the key actors in this study, with participatory engagement methods used to bring their visions to a centralised audience of change-makers. As a practice-based study spanning several years, my role as design researcher

led to a large amount of empirical research being conducted. As such, this output of this study forms a practitioner's guide to emerging methods in participatory futures with under-represented groups. Recommendation also centre around innovations in educational reform, however as outputs of the case study, these are secondary to the methodological contribution.

CHAPTER 2: SCOPE OF CONTEXT

‘We need to redesign #servicedesign’

Cat Macaulay (2019)

This chapter will begin by introducing the field design research, in particular for SAAtSD practitioners, through a concise literature review. I then unpack the context (learners and teachers in island schools in the archipelago of the Outer Hebrides) through literature and field notes. Thereafter, I move on to presenting the opportunity for *design with social impact* through enabling meaningful participation and representation in political discussion around educational futures. Here we align with the Goodison Group and Scotland 2030 Programme: Education ahead of the general election in 2021, with more detail on the political positioning.

SAAtSD

Scottish Approach to Service Design, also referred to as SAAtSD, was launched in June 2019 by the Digital Directorate (Scottish Government, 2019) as a publication which set out with the following vision as shown in the figure below:



Figure 10: SAAtSD vision statement, Source: Scottish Government

SAAtSD provides an approach, sometimes referred to as ‘playbook’ (Sharma, 2019) on how to deliver against Scottish Government values (National Performance Framework, 2019). This inclusive framework is designed for public sector organisations and includes an introduction to the approach, a set of 7 principles, definitions of what we mean by ‘service’, ‘user’ and ‘design’, basic tools guide, and a maturity assessment matrix.

A year after the launch of SAAtSD a group of designers began collecting Stories of Service Design in Scotland as part of a project called Practitioner’s Stories. This found that designers appreciated the common language defined in the introduction. The community view it as ‘conversation-starter’ and believe it would benefit from ‘real examples of how it was applied’ (Klus et al, 2020). SAAtSD practitioners are said to share the following sensibilities: they are empathetic, ethical, inclusive, future-focused, and impartial. Service Designers are typically embedded in projects working closely with others from the User-Centred Design job family roles (such as Content Design, User Research, Interaction Design, and Accessibility Specialist) during the discovery and delivery phase on public-sector transformation projects. (SAAtSD, 2019).

Apart from a few blogs on Digital Scotland the SAtSD community has not released any additional publications since its launch in 2019. The community are calling for case studies (such as exploring specialist techniques for context-specific engagement and pre-discovery phase) and examples of the theory in practice (such as detailed methods guides and templates) (SAtSD, 2019; Sharma, 2019; Klus et al, 2020).

The approach is often introduced through a three-day design champions course, where cohorts are taken through the framework and methods such as double diamond (Design Council, 2006), Storyboarding, Customer Journey Mapping, Personas, User research- field research – observation, Synthesis, How Might We, Ideation, Problem Statement, Idea Selection, Prototype-desktop walk through (Digital Office, 2021).

The SAtSD is said to have emerged following the Christie Commission on the Future Delivery of Public Services Report (2011), an aspirational report which set out to answer the how behind improving public service. The report called for an increased participatory approach to designing public service, stating how these new “approaches recognise that individuals and communities are a part of the solution and work with people rather than viewing them as passive recipients of services, and empower people to control their future” (Scottish Government, 2011:15). However, with no standard methods and tools the approach has been viewed as aspirational and theoretical. The community sees the need to address this through applied case studies and practitioner’s guides.

Cat Macaulay is the Chief Designer at the Scottish Government, tasked with ‘bringing design thinking into the heart of ‘how we do government’’ (Macaulay, 2019:1). Macaulay sets out in the SAtSD a rhetoric for change in approach, moving to that of the public’s increased participation in decision that affect them – across the public sector. In an article for The Service

Gazette published for the International Design in Government conference (November 2019)

Macaulay states;

‘...we need to re-design design itself, to be more radically inclusive and accessible. We’ll fail if some citizens, for example disabled people, those in remote areas, or people with low literacy levels, cannot participate...’ (Macaulay, 2019:2).

As a Lead Service Designer working to deliver and endorse the SATSD approach I see how the approach aligns with much of modern design practice ambition, with a heightened social focus around inclusion and diversity. The need for practitioner involvement is unpack in chapter three.

Design with Social Impact

I apply design discourse to the research inquiry, as a socially engaged design researcher with a 5-year career designing with the public sector. ‘Design with social impact’ is a phase I created to reduce some of the complexity between subdomains which work in similar socio-cultural matters. It identifies parallels between Service Design, Social Design, Design Innovation, Participatory Design as well as User/People/Human/Planet-Centred Design. ‘Design with social impact’ is used to cover the practice applied to this study. The **mode** is ‘design’ and the **outcome** is ‘social impact’. This practice is aligned with design for social innovation which has a social-conscious beyond capitalist performance indicators (Vere, 2011; Manzini, 2015). Furthermore, given the prominent role Service Design has in public-sector reform and implementation, the field is seeing an increasing role in co-creation for social innovation (Margolin, 2002; Yang & Sung, 2016).

So, what is meant by social impact in the context of social innovation? According to The Centre for Social Impact, Social Impact is defined as: ‘A significant, positive change that addresses a pressing social challenge.’ (CfSI, 2011). Social impact cuts across society, from upholding human rights to improvements in end of life care. There is a clear alignment with the National Performance Framework in Scotland (REF), which goal is to creating meaningful social impact. It has the following aims:

- create a more successful country
- give opportunities to all people living in Scotland
- increase the wellbeing of people living in Scotland
- create sustainable and inclusive growth
- reduce inequalities and give equal importance to economic, environmental, and social progress (NPF, 2019)

In a seminal piece of literature within design practice, *Design Futuring* by Tony Fry (2008) accounts of the need for change in the practice of Design to match it with contemporary ethical, political, social, and ecological issues through foresight and a more critical stance as practitioners within society. Nesta, a global innovation foundation, created a report in 2019 titled *Our Future: by the people, for the people*. It explores how mass involvement in shaping the future can solve complex problems. Participatory Futures is unpacked further in the methodology chapter. ‘For individuals, involvement in participatory future exercises can help overcome anxiety about the future and lead to a greater sense of agency, as well as more proactive social behaviour’ (Nesta, 2019:8) This idea of increased agency through meaningful participation is aligned with the scope of this study and *design with social impact*.

Social Design is attentive to the designer's role and responsibility in society. Taking a more responsible approach to design includes considering choices across the design processes, and critically engaging with the consumerist-led conventional design practice. The goal is to bring about social change through a more inclusive concept of design, in which those who are marginalised or suppressed are included (Margolin, 2002; Norman, 2010; Papanek, 2005; Thackara, 2005).

The move to design as research, or as Frayling accounts 'Research through Art and Design' (Frayling, 1993), plays an important role in the scaling up of designer's participation in critical reflection in societal issues and contribution to societal commentary.

Another factor to consider is agency; the capacity of an individual to act in any given environment. An individual's power to act is affected by surrounding social structures (including social class, cultural traditions, gender, ethnicity, ability etc.). The effect of a person's social structures on their actions is extremely complex, an analysis of power and agency *in education* requires that we consider the types of power relations that occur within school networks. Within this network, there pre-exists some degree of authority and dominance amongst actors. Schools network's power imbalances can have wider influences beyond one another relations, relating to economic, political, and social history.

Education in Scotland

Scotland's political system places education as a top priority for social impact. Nicola Sturgeon (current First Minister) in a speech titled '*A World Leader in Education*' in August 2015, presents that '[e]xcellence in education is essential to our prosperity, competitiveness, wellbeing – to our overall success as a nation – in the future, just as it has been in the past'

(Sturgeon, 2015). The Curriculum for Excellence (CfE) is Scotland framework of delivery social impact through educational excellence and it heralds its approach in ‘plac[ing] learners at the heart of education’ (Education Scotland, 2015).

CfE centres on providing strategies for learning, with the key locus of design and implementation of classroom mechanics lying within a school. Keir Bloomer, a co-architect of CfE and one of Scotland’s leading educationalists, narrates a video that sets out to define CfE, and what it shall do for Scotland. ‘CfE is Scotland’s educational response to global change,’ (Bloomer, 2010) equipping children with the skills and confidence to evolve with tomorrow’s world; in other words, helping children to become self-motivated lifelong learners.

Since its emergence in 2003, and phased implementation in 2010, the universal model of education for Scotland has found teachers struggling through budget cuts to realise the ambition(s) set. To echo teaching forums and parent-teacher comment boards, the CfE is described as a ‘misnomer’. This is a view explained by Lindsay Patterson, Professor of Education Policy at Edinburgh University, who is quoted as describing the CfE as ‘idealistic, almost Utopian approach to education’ (The Economist, Not so Bonny Scotland, 2016:10). The Curriculum Review Board set off with citizen-led rhetoric, suggesting a mobilisation of the teaching discipline through an empowering piece of public policy. The closing statement from the Education Minister outlined that the CfE downloadable guidance packs, for which there would be over fifty, would:

...provide a starting point for a continuous cycle of reflection, review and improvement which will actively involve young people, teachers and educators, parents, employers, and the wider community. (CfE, 2004:5).

As such, there is an appetite by schools to become active citizens in their service redesign. The role of teachers to become more active in designing their system is key in this thesis. Schooling takes a central focus for the Scottish nation, particularly after the devolution of power (1998) in which full legislative power of education was shifted from Westminster to the Holyrood Parliament. Nicola Sturgeon (current First Minister) in the 2016 election is known for placing education as the top priority, in a speech titled '*A World Leader in Education*' in August 2015, she confidently presents that '[e]xcellence in education is essential to our prosperity, competitiveness, wellbeing – to our overall success as a nation – in the future, just as it has been in the past' (Sturgeon, 2015). Scotland heralds the design of its education system as innovative and progressive (Scottish Government, 2016; Humes and Bryce, 2013).



Figure 11: Fishing rope in harbour, Barra (2018)

When we talk about learners and teachers it is also important to remember the other roles that make us the delivery and need for educational services. Here, I introduce the term *school networks* is introduced to depict this interconnect group of people. Like a piece of rope which is

made up of countless stands, as shown in the figure above, a school networks include all stakeholders related to a learning and teaching environment. This includes; preschool children, current learners (or pupils), school leavers, parents, carers, before/after school childcare providers, educationalists, school faculty, support staff, transportation, learning tools, school buildings (including playgrounds) community spaces, teaching resources, and platforms.

And yet, as pronounced by Prof. Trevor Gale (2017) at the keynote speech for the Scottish Educational Research Agency ‘the future of (Scottish) education is not very evenly distributed’. Gale shared that challenges in urban-versus-town placement of educational services, dominant thinking, and economic imbalance as the highest risks in a progressive future for Scottish Education.

Wider Educational Landscape

Scotland’s educational system has been on a long journey of development. It is important for us to acknowledge the wider (mainly western) educational landscape from where this has emerged.

Educational frameworks include: the flipped classroom, the early years focus, the shared leadership approach and many others exploring focus on language and transition (age and stage). These frameworks set out to create distinct environment for learners and teachers, making one school stand out for another and a unifying approach across lessons and classrooms. Rurality is not seen as a formal educational framework, however is distinct in its nature. The remote school, in particular, the remote island school is an interesting framework explored further in the fieldwork chapter.

In ‘A Study of the Cluster Schools Policy in the Maldives’ Ali (2006) unpacks the model and points out its support across many educational policy areas, given that ‘if used effectively, can address issues of disparity in educational provision’ (Ali, 2006:28). However, Lunt et. al point out the challenges in meeting individual’s needs in a similar study in the United Kindom. (Lunt et. al. 1988) leading to the ultimate demise of this model. I consider if a remote island lens was included here and failed to find any references to this in a U.K. wide study. A recent (2019) advert for teaching role for the remote island school of Eigg when viral, with the school spokesperson reporting that it is ‘more than a school...island life shapes how its pupils learn... we actively promote partnership between the school, home and the wider community’ (Scotman, 2019).

Closely aligned to educational frameworks are a range of learning perspectives. Although there are many different approaches to learning, there are three basic types of learning theory: behaviourist, cognitive constructivist, and social constructivist. The three theories view of knowledge learning, motivation and teaching are different. With behaviourist believing that there ought to be a passive and repetitive approach to learning backed up through extrinsic positive and negative reinforcement (such as exams). In this setting, the teacher leads and the pupils learn. Cognitive constructivism encourages discovery by the learner, with intrinsic motivation being facilitated by the teacher, (such as play led learning). Social constructivism encourages group work and looks to foster knowledge community. Island schooling will be explored under these lens in the discussion chapter.

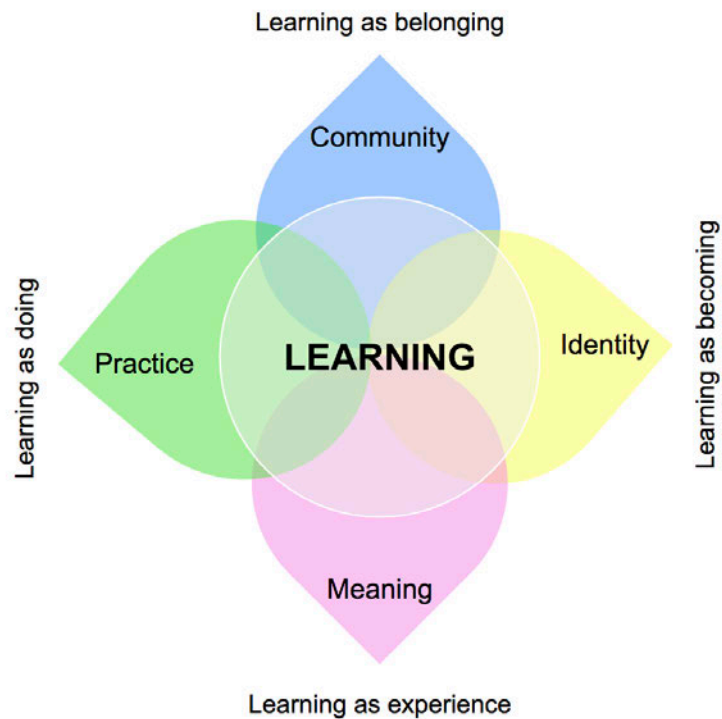


Figure 12: Components of the social theory of learning (Wegner, 1998) redrawn by Fiona MacLellan, 2022

Wegner (1998) developed insight into the social theory of learning beyond individual cognitive development. The figure above shows the role of learning through community = belonging, identity = becoming, meaning = experience and practice = doing. This multifaceted lens helps to unpack the learning experience and underlying social components. Wegner notes these four areas as ‘deeply interconnected and mutually defining’ (Wegner, 1998:5). *Community of practice: learning, meaning and identity* is a seminal piece in the movement away from viewing learning as a psychological and neurological activity (Lave & Wegner, 1991), towards a theory of social and situated view of the learning and the impact of their social surroundings. This is a key theme in remote island school networks.

The Archipelago

Having defined the emerging developments in Service Design and Education in Scotland, and more widely I will now present the geographical context for this study. Of the 32 local authorities in Scotland, scope was narrowed down to the Western Isles Council. This was due in part to generous funding through the Creative Futures Partnership (Highland and Island Enterprise and Glasgow School of Art's Highlands and Island Campus). Moreover, my personal connection to the region serves as a spring board to conduct impactful research.

With a population of around 26,000, spread across over 3000 km², it is the least densely populated council area and decisions of educational planning and allocations of provisions are made at a council level. The Outer Hebrides, or Western Isles is a chain of more than a hundred islands off the west of mainland Scotland, beyond the Inner Hebrides. In this archipelago, there are fifteen inhabited islands, of which the main are (from north to south) Lewis, Harris, North Uist, Benbecula, South Uist, Eriskay, Barra and Vatersay. The geography of the island group is shown in the figure below:



Figure 13: Map of Outer Hebrides, Scotland. Source: Visit Scotland

Population by: Census Results Outer Hebrides		Mid Year Estimate:							Projections:					
		1861	1901	1981	1991	2001	2011	2011	2012	2013	2014	2015	2022	2037
		36,319	46,172	30,702	29,600	26,502	27,684	27,690	27,560	27,400	27,250	27,070	26,469	24,596
Age Group	%													
0-4yrs	-	-	-	7	6	5	5	5	5	5	5	5	4	3
5-19yrs	-	-	-	25	21	18	16	16	16	16	16	16	15	13
20-44yrs	-	-	-	29	32	30	27	27	27	26	26	25	23	19
45-64yrs	-	-	-	21	22	27	30	30	30	30	30	30	31	27
65-79yrs	-	-	-	15	13	14	16	19	20	20	20	18	23	30
80+	-	-	-	4	5	5	6	3	3	3	3	6	4	7
Island Areas														
Lewis	-	-	-	20,720	20,159	18,489	19,658	19,654	19,607	19,492	19,395	-	-	-
Harris	-	-	-	2,489	2,222	1,984	1,916	1,900	1,902	1,858	1,843	-	-	-
North Uist	-	-	-	1,803	1,815	1,657	1,619	1,626	1,626	1,623	1,593	-	-	-
Benbecula	-	-	-	1,887	1,803	1,249	1,330	1,331	1,331	1,375	1,380	-	-	-
South Uist	-	-	-	2,432	2,285	1,951	1,897	1,901	1,824	1,807	1,789	-	-	-
Barra & Vatersay	-	-	-	1,371	1,316	1,172	1,264	1,278	1,270	1,245	1,250	-	-	-

Figure 9: National Records of Scotland, note: figures have been rounding to nearest digit

There is a growing trend of island depopulation across the Outer Hebrides, from approximately 46,000 in 1901 to 27,000 in 2015 (National Records of Scotland, 2014). As professed by the renowned Gaelic Poet Somhairle MacGill-Eain (Sorley Maclean) in 1974, ‘our children are bred for emigration’. This migration is illustrated in the census results in the census table in the figure above. Population has seen a drop of 41% in a century, with a downward trend forecast. The young age range are the most affected group (Source: National Records of Scotland, 2015).

School Rationalisation

In the context of the Outer Hebrides, educational reform is felt even more acutely. Just as in many other rural areas such as Shetland, Caithness, or Fife. But unique to the Outer Hebrides is the severe rationalisation of schools, particularly visible across the landscape, from forty-nine institutions in 2005 to twenty-nine in 2017, of which only four are providing secondary education (Comhairle nan Eilean Siar, 2016). Leaving many of the old school foundations to crumble, along with the ideology of small-scale local schooling (McHardy, 2015).

School rationalisation was performed across the archipelago between 2005-2015 with twenty-five schools closed and 1883 pupils affected but the closures, causing education migration on a large scale leaving areas of lower population density to shrink further. The figure below shows an example of school rationalisation, with Paible school, the only secondary school in North Uist, is the latest casualty of the Western Isles Council’s ‘controversial strategy’ (Hebrides News, 2011).



Figure 14: Paible school demolition (Hebrides News, 2011)

The rationalisation is echoed in the wider migration of services to the mainland including healthcare, finance, and community services. There is a measurable effect on the island population (National Records of Scotland, 2011). Excluding the Isle of Lewis, the numbers of school-age children are dropping across the archipelago, with growth to nearby locations such as the mainland, Inner Hebrides, or Stornoway (Comhairle nan Eilean Siar, 2016).

However, the island population is not on a fixed trajectory. The concept of remoteness itself is up for a shift through technological advances. Increased connectivity through digital means, a shift in modes of work and workplaces, added with the popularisation of island living provides ground for a prediction around island growth. The concept of peripheries or remoteness is not a set status, and rural development goals are seeking to disrupt this view (HIE, 2016). In a literature review conducted by the Scottish Government in 2012, which looks at the links between rural schools and the local community, it states that there is limited evidence available

to inform a clear picture of the impact of school closure on the wider community and highlights this key finding:

A rural school is much more than just an educational institute, it fulfils an important role in the community's needs; ranging from an arena for local politics, to a resource for community growth. (Scottish Government, 2012:1).

Consideration of the word '*rural*' as used by Hunter (2002) reveals several interesting points. It could be said that ruralisation is felt across urban and rural geographies. Now, proximity to services is no longer the singular factor in the rural equation, the connection to community is a major influencing factor. As such, increasingly hyper-connected cities are feeling isolated and digital networks are allowing for a blur in traditional relations.

Rurality is further unpacked through exploration of 'place'. Place is a concept that includes ideas of identity and geography (Relph, 1976, Baldacchino et al, 2015). This place-based study seeks a contemporary view of the edge-ness of remote geographies in the digital age of increased connectivity. This section introduces the idea of interchangeable nature of peripherals and with that, the centre. Leading to discussion of collective agency and community autonomy in society to address the processes of change.

In contrast to views of Globalisation, with the ability to think big and generalise, place-led development recognized the importance of the affordance of choice on a small scale. The main contribution of the volume is through its broad and deep understanding of place, with the idea of development or change happening not 'to' a community, but 'with' 'by' and 'for' the community. Thus, it suggests that the peripheries are not set in a fixed status and with the interchangeable nature of findings through the effects of globalisation, there is a contemporary understanding of remoteness.

Educational Futures

Looking to the future of education in Scotland we focus on the forefront of educational reform. The Goodison Group, established by Sir Andrew Cubie in 2004. The charity describe itself as:

‘an independent think tank that considers education and learning, whenever possible, far beyond the immediate horizon. We bring together a cross section of society...and through discussion/debate, develop insights and model future scenarios.’ (Scottish Futures Forum, 2018)

This group of educationalist will form a key audience and support impactful dissemination in this study. The focus of the Goodison Groups work has been on a report titled: *Scotland 2030: Future Schooling, Education, and Learning*. A series of interactive seminars informed this report, with the goal to promote discussion around how Scottish education could and should change.

Another key platform for these emerging discussions is the annual conference led by Education Scotland, *The Scottish Learning Festival* is widely attended (online and offline) amongst teaching professionals and parents. The festivals aim is to clarify messages of educational reform; with reference to the CfE’s document repository of over fifty guidance reports. Chris Graham, from Education Scotland, reported to a large audience at the festival of the OECD 200-page review of the CfE. The OECD summed up with a critique of the CfE as bold in ambition, vague in implementation.

Futures Methods

The work of Anthony Dunne and Fiona Raby, and their founding thoughts on critical design, has further enabled design practice as a mode of inquiry of opening future landscapes and the spectrum of possibilities these hold. As such, the role of creative conceptualisation is of the artefact to create ‘compasses not maps’ (Dunne and Raby, 2013:99) to imagine otherness.

Visualising alternatives and speculating changes is engagement in a playful manner with the unknown (Hara, 2015). For it is in the unknown that we engage with the imagination, followed closely by curiosity.

Applying a future focused mind-set could be termed social dreaming, with other examples of social dreaming include sci-fi stories and manifestos. Here we work with Clement Bezold, founder of *The Institute for Alternative Futures* introduced the *Futures Cone* in 1978; the framework defined a space between possible and preferable futures and utilised future forecasting to propagate new ideas. Moreover, Anthony Dunne and Fiona Raby, designers, and educators, go on to adopt this metaphor for shedding light on the spectrum of possibilities. Dunne and Raby express the role of speculation in futurology, and the potential impact of social dreaming (Dunne and Raby, 2013). These became acts of creation and called upon others to interpret their outputs.

By building utopic discourses supported by designs, social designers could point out alternatives to current realities, perhaps in the manner of modernist utopias in architecture or the speculative designs of Dunne and Raby. The utopian approach has several problems, of course, and it runs the risk of being so unrealistic that it will not be taken seriously outside the field of design. (Chen et al., 2016:4)

In Sohail Inayatullah's Causal Layered Analysis and Ivana Milojevic's study of Educational Futures there are clear contributions for Futures Studies. But futurology's focus is on predicting rather than on creating an engaging fictitious story. The study of futures has its own distinct field in which the possible, probable, and preferable is explored through systematic forward thinking or strategic foresight. The creative act involved in constructing visions for new ideas sits amongst the debate of whether futurology is an art or a science. Design can provide the means with which to articulate this speculation, as preparation for today but also through representation of those visions, including multiple voices in the discussion.

Identifying Gaps

In Scotland, the Curriculum for Excellence and Education Scotland is looking for a fresh narrative to encourage change-makers to make user-centred actions in improved educational experiences. This involved moving beyond evaluation and towards an inclusive approach for change, where agency across all levels of authority is increased.

Being part of an island school network could have distinctive characteristics that diverge from the dominant model for education. If not seen or heard, these characteristics could be overridden. As such in the example of rationalisation, which saw old-school setting deemed unfit for purpose, leaving communities with decisions of resettlement in order to access educational provisions.

The Goodison Group are working actively to represent diversity of through in their outlook for Scottish Education. This approach is for long-termism, with learners and teachers. Their Scotland 2030 project forms a timely stage for dissemination research findings from this

study, with the aspiration to bring rural island school networks perspectives to the centre ahead of the 2021 General Election.

SAtSD provides a framework for delivering this transformation through participatory methods that focus on inclusive and forward-thinking research goals. But practitioners are struggling to realise the community of public sector Service Designers and champions are aspiration without additional guidelines/resources such as practioner's guide and toolkits. As a practitioner working in the field, I seek to provide some answers to these gaps with this in-depth case study with supplementary design framework focusing on the pre-discovery and discovery phase of the double diamond (Design Council, 2006).

The work of Anthony Dunne and Fiona Raby, and their founding thoughts on critical design, has further enabled design practice as a mode of inquiry of opening future landscapes and the spectrum of possibilities these hold. As such, the role of creative conceptualisation is of the artefact to create 'compasses not maps' (Dunne and Raby, 2013:99) to imagine otherness. These concepts and supporting future methods shall be unpacked further in the methodology and fieldwork chapter.

CHAPTER 3. METHODOLOGY

‘One provocative question is worth a hundred proclamations.’

Bernard Bull, 2016

The methodology is presented in chapter three with the values and principles that underpin the research laid out in a research framework, based on the Scottish Approach to Service Design (SAAtSD). The engagement was with three interconnected groups: learners, teachers, and change-makers. Next the research design is unpacked, including a review of how the research was conducted, those involved, timespan, ethics, types of data collected, data handling process, steps in the analysis, as well as its robustness and replicability. Returning to the principle research question: **in what ways can design research methods enable learners and teachers in island schools to participate in the creation of educational futures?**

Research Framework & Stance

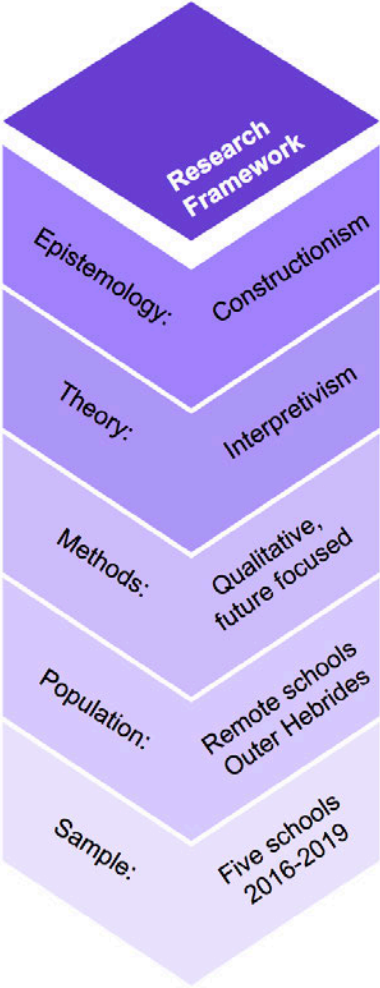


Figure 15: Research framework, based on Crotty's model (1998)

Based on Crotty’s model for research the figure above provides an overview of the steps in my research path. I retrospectively worked through the five steps to explore the research framework. This approach is growing in popularity as pointed out by Wener et. al. who quote in a review of Crotty’s model: ‘qualitative studies allow us to understand the unique individual or group experience in more detail and form a basis for policy change and innovative interventions.’ (Wener et.al 2013: 2)

As an interpretivist, I understand the creation of knowledge as complex and subjective. As ‘the researcher’ and ‘the author’ I observe the world around me, and draw interpretation which is unique to myself due to lived experience. I discount the idea of one way of knowing, over the idea that there are plural (individual) lived experiences. Interpretivism is often the underlying research philosophy in qualitative studies and here I point out that I can only provide my interpretation, one account, and therefore must present potential and unconscious bias upfront.

I have some existing connection to the region and therefore have a tacit understanding of its culture. I was born in the west coast, on the mainland, and experienced education and economic migration when I was young. We moved to the east coast, to a similarly remote setting, but our access to public services was considerably improved. Despite growing up on the east, my cultural heritage is still very much rooted in the west.

In my first year of the study my children started Gaelic Medium Education, this furthered my connection with the educational context and my motivations to see a representational vision realised. There is also potential bias that I am working to overcome, this is around my role as a civil servant and career in design. As such the study is largely empirical, with scholarly positioning, however there are underlying threads from my lived experiences.

An inductive enquiry, this study builds knowledge from research data collected. The study took an exploratory approach to the first two research aims:

- To explore school networks in the Outer Hebrides of Scotland and experience of education.
- To gain insights into how to work with learners, teachers to enable representation of alternative visions for an audience of educational change-makers.

The study shifts into a deductive mind-set as it aligns with the SAAtSD, an established framework, rooted in the values of government, the National Performance Framework, and the Curriculum for Excellence. As the final components of the research aims are addressed, there is a confirmatory approach taken on.

Design Futures with Learners, Teachers & Change Makers

Designing with learner and teachers who are embedded in mainstream education involved sensitivities. It is important to involve adults in the design team (Wyeth & Diercke 2006), overcoming some of the limitations of delivering age appropriate content. Cultural probes, a set of task to evoke interesting responses from people, work well with children and family groups (Horst et al. 2004, Mattelmäki 2006).

The research context of learners and teachers in island schools is complex. To collect qualitative research data multi-media capturing techniques were needed. These included audio, photography, videography, samples, creative workshop outputs and sketches. At times, quantitative data were also collected, such as number of schools closed during rationalisation and census data references around migration towards to the mainland and educational resources. The study employed a snowball sampling process. This began with access to ‘gatekeepers’ such as the head of education in CnES and head teachers, moving down into local communities and classroom connections. Effort was placed around geographical spread of research to cover the archipelago. As such 5 schools took part in the study.

A disclaimer ought to be raised. Speculative inquiries into the unmapped future should come with the disclaimer around accountability; it is unrealistic to expect complete accuracy in forecasted visions and in the wrong hands, there is a risk of misinterpretation that should be

considered. Also, the future visions are situated in a different time and place and therefore require an imaginative mind-set in contextualisation. These two caveats are not the natural conditions of research in a political stage and considerations should be spent in framing the lens of critique; in other words, speculation should be viewed as opportunities to deepen our understanding of what is possible and preferable in the near future and not as answers, plans or maps of what is to come.

Participatory Action Research

Participatory Action Research (PAR) is akin to design's practice of iterative, live, and action-based cycles of research (Kindon et al, 2007). Fals-Borda's presents PAR as an inclusive methodology. Launched around 1997 it sees culmination of participation in society (collaborating and empowering participants), live action (changes that are experienced and have impact), and research (new knowledge being created, and lessons documented).

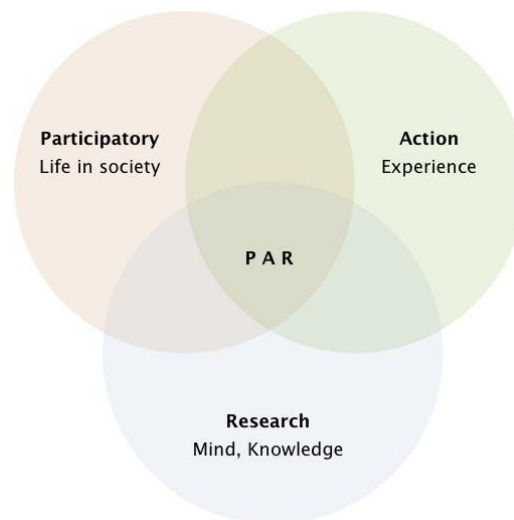


Figure 16: Participatory Action Research diagram (Chevalier and Buckles, 2013:10)

Methods used in a PAR include: dialogue between researcher and participant, collaboration across all stages of research, reflection, co-defining research parameters, focus group, and acting on results (action). Collaborative and inclusive research methods or ‘creative exchanges’ include:

- Participant observation
- Reflective journal writing
- (Walking) Interviews
- Collage making (film, prints, animations)
- Design Futures workshops with use of diegetic prototypes/cultural probes
- Future fictions

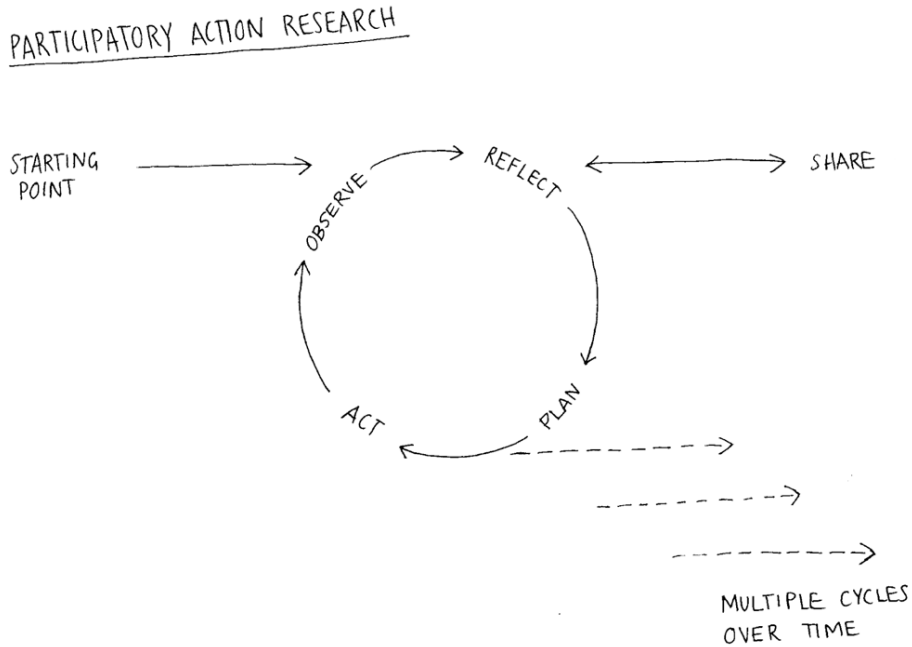


Figure 17: Illustration adapted from Robin McTaggart’s description in ‘Participatory Action Research: International Contexts and Consequences’ (1997)

The figure above illustrates the iterative cycles of observation, reflection, planning and action before sharing outputs. Multiple loops are conducted throughout the duration of a study. PAR approaches enable researchers to be more agile in response to shifting contexts and the growing body of research. This iterative approach is akin to design practices use of convergent and divergent thinking (Design Council, 2016). It also aligns with an approach that is sensitive to diversity of thought, allowing for regular sharing opportunities. This is contrary to the traditional academic research stance of ‘big bang’ studies, where the thesis serves as the culmination of effort – sharable with an academic audience. This is problematic for reasons of exclusion and misrepresentation.

In regards to collaboration with participants during PAR research, there are limitations. Reliance on participation can lead to loss in research insights through dropouts. Analysis of who is included and who must be excluded must play a role in the synthesis of findings. Moreover, in action, decision-making plays a role and must therefore form part of the reflections, looking at who is making the decisions and where power lies.

SAtSD Methodology

This research aims to explore school networks in the Outer Hebrides of Scotland experience of education. This study sets out to gain insights into how to work with learners, teachers to enable representation of alternative visions for an audience of educational change-makers. Furthermore, the research aims to provide SAtSD practitioners with an applied edge-case study of the approach in action.

This research aims to be participatory in its nature with the views of the participants as active researchers, with an ethnographic lens needed in the initial project set up to gain an

understanding of the opinions and beliefs of the context. Grounded in SAAtSD and PAR, this is a practice-based project - a public-sector designer’s exploration. The research is:

- 1. Avoiding bias
- 2. Interpretivist
- 3. Inductive, moving into deductive
- 4. Qualitative
- 5. Longitudinal
- 6. Action-based case study

Methods

Fieldwork was conducted over 2 years, and can be broken down into a five-phase design framework. This framework sits within the pre-discovery and discovery phase of the double diamond (Design Council, 2005). It was generated as an output of fieldwork planning and synthesis and provides the practitioner with a systematic process with which to apply different methods of design research, befitting the contextual needs of each phase. Despite being illustrated in a liner fashion, the framework is more aligned with the cyclical approach of PAR. The design research framework applied to this project is as follows:

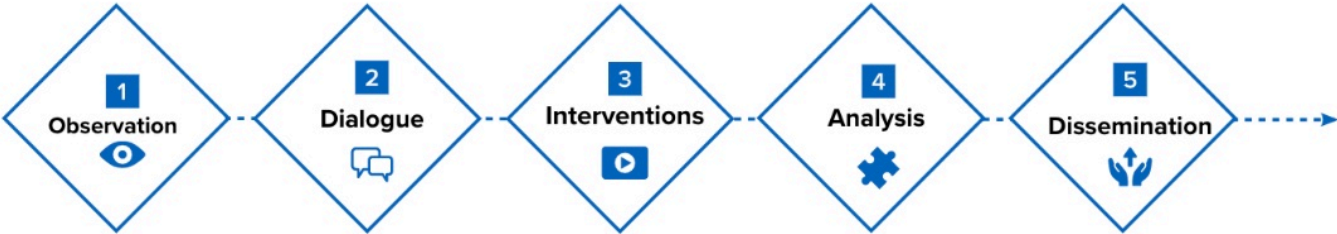


Figure 18: Design Discovery Framework

The observations phase is about gaining an unbiased understanding the context and recruiting participants. The dialogues phase involves correspondents with participants to capture insights on their past and current experience. The intervention phase involves a series of participatory futures workshops to promote creativity and agency around the future of education. The analysis phase involves building a dataset of insights and outputs from creative interventions, leading to synthesis of findings to form diegetic prototypes. The dissemination phase involves taking diegetic prototypes to educational change-makers to draw out further awareness of the context and understand the culture for change. The five phases will be unpacked in more detail below, to provide detail on the aim behind each phase and methods choice/rationale.

Phase 1: Observation – Exploring the place

Observations were collected through field notes, sketches, videography, and photography. This was conducted over 6-week tours across the archipelago, from the Butt of Lewis to the beaches of Vatersay. Almost half of this process was spent in transit, crossing the waterway that connects the islands. During the fieldwork chapter this will be unpacked further. Observations were conducted in this mode **to capture the rich textural picture of place**, including, and not limited to; soundscapes, visuals (moving and still), climate, natural geography, architecture, public services, travel, cultural points of significance, and industry. Ideally this would be conducted at several points across a year for full immersion of the place.

Phase 2: Dialogue – Active listening and future-focused conversations

Dialogue phases sees a focused effort on gaining more understand of key stakeholders in the context with the goal of moving towards collaborative relationships. Here my goal is to **listen to people’s experiences, motivations, and aspirations**. An important factor in inclusive recruitment is ensuring that people are engaged with across a breadth of key factors, including (but not limited to) age, ethnicity, gender, disability, and educational/economic background. Initial fact-finding conversations should be conducted with key gatekeepers [REF]. Gatekeepers are well connected within a given context, be that through professional connections or central membership of communities. This will then allow snowball recruitment, an approach that be made more rigorous with participant profiling and analysis of spread across groups or classifications.

For this study, a series of walking interviews, named as ‘walkshops’, with key gatekeepers were conducted. This method involved asking the participant to choose a route with significant meaning to them for us to walk and talk. Loose topic guides structured conversation, flowing from critical reflections of their lived experience of education in the region, moving to aspirational desired for what would be improved being discussed at the ‘landmark’ for the walk. The return journey was spend discussing how realistic or achievable their vision was. What would need to change to see their preferable futures realised and what would be the impact of this change for the community. Here we followed a look at education through a past, present, future loop. See appendix item: 1 for topic guide.

Outputs of these walkshops were sketch notes, made up of my drawings of the route taken, key topics covered and other significant factors (often including a portrait of the

participant). If the research was more adequately resourced, audio recording and transcripts could be collected here for more in-depth analysis. The embodied nature of the method enabled the research to include qualitative insights around place and space. During analysis of findings I could retrace the routes of workshops as data immersion. The role of artefacts or sketchnotes made from the workshops enabled me to return to the qualitative aspects of interviewing. Whilst more analytical techniques such as transcripts were not employed for data processing, workshops served to create a record of participant engagement, positionality, and insights for me to revisit. Images of the artefacts are annotated to provide anecdotal information embedded in the sketchnotes, which can be found in the fieldwork chapter.

Following the workshop series, the research moved on to more embedded findings of an ethnographic nature. Early discussion led to me being offered a part time role in e-Sgoil as a design researcher. The methodology of PAR uses research qualities including consistency, creativity, social responsibility, and trust. These qualities are of high importance to this study and have influenced the dialogue phase. The outcome of the first two phases is a contextual understanding, to enable meaningful creative exchanges (phase 3).

As a design researcher (as part of e-Sgoil) the study could find out more about the approach around educational pilots and current classroom challenges and opportunities. This approach to become an embedded practitioner was key for a practice-based research project and aligns with the PAR and SAAtSD methodology outlined earlier. Field notes were collected in a process journal, which unpacked insights around a designer's role in research and the documented definition of the problem-space and research opportunities for design workshops which were to be conducted in the next phase. The pre-defined aims and objectives for the design workshops are detailed further in the fieldwork chapter.

Phase 3: Design-led Workshops – Creative, collaborative, and inclusive exchanges

Following contextual immersion, the next phase called for more active participant engagement of a creative nature. This was in part achieved through classroom observations and design-led workshops. The educational pilot was looking for research findings about the current classroom challenges and opportunities for innovation. It was also requested that learners and teachers were given a more active role in matters that impact their day-to-day experience. It was specified by e-Sgoil director that it was important that the entire archipelago was engaged in this design research round to gain a geographical spread of findings. As such, a design-led workshop proposal was created which began in north of the archipelago, Lewis, with character definition, moved to Harris and Uist for scene setting and finally to Barra for script and animation creation. Please visit appendix items 4, 5, 6 and 7 to see the workshop material produced in order to facilitate these sessions.

The goal of the workshop series was to **facilitate visioning with learners and teachers around the future of island schooling**. Design-led workshops were conducted with learners, teachers, and change-makers. In the fieldwork chapter a detailed account of the variety of engagement methods is presented, appropriate to each group. With learners and teachers, the participants and researcher adopt a speculative mind-set with creative outputs generated as material for further dissemination. Future fictions were constructed, generated through speculative design and participatory futures methods (nesta, 2019; Dunne & Raby, 2013).

Design probes and a key method in the design-led workshops. Probe packs included several materials for the participants to fill out. This self-documenting approach increased agency for participant and enabled creative exploration. However as pointed out by Mattelmäki

in a paper exploring *Observing and Probing* ‘in probes approach, although most of the documenting is done by the users, time and resources are required for e.g. designing the probes packages’. (Mattelmäki, 2006:2).

The probes packages were designed with a certain materiality, for example, in the classroom architect importance and significance of the final output is given to through heavy golden frame on a paper sheet. Another example of the materiality behind probes design decisions is the introductory presentation which reference spaceships and rollercoasters to signify the future-focused nature of the task being about the participant stepping momentarily out the classroom setting and into an imaginary and bold task of building future speculations. Design decisions were made around the font, language, colour, and other visual components as well as the goal behind the probe akin to the formation of cultural probes (Gaver et al. 1999). By considering the materiality the outputs gave a number of unspoken messages to the participant, helping the lone-researcher to facilitate the workshop goals. A final example can be found in the use of future cookies in staffroom settings to engage a time-pressured user group with a novel speculative thought exercise. Teachers do not have time to fill out a full questionnaire and I did not have to interview each teacher in the faculty, however in leaving a set of designed probes in the staffroom I was able to facilitate engagement beyond my presence and meet teachers in the spare moment they might find hard to forecast for.

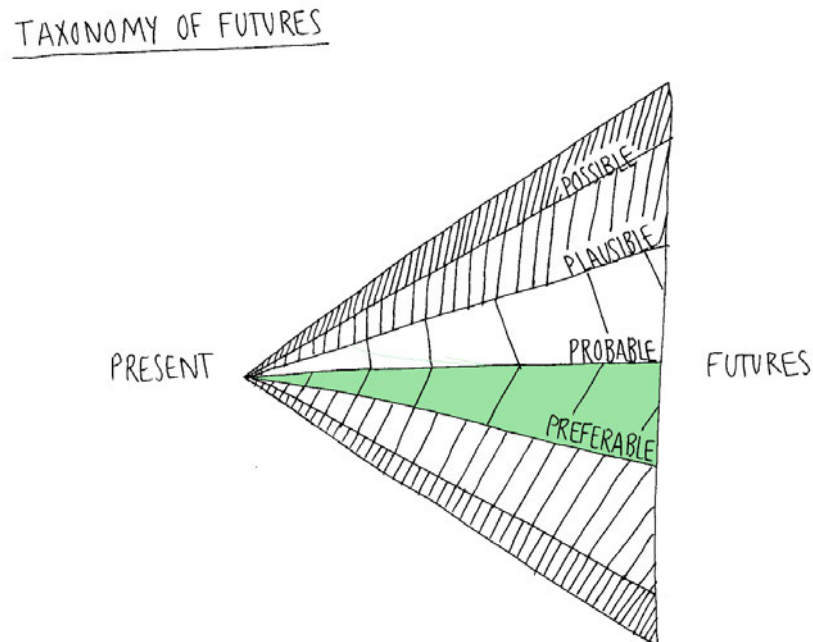


Figure 19: Illustration adapted from Speculative Everything by Anthony Dunne and Fiona Raby (2013)

This ‘futures cone’ has been compared to a torch light shining into the darkness, its field of vision reducing in clarity with distance. The segments of the cone are areas of prediction with varying precision, from possible futures, to plausible futures, to probable and, the most interesting (highlighted in green) as preferable futures. Preferable future predictions are the most interesting because of their ability to hold a set of values and aspirations. Stuart Candy, futurologist, originally presented these different kinds of potential futures out with the zone of fantasy which exists in the peripheries. Candy is quick to point out the wicked problem around preferability. It is subjective. To whom is it preferred?

As presented by Dunne and Raby, the goal is ‘not in trying to predict the future but using design to open all sorts of possibilities that can be discussed, debated and used to collectively define a preferable future for a given group of people.’ (2013:6). Examples of what if statements created for engagement with teachers can be viewed at appendix item: 16.

Design-led workshops were held at the following schools, with date and age range show in the figure below:

School	Detail of Research	Age	Date
E-Sgoil, online, Lewis	Introductory Session: The Centre for Learning: Documentary Filmmaking	-	Sept 2016 - 4 days
Nicolson Institute, Lewis	Introductory Session: Digital Learning: informal interview	13-16	Oct 2016 - 5 days
Nicolson Institute, Lewis	Workshop 1: Sci-fi schooling: character profiles, storyboards, future worlds	14-16	Feb 2017 - 1 day
Sir E Scott, Lewis	Workshop 2: Sci-fi schooling: character profiles, storyboards, future worlds	16-18	Mar 2017 - 1 day
Daliburgh, South Uist	Workshop 3: Sci-fi schooling: character profiles, storyboards, future worlds, and collage animation	10-12	Apr 2017 - 2 days
Balivanich, Benbecula	Workshop 4: Sci-fi schooling: character profiles, storyboards, future worlds, and collage animation	10-12	Apr 2017 - 2 days

Eoligarry, Barra	Workshop 5: Sci-fi schooling: character profiles, storyboards, future worlds, and collage animation	10-12	Jun 2017 - 2 days
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Figure 20: Table of school engagement

The outputs of these session are detailed in the fieldwork chapter, with access to source material in the appendix.

During workshops, there were three proposed aims. Firstly, the study set out to facilitate discussion around future visions and aspirations of schooling from a pupil-led perspective. Secondly, the workshops aimed to understand and analyse the current day teaching environment across the archipelago, with focus on the pupils and teachers' an open-ended creative exercise. Thirdly, the study sought the opportunity to develop ways to share data, analysis and conclusions with participants, change makers and relevant fields of academia. This feedback loop would seek to inform further iterations of research and analysis, opening the process to research through design (Frayling, 1994).

Phase 4: Analysis – Sense making and discussion to form consensus

The goal of the analysis phase was to bring together a collective idea, whilst still representing divergent outcomes. Research data was collected on a series of whiteboards, both physical and virtual, leading to coding and synthesis of results into common themes. Mural was

used as a digital tool to aid this process. The themes were then taken through Causal Layered Analysis.

Causal Layered Analysis (CLA) from Sohail Inayatullah (1998) provides an approach to futures studies and data analysis. Therefore, allowing the qualitative finding from mixed media research material (from field observations and generated in the creative interventions) to be processed. Thus, creating structured themes at varying levels social interactions (ranging from the litany or status quo to deep rooting myths and metaphors) as depicted in the diagram below:

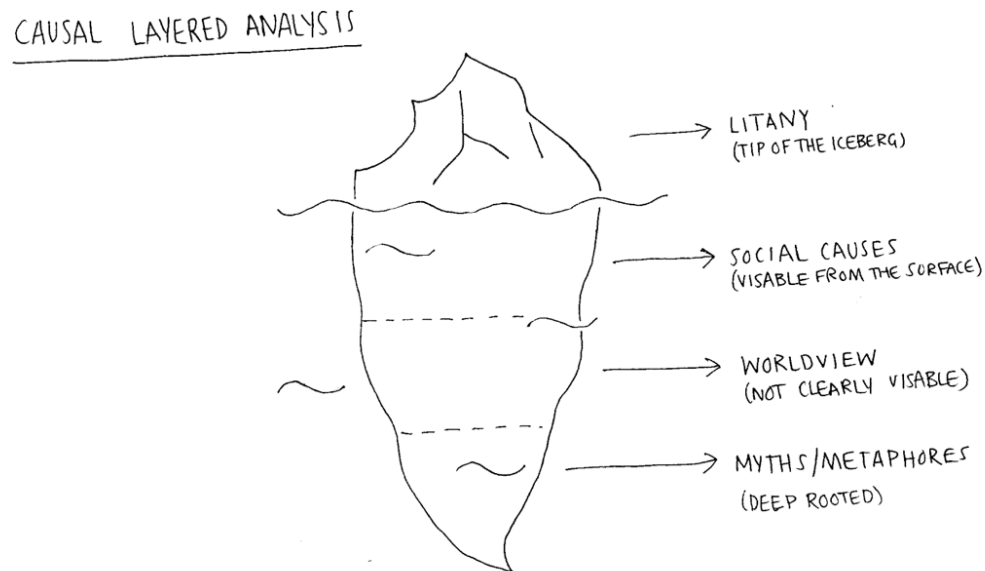


Figure 21: Illustration adapted from Sohail Inayatullah's, futures studies researcher, description in 'Causal layered analysis: Poststructuralism as method' (1998)

Themes broken down into litany, social caused, worldviews and myths/metaphors aided the research rigor through sense checking the source of the insight.

SAtSD and PAR both place importance on sense making being collaborative for numerous reasons, for example convenience bias or unconscious bias from the researcher can affect outcomes negatively. To promote participation in this phase exhibitions were used as a

method to bring early insights and emerging outcomes to a public-stage. These then served as opportunities to collect feedback from key stakeholder and ‘usual suspects’. Exhibitions were held at CCA, Reid Gallery, Scottish Parliament and in school across the archipelago.

Phase 5: Dissemination – Socialising outputs with change makers to create impact

Dissemination phase involved utilising the designer’s creative practice to articulate through physical artefacts, forming important dialogue tools in dissemination. It was key that the outputs were designed for the correct audience (educational change-makers) and that the analysis was presented in a way that promoted discussion.

Diegetic prototypes act ‘as a technology that does not yet exist in the real world but is considered real and functional in the fictional narrative’ (Ambe et al., 2019), to enable participants to engage with visions portrayed by others. Given that prototypes can take on a multitude of forms, this study applied the method of Future Fictions to carry insights toward dissemination with impact. Story telling is an effective tool in communicating the human aspect of an experience. This has been described by others as ‘giving voice to stories from the future’ (Future Fiction, 2022).

Ethical Considerations

During the research project, which involved working with the opinions and ideas of school pupils and teachers, it was important to act on ethical considerations. Consent was requested and granted for the following research with participants. A joint consent form which shared the goals and aspirations for the study was shared before any interaction, as a way of being transparent. Permission was requested for participants’ comments to be recorded in the

form of field notes, site writing and videography/photography/sketches. This material would then be anonymised and participants were made aware of the right to withdraw at any point.

Attempts were made to make the consent signing process equally weighted between the participant and the research. Therefore, both parties were required to sign the agreement with a carbon copy version signed and the original given to the participant there and then. The power dynamics of giving consent are typically placed in the hands of the researchers as the one with the knowledge and the one who keeps consent and any research outputs. Therefore, the research consent was designed to feature dual consent given to combat this inequality. Appendix item 3: Consent form can be viewed at this point.

Concluding Remarks

To conclude, the methodological approach sees a blend of PAR, SAAtSD, Participatory Futures and Causal Layered Analysis. This practice-based methodology is about approaching the research subject with sensitivity, and an inclusive mind-set, with the goal to increase agency through design-led engagement.

Five qualities of this study are listed below:

This study follows a five-phase framework:

- | | | |
|---------------------|---|-------------------------|
| 1. Empirical | = | 1. Observation |
| 2. Qualitative | = | 2. Dialogue |
| 3. Participatory | = | 3. Design-led Workshops |
| 4. Phenomenological | = | 4. Analysis |
| 5. Creative | = | 5. Dissemination |

As displayed in these two sets of lists, there are colorations between the research stance and the framework. Empirical research often involves first-hand observations. Dialogue allows for active listening, with data collection being of a ‘rich’ qualitative nature. Here we are correspondence with the context (Ingold, 2013). Design-led workshops are there to create a space for participation, inclusive by design. Participants are encouraged to take an active role in the sessions to increase agency in the design and delivery of their public services. Analysis takes looks for phenomenon through thematic analysis, with Causal Layered Analysis providing a framework for deconstructing insights and spotting patterns. Dissemination, took on a creative approach to generating outputs and facilitating discussion. This creative approach to sharing research findings was influenced by design practices and its role to provide communicative and generative prototypes throughout the discovery and development phase.

CHAPTER 4. FIELDWORK

‘You are given the island a microphone? You’ll never get it back again.’

Mary MacInnes of South Uist, 2019

In the following chapter I will describe the fieldwork, initially presenting the preparation work and then the case study (moving geographically south through the archipelago). These fieldnotes and other data outputs resulting from conducting research methods are with the goal to explore the research questions at the centre of this study: **in what ways can design research methods enable learners and teachers in island schools to participate in the creation of educational futures?**



Figure 22: Exhibition of work in progress 2016-2018, Art School Union (2018)

The three-year research journey is plotted across the walls in an exhibition at the Glasgow School of Art Student Union (Vic). This was a landmark moment in the study and marked the end of the fieldwork. As you can see the image above, work began in 2016 with initial observation. I then moved on to conduct dialogue methods (walkshops) before conducting a series of design-led workshops, titled in this image as ‘interventions’, with learners and teachers for an audience of change-makers. Analysis led to generating a series of Future Fictions, which were taken forward into dissemination. Dissemination took on the multiple forms, from symposiums in the Scottish Parliament to revisiting the archipelago with final outputs.

Before driving into the detail of these experience I would like to thank the research collaborators. I give huge thanks to the schools involved in the study (e-Sgoil, The Nicolson Institute, Sir E Scott, Daliburgh, Balivanich, Eoligarry) from learners to teachers, support staff to bus drivers, you generously gave me your time and filled our spaces with creativity. Particularly for the young people, I hope this experience helped you think about what your future may hold, and empower you to see these visions heard. I stayed in countless BnBs and travelled on many a CalMac ferry. The hospitality was always warm and generous, even when trying to travel on a Sunday! A special mention to Mary MacInnes of South Uist, I hope that you and other great islanders continue to be handed the mic.

Thanks to the spaces I filled with work, people, and conversations throughout this project. The Lighthouse, Centre for Contemporary Arts (in particular to curator and critical friend Vivianna Checcia), The Art School Union, Altyre Highlands and Islands campus, The Reid Gallery, ØY Festival (especially Jonathan Ford, Island ranger), Scottish Parliament, (led by the support of Rob Littlejohn). All of you gave the ideas room to breathe.

Pre-fieldwork

Prior to setting out to engage with the field I conducted several rounds of desk research. These began broad and narrowed in scope. From texts on history of schooling, to the present topical debates in Scotland, through to recommendation for innovation and reform in grey literature from reviewing bodies which now add to the foundation of chapter two. I also conducted a methodological review to ensure the approach and methods selection was robustly defended. This contextual grounding enabled me to understand existing research and identify research gaps where contributions would have greatest impact. I also ensured ethical clearance was obtained, providing detail on the scope of the research and methods while ensuring there was still room for agile responses to the shifting context.



Figure 23: Drone photography of Bereray Causeway, 2019

However, as shown in this still frame from drone footage – things look very different from a distance. It is key here to know when to engage with the field, preparations are important but there was a risk in over-planning for eventualities too countless to prepare for or becoming immersed in existing research. Here I advise a 6-8week window of preparation for a lone

practitioner, with key checkpoint throughout to share early research with critical friends in the field and subject matter experts. At this point I entered the field with more questions than answers but a firm grounding in my reasons for being there: **to conduct a designer's exploration of remote island schooling, using participatory futures methods to collect edge perspectives on the future of education in Scotland.**

I would like to share a disclaimer at this point; much of the core research data has been safely removed, according to the agreed timespan for holding personal data agreed with participants. The fieldwork was conducted between 2016-2019 with consent granted for designed workshops with learner and teachers in 2017. Over 5 years have passed so original records have been destroyed. However, anonymised datasets and workshop outputs were retained. Despite the length of time since conducting fieldwork, there is still huge value sharing outputs with the practice and context.

Now I invite you to join me on the journey of fieldwork, beginning in March 2016 in Stornoway, Isle of Lewis and ending in the main office for Education Scotland with Strategic Director, Alan Armstrong, in March 2019.

Phase 0: Creating a framework

PAR and SAAtSD both agree that research should begin with observations. This was about gaining an unbiased understanding the context and recruiting participants. This involved touring the archipelago to gain a sense of the place.



Figure 24: Still from short film: The Centre for Learning, 2016

The full short film can be viewed here:

https://drive.google.com/file/d/0B34TAUT8N4nhS1pYbkdrTDJWM1E/view?usp=share_link&resourcekey=0-Sx8ZwrZvZX88pHFKjkc5w



Figure 25: Image from Reid Gallery exhibition of practice (2016)

Just 3 months after beginning the study the Reid Gallery offered the opportunity to host a public exhibition of work in progress. My proposal was accepted and I joined a cohort of post graduate practice-based designers and artists with the shared goal of occupying the public gallery with our research outputs as a catalyst for discussion. Following a short trip to the Outer Hebrides I produced a short film made of footage collected during the journey.

The silent film followed my route from the mainland to the islands digital servers, broadcasting e-learning (a music lesson with the Red Hot Chilli Pipers) as part of their early explorations with the launch of e-Sgoil. I also exhibited a short story titled '*The Centre for Learning*' written whilst in transit across the archipelago. This was translated to Gaelic by a native speaker from Lewis. Seven hundred copies of the texts were in two equal piles in front of the film, one stack in English and one Gaelic.

As a creative intervention, this positioned the early fieldwork in a sharable format in a public space to promote discussion around edge vs centre. After the show closed the remaining English and Gaelic print-outs were imbalanced. 523 English copies were taken and only 75 in Gaelic. This raised questions around translation and the importance of presence/equality in revival of indigenous language and traditions. Was this by Gaelic speakers or would someone take a copy as an artefact of curiosity; unreadable?

Reflections/responses/questions collected on post-it notes in a sketchbook placed by the installation included; 'If e-learning is norm', 'why is government taking on parenting role in our lives?' and 'what happens to teacher?'. Appendix item 9 included a full A-Z list of feedback shared by visitor to the exhibition.

What I failed to capture was the dynamic discussions happening between exhibition visitors. These included key island members who travelled down to Glasgow for the show. Given the

challenges with this distance I hosted multiple discussion in the space according to their availability – aligning with the islander’s routine trips to the mainland. The show was open for 4 weeks, and in this time, I held four critical debates, with participants ranging from school teachers from island and mainland, to parents and learners.

What I learned from the short film and future fiction exhibition was that observation created accounts, accounts that when made sharable (e.g. through methods such as storytelling), promote dialogue; which (when supported by a design practitioner) can lead to another round of creative exchanges – analysis – dissemination. During this initial observation round, I sought out the feedback loop. This was the first full cycle of the design framework which would go on to form the structure with which the fieldwork was conducted and presented back.

Phase 1: Observation

Following this initially fact-finding experiment, I spent six weeks traversing the archipelago of the Outer Hebrides with a focus on observing people, place, and culture. Travelling by ferry impressions were initially from a distance, using the waterways to travel the expanse between mainland and island. Here is an extract from my journal which points to the breadth of features being captured, rurality a clear factor here:

On the ferry crossing to Stornoway, following the unmarked waterways, I record where we are going and where we have been in film. The wake stretching far behind us. Driving to Harris, no signal, no map, no turn offs. Feeling lost with only one way to go forward. Over the brae, past the cows, over the boulders I stretch my eyes out to sea. The wave or nod of a rare passer-by, shuffling in passing places.

Outer [] Hebrides

There is space.

There is space out here.

There is Outer Space.

There is outerness.

There is out there.

I wrote the poem above, titled *Outer [] Hebrides* in a passing place. It points to the expanses of physical and psychological space observed during journeys across the archipelago. Insights were collected in field notes that were revisited as ‘data’ during the analysis phase. An attempt was made to note down a breadth of qualities being observed, from the atmosphere, seemingly abstract happenings, to concrete fact. Therefore, a range of capturing techniques were deployed, bespoke to the context (captured through photography, watercolour painting and poetry). Given that observational techniques are embedded a historical discourse coming from social sciences there is a note to reflect on such observations through scholarly effort as well as through creative expressions.



Figure 26: Image created during reflective walk

Ethnographic studies involve reflections on observations made in any given social setting. These take on an anthropological nature when the understanding of the given setting involves engagement of a participatory nature over an extended period, immersion with a culture based over a year or more. This ought to bring about a better understanding of ‘the whole picture’ of a given set of findings (Silverman, 2015). As such, observational techniques were continually returned to throughout the full framework. Honing in on focus and as ‘doors’ opened to new contexts (i.e. into classroom settings or home environments) capturing observational material was completed.

Following the initial six weeks of island hopping and on returning to the desk with observational material it was noted that a grid or matrix would be needed to log common sightings, while also structuring the parameters of the findings. This early iteration of data analysis would inform the next phase, as conversation prompts during dialogues, will also act as

a prototype for the analysis phase. A folder of photography is available to view online at:

[https://drive.google.com/drive/folders/0B34TAUT8N4nhVzRtWGh4Yks1bnc?resourcekey=0-](https://drive.google.com/drive/folders/0B34TAUT8N4nhVzRtWGh4Yks1bnc?resourcekey=0-KHXcmeW37TNj1ZifRVZJKQ&usp=share_link)

[KHXcmeW37TNj1ZifRVZJKQ&usp=share link](https://drive.google.com/drive/folders/0B34TAUT8N4nhVzRtWGh4Yks1bnc?resourcekey=0-KHXcmeW37TNj1ZifRVZJKQ&usp=share_link). This forms a visual catalogue of school

building across the archipelago. Here is an extract of two images. The first depicting a bus that

looked to be over 20 years old parked up to ferry learners back to their communities. I was

invited to joined the school bus whilst waiting at a bus stop for another public bus which was

already 35minutes late. In taking my seat I realised that others had clearly been offered this

transit. A single elderly person sat near the front. Just around the corner they were dropped off at

a house and I was told they were popping in to check in on their mother who lived on her own,

aged 93. “I’ll be sure to collect you on my way back” replied the driver. Where these buses

serving school children and communities alike?



Figure 27: The highschool bus bringing learners to Liniclate, South Uist (2016)



Figure 28: Views from Vatersay to old schoolhouse (2016)

The second image here shows views from a beach on Vatersay, closely connected to Barra by a causeway. This is right down at the south of the archipelago. The roads I travelled turned to sand, before I found myself standing looking out to the Atlantic. Next land is America, unless you count the tiny spec of land, St. Kilda. The National Trust for Scotland has evidence of community thriving for 4000 years but the island has been uninhabited since the final 36 islanders were evacuated in 1930 following failed modernisation (National Trust for Scotland, 2016). I know this because I was handed a book to read – *The Life and Death of St. Kilda* by the BnB owner where I was staying. The white building in the photo is an old school house. Now made in to a residential holiday home, visited a few times a year by its owners. Vatersay learners must travel to Stornoway in the north of Lewis, or on to the mainland (Mallaig or Oban) to complete their educational journey through to secondary school. These are residential educational provisions for a small group of remote learners.

I was keen to understand; what were the lessons learned from school rationalisation across the archipelago between 2005-2015? and how do island learners without school in traveling distance live? Visiting the islands, the rationalisation of schools (both primary and secondary) is particularly visible, from forty-nine in 2005 to twenty-nine in 2017, of which only four are secondary (Comhairle nan Eilean Siar, 2016). Several new educational institutes have been built to amalgamate the smaller (less efficient) schools, with new build architecture that shows a similarity across the portfolio. This leaves many of the old school foundations to crumble, along with the ideology of small-scale local schooling.

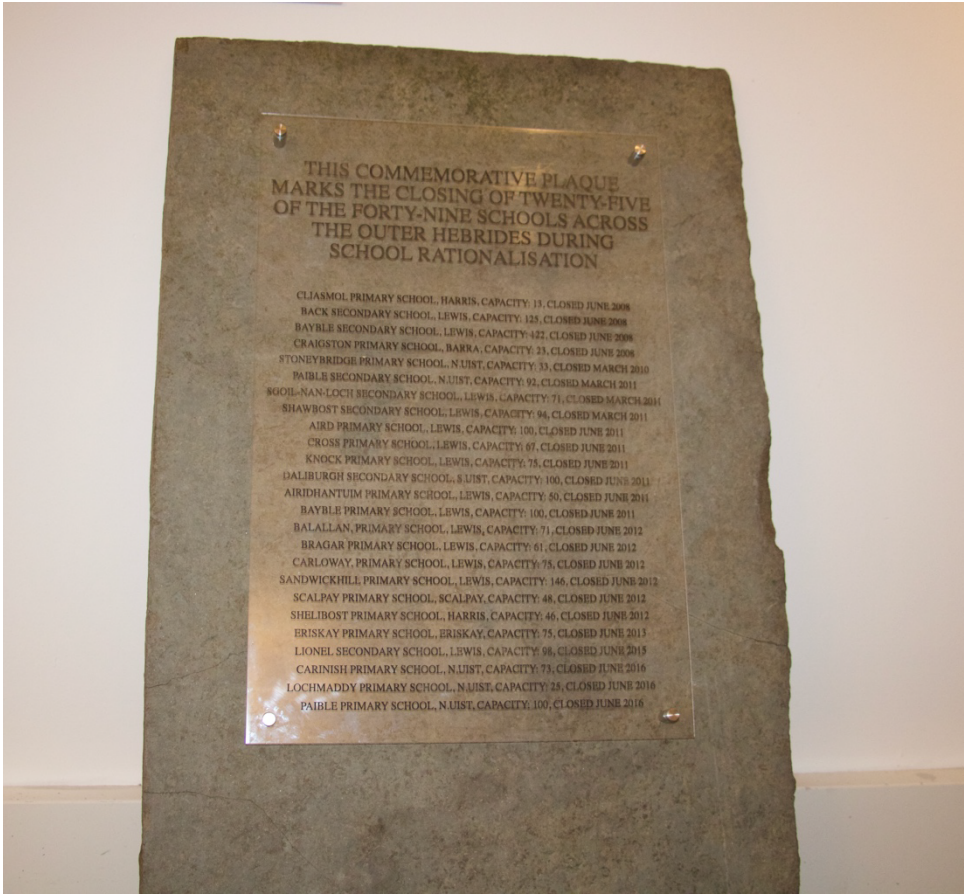


Figure 29: Commemorative plaque marking the twenty-five island school closed between 2005-2015

The figure above shows an image of the commemorative plaque I made to mark the closed schools across the archipelago. Engraved and set upon stone is a full list of educational institutes who closed their doors during the rationalisation programme from 2005 to 2015. Data sourced from Comhairle Nan Eilean Siar, Education and Children's Services Department's reviews of educational provision. This piece was created as part of dissemination phase but is shown here to represent the impact of rationalisation taken on during the Observation phase. All participants that I presented this piece to agreed that this told an unheard story. Something that the local authorities were trying to 'sweep under the carpet, to make way for modernisation' (Participant 12, 2016). But I observed the grief communities were feeling. The complexity they experience in traveling to access public services and how their way of life was in question. I looked to find out more by talking to people, were there cases of reluctant leavers? Did the closure of a school impact a community's ability to attract incomers of school age, ultimately to thrive? Was this move to a modern way of school aligned with their idea of a preferable future for island schooling? These are all questions that were taken forward into the next phase.

Phase 2: Dialogues

The dialogues phase involved correspondents with participants to capture insights on their past and current experience. In April 2016, I flew into Stornoway for a meeting with Bernie Chisholm, the new Director of Education at CnES. I would categorise someone in this role as a gatekeeper, with multiple connections across school networks. We arranged to meet at the council building on Sandwich Road. Prior to the meeting I shared an outline of my research aims and questions ahead of our meeting with the request that Bernie put me in touch with other CnES roles and teaching staff working in the region. This introduction led to the offer of a position as

design researcher within the newly launched educational pilot e-Sgoil, which would be an advantages position to conduct PAR and design-led workshops.

Now I began to conduct a series of walking interview, known as walkshops, with key players in school networks. Here is an illustration of interview participants who had been anonymised:



Figure 30: Illustrations of interview participants and their network (2016)



Figure 31: Illustration from walkshop– old schoolhouse prompting reflections on island schooling traditions (2017)

For my **first walkshop**, I went on a tour of e-Sgoil building with Angus MacLennan and other e-Sgoil support staff. The old museum, saved from derelict status, was to house the innovative educational pilot. This is a site of significant cultural heritage in the area. The vision for the space was to create high-functioning learning pods for recording educational material and to support attendance. Another vision of significant interest was that this site would serve the whole community, offering a centre for learning for all ages and stages.

During this walk, we talked about the importance in prototyping digital learning experiences through the pilot short period of initial funding. Angus was keen to understand, with my help, what educational moments were resistant to digitalisation? He also talked about the importance in offering those who live remotely with in-persons learning experience to supplement their e-learning curriculum. The vision for e-Sgoil would not be realised for several years, but I could see how starting small was an effective approach. Angus agreed that they would never get it all right first time but ‘islanders are adaptive people, we’ll find a way through’ (MacLennan, 2016). Since revisiting the notes from this walkshop I see just how forward-thinking Angus and e-Sgoil were being. The Coronavirus pandemic would see home-schooling delivered across the country through e-learning, with long period of school closures and self-isolating.

My **second walkshop** was with a long-stand secondary school teacher and native islander. We went for tour around Nicolson Institute, where I was invited to take part in classroom observations. The teacher reflected how they had come from a small school with only nine other classmates. The Nicolson Institute offered mainland schooling, where even someone from the Outer Hebrides could go on to become a doctor, with an ability to study all three sciences.

The teacher brought me to their significant landmark, at the edge of the ferry terminal. This is where, aged 11, they used to catch a ferry to Mallaig on a Sunday evening not to return until late on Friday. From here they would be waved off by their Gran at the window of her small flat in Stornoway. They pointed it out and shared a reflection on how if given a choice they would have loved to have been able to live at home and still attend school. Many of their peers did not continue to higher education, instead dropping out to help on crofts or get jobs further afield. Choice was something that this teacher hoped for the future generation. They described a fond memory from their childhood, where their teacher would deliver art lessons outside. I painted this past memory for them.



Figure 32: Illustration from walkshop- school pupils in outdoor art lesson (2016)

The **third walkshop** was with a parent who moved to the archipelago from London two years ago, they had three young children and a farm to run. This parent had taken on home-schooling for their middle child, who was diagnosed with acute learning difficulties. Their

nearest school was 20-min drive away; however, the local school was small and understaffed. They were unable to provide adequate learning resources to meet the pupils needs.

As such, they were offered a place in a larger school. The concerned parent talked about the impartibility of this, it would be a five-hour round trip dependant on ferry crossings which were a day apart. The cost of travel and accommodation was unachievable. They had moved from London to live a simpler life, so their children could have more time outdoors and were their lower living costs would mean that they had more family time together, over the long hours of their full-time job in the finance district of London.

During the walk, we collected heather, grasses, and foliage from the surrounding landscape. The parent talked about how their juggle with home-school had led them to give up their job working remotely. This shift had allowed for them to get involved in the local community. The pickings were to be made into a bunch of flowers for their child's new best friend, an elderly crofter whose property was next door, a five-minute walk over the hill. On arriving into the island, the couple had gotten into an argument over the line of their property and the crofter's old broken tractors spilling into their land. Since spending so much time at home their child and the elderly crofter have befriended one another. This is this parent's hope for the future, that we can all live alongside one another more meaningfully.

There will always be gaps in the allocation of public services. It takes a strong community to fill these gaps, but in doing so we form a network that's all the stronger for it. Through making do and helping one another we build connection. (Participant 6, 2016)



Figure 33: Illustration from workshop, into the moors (2016)

Additional walking interviews, known as ‘walkshops’ were conducted throughout the study, however three were selected to feature in this chapter. These three encapsulate key strong viewpoints with a range of roles, outlooks, and aspirations.

Phase 3: Design-led Workshops

The Design-led Workshop phase involved a series of participatory futures workshops to promote creativity and agency around the future of education. This is divided into three areas, design with learners, teachers and change-makers.

Intervention one: Designing with Learners via e-Sgoil

I became a participant in the project team over one year as design researcher. During the observation and dialogue phase the task was to discreetly record the project development through documentary filming and field notes, becoming familiar and building a close working

relationship with participants. Phase three, intervention, followed a more active approach to interpret the experiences. This involved creative exchanges in which I captured ideas and thoughts with participants through collectively made artefacts. Phase four and five would go on to analyse and disseminate such outputs.

A series of animation workshops for pupils were conducted, centring around the role of digital technologies in the classroom of the future. The workshops ran at periods of one to five days, depending on school availability. The participants and researcher adopted a speculative mind-set and creative outputs came together to form an account of the impact that changes in schooling has on the wider community in a remote island setting. The workshops were to build future worlds to comment on the status quo. This involved creating characters, scenarios and visualising such scenes through storytelling, animation, and prop development.



Figure 34: Still from school pupils animation, classroom amongst traditional black houses and weaving as part of curriculum

The workshops were documented through the creation of artefacts. The process was recorded through illustrations and field notes, and workshops were facilitated together with the classroom teacher, teaching assistant and researcher. A brief was given at the start of the workshop to all participants: ‘Your task is to work in your group to create a one minute collage animation. Your story should show us what schools will be like in the future.’

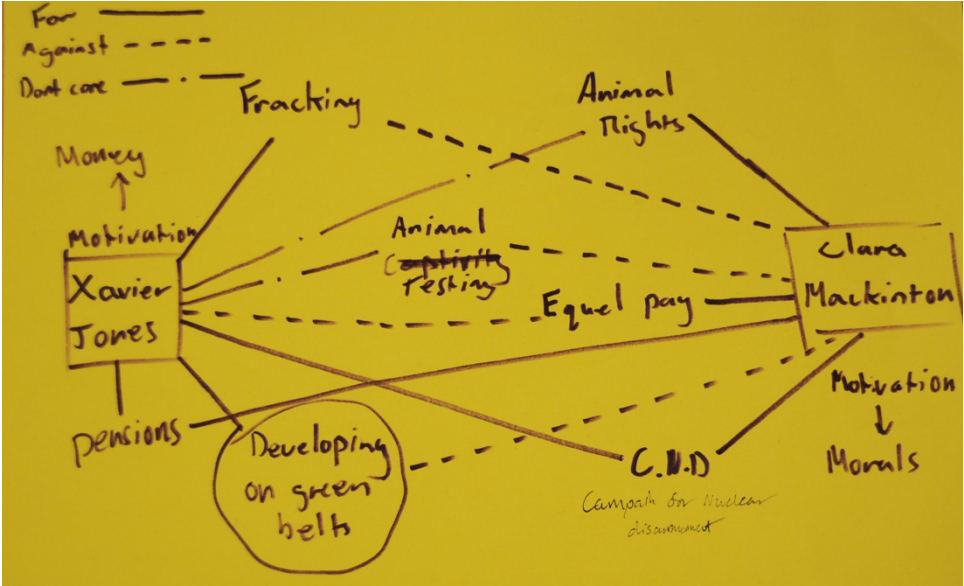


Figure 35: School pupils at Eoligarrry mapping the interconnect future visions (2017)

Multi-media collage animation was used to provide an easing into aesthetic choices for those with a variety of confidence in creative tasks. The makeup of class sizes demanded a method for capturing multiple ideas and visions through fast prototyping techniques. The workshops set out to reveal the ideals held by pupils for educational innovation. These visions became discussion tools, the method set to enhance agency of the pupils, and discussions with teachers as to the ‘successes’ and ‘subtext’ of such animations. Care was taken to note the power relationship between teacher, facilitator, research, and participants. Figure 1 and 2 shows two images of classroom engagement methods.



Figure 36: Photography of School Workshops, by author, 2017

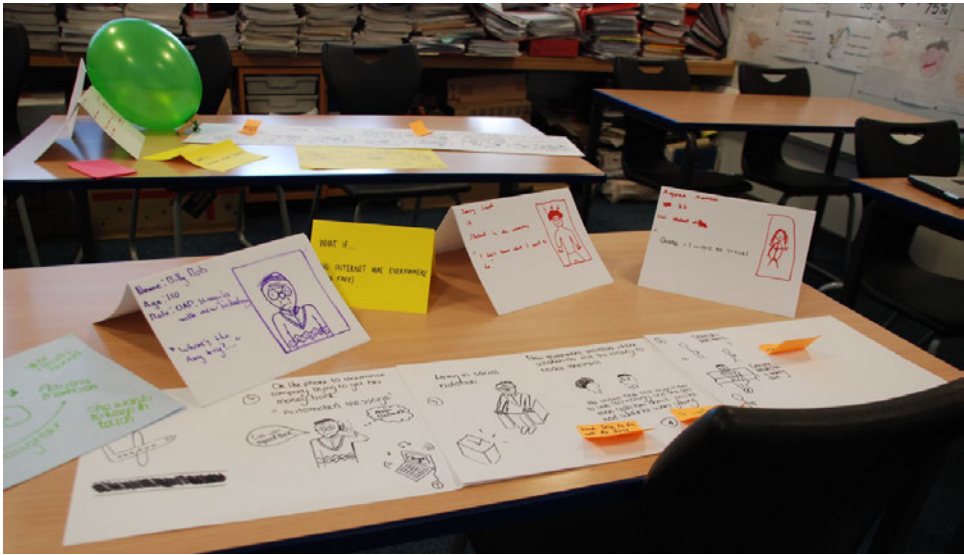


Figure 37: Photography of School Workshops, by author, 2017

Where possible, prior to the workshops, participant observation was conducted in classrooms as a way of breaking the ice and understanding classroom dynamics. The series of workshops were supplemented with informal interviews with teaching professionals in the staffroom, including relation to the learning outcomes achieved and the teaching resources experienced. To add in specific outcomes. Pupils also took part in reflecting on the process

through a collective and individual retrospective task. These notes and photographic documentation of artefacts were logged and analysed through coding leading to the formation of themes and reflections.

Working in the classroom we set out to unleash the creativity of school pupils through a two-day collage animation workshop. The task was to imagine what school would be like in 2037. As a class, we moved from future forecasting games to creating character profiles to building sci-fi plots. Concluding the workshop by working in small groups to shoot our own animations using waste materials. Visit appendix item 10 to view outputs from classroom engagements.

Intervention two: Designing with Teachers via Open School

Framing of the unanswered questions, posed by teachers (based across several schools in the Outer Hebrides) and members of the Goodison Group in Scotland, collected during creative interventions. Provocation either beginning with ‘what if’ or ‘how can’, setting a futures mindset. Previous iteration of the methods has been shared as biscuit wrapper and teabags. Appendix item 14 and 16 provide more detail on the output from these sessions, including a digital form which collected teachers aspiration for schooling (Dear Future,) and what if provocations posed to teachers in staffrooms. Below are photographs of the future cookies with provocations being enjoyed by a group of teachers in a short break from the classroom.



Figure 38: Island school teachers taking part in workshop about speculative futures (2017)



Figure 39: What if... statements inside future cookies as staffroom engagement tool (2017)

Conversations and relations with teaching professionals have been nurtured as part of the study. The collaborative outputs have formed into a design outcome which responded to the need for continual exchanges. Because of my embedded understanding of the place and unique contribution to the classroom, this set of findings produced and revealed a process of interactions and exchanges. As such, the intervention with teachers offers a unique perspective into the shift in schooling in the Outer Hebrides, this is pertinent in relation to the idea of changes to the system and the agency and the power dynamics of change (Foucault, 1975, Latour, 2005).

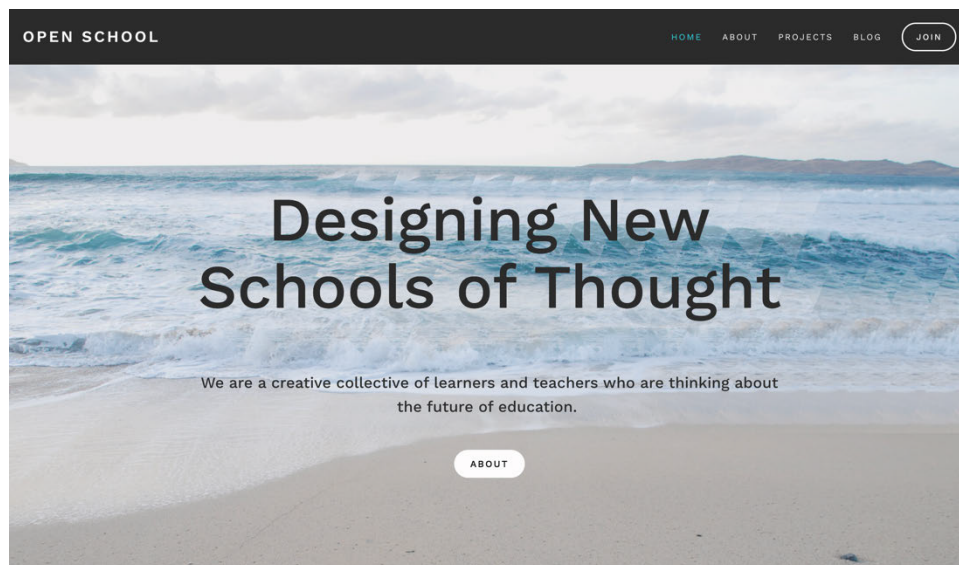


Figure 40: Screenshot of homepage from OpenSchool.co project platform (2018)

Open School was created as a designed artefact to respond to the challenges in geography teaching practitioners feel across the archipelago. The online platform became a hosting space for continued collaborations while also mobilising a wider imperative for autonomy amongst school networks. Open school is a creative collective of learners and teachers who are thinking about the future of education. Created as part of a PhD research project in 2016. The project came about in answer to the need to connect the energy around a changing agenda happening in

schools across the Outer Hebrides of Scotland. The research project allowed new questions to emerge, a few include:

- What educational traditions should we hold on to?
- How can we collectively envisage alternative systems for schooling?
- What will the role of a teacher be in the future?

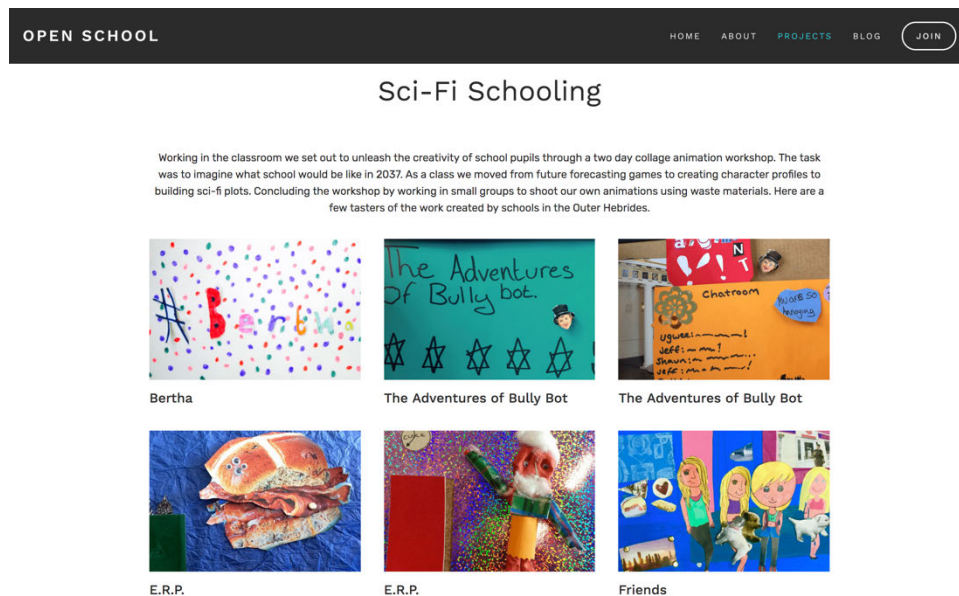


Figure 41: Screenshot of OpenSchool.co project platform - workshop outputs (2018)

The website offered project collaborators the opportunity to connect with one another and allowed for project outcomes to be disseminated directly to participants. The website was designed with three actions at its core. Firstly, it allowed a widening of the conversation, inviting new participants to join the project database to receive monthly newsletters with updates on recent activity and developments. Secondly the site provided an online repository with links to find resources to download and help collaborators to take an active role in shaping what is next. This was an important requirement of the design following feedback from schools who were not

able to participate on the dates of the first intervention. Thirdly, the site allowed users to add in contributions to the growing body of work, to seed new ideas and inspire next steps and active collaboration. The site also hosted project work and information on the project aims and objectives.

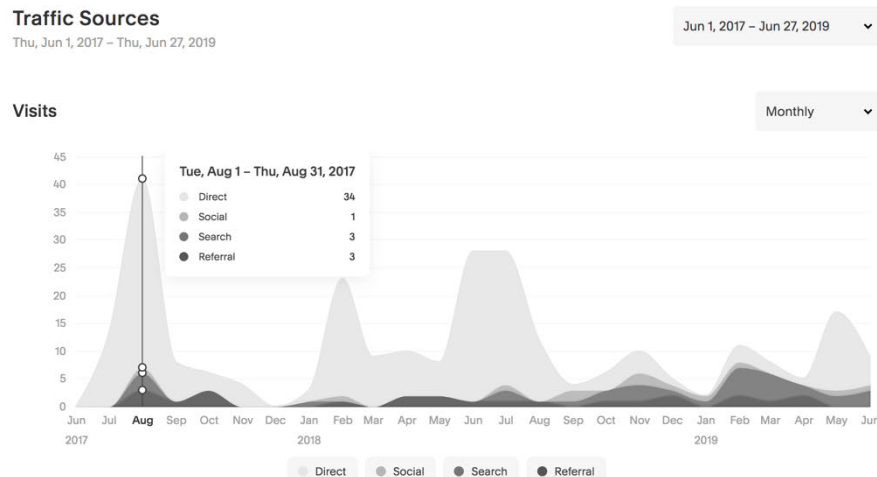


Figure 42: OpenSchool.co site views and analytics

Analytics showed good use of the platform initially, however this soon dropped off following my lack of presence in the school network. The design did however raise important ethical considerations around the moral and ethical impact of online project work.

Intervention three: Designing with Change-Makers via The Futures Forum

In January 2018, I began a partnership between SGSAH, Glasgow School of Art and Scotland's Futures Forum. Here is my account, beginning with an introduction into the context of the work and my practice as a designer.

In order to embrace our rapidly changing trajectory, fuelled by digital and technological innovations, we ought to be looking to the future with a sense of curiosity. By envisaging what the near future holds we can critically reflect on the way we live our lives today. The Futures

Forum at the Scottish Parliament is activity propagating a culture of future focused investigations amidst change-makers, at a time of rapid shifts in technological innovations in an increasingly global and democratically active society. During the placement with Scotland's Futures Forum I was given the opportunity to contribute to ongoing exploration into the Scotland 2030 Programme; a body of research that helps to inform MSPs, the Scottish Parliament of the visions for a more emancipatory, inclusive, and just society for Scotland.

I see design as playing a large part in successfully investigating Scotland's aspirational visions of the future. The research enquiry utilised participatory design to make future ideas tangible and studies how those ideas hold expressions of ideals. Throughout the project I am keen to ensure futures research is a democratic process.

The political landscape, media, and popularity or receptiveness for some trends over others will invariably impact the steer of investigations. In order to critically engage with this canonization of knowledge, the following questions are asked; who is underrepresented and/or marginalised in discussions of future visions? And to what level are the methods of future speculations participatory?

My contribution to the Future Forum was through sharing tools and techniques in designing futures, while also learning about the process of futures research currently happening in the Scottish Parliament. One of the outputs was a manifesto was co-created for the Futures Forum:

WE ARE THE SCOTTISH PARLIAMENT'S FUTURES THINK TANK. AS A GROUP OF CONCERNED FUTUROLOGISTS, WE CREATE SAFE SPACES FOR IDEAS SET IN THE FUTURE TO GROW.

WE STIMULATE NEW THOUGHT THROUGH INCLUSIVE AND COLLABORATIVE CONVERSATIONS AND HOPE TO BUILD AN ASPIRATIONAL PICTURE OF WHAT IS TO COME.

Out of the four futurescapes (visual accompanying a future fiction) I will present the one titled *Education: Intrinsic to Me*. This work represents the individual amidst wider educational goals. The focus of learning has always been the inquisition of knowledge, but to who's effect? The idea of intrinsic motivation is that which drives us naturally, a build in desire, unique to us all.

Set in 2030.

An inspection report read, “[Here] the education focuses too much on the playful nature of learning.” When was the point that his playfulness stopped being important? Of course, it is always personal, they log my own pathway like some sort of algorithm. Of course, we can be predictive, but we can also be impulsive too. Responsive. There is nothing stopping him at this point, a blissful (porous) state. The child is both in education and education is in the child. Where does one end and the other begin?



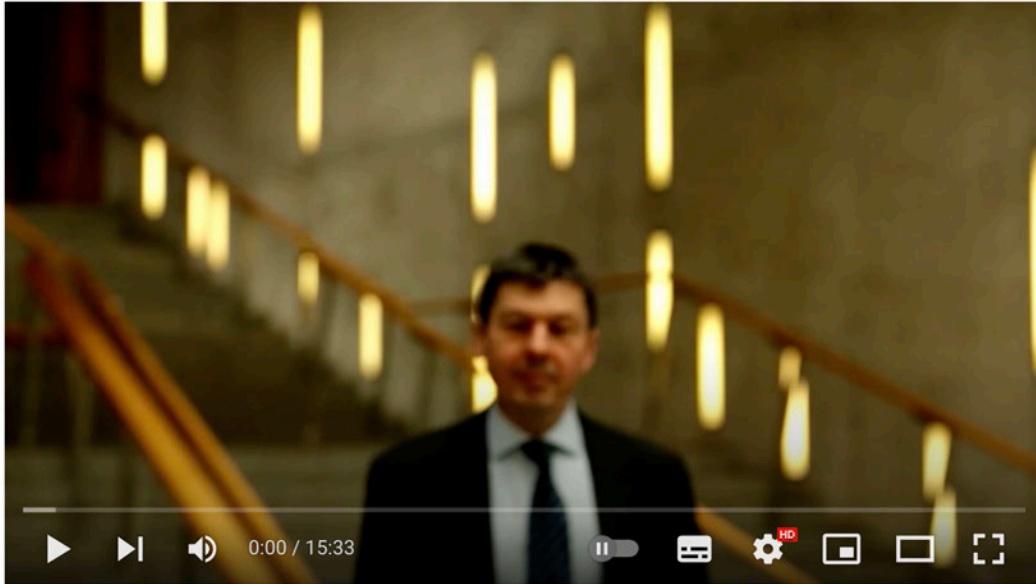
Figure 43: Education: Intrinsic to me, 2018

The print is created using a Risograph printer from both digital and hand-made collage, Our Future Scotland provided a point of correlation for the Forum. In creating the artwork series, one of which is presented above, the study could present the research project for an audience of change makers. Through this engagement a collaboration with The Goodison Group was developed.

The impact a study can have is directly linked to dissemination techniques, and for this socioculture study it was key to make research sharable and disseminating the results early on. As such a design journal was proposed to capture learnings and document the process of the placement. Furthermore, artwork was created as creative summaries at a mid-way point in the programme's work portfolio.

This engagement culminated during two events with Scotland's Future Forum. Firstly the launch of Our Future Scotland where my role was to enable a remote island viewpoint as part of the Scotland 2030 programme. This major initiative explored what Scotland could be like in 2030 and beyond from collecting and sharing people's aspirations for Scotland's economic, social and culture futures, with the goal to simulate debate between groups who do not usually take part in change-making.

The current Presiding Officer, Ken Macintosh MSP, open the film screening which was a public event in the parliament in Holyrood. The film, which I took a key role in producing, included the all the main party leaders including the First Minister, Nicola Sturgeon, and cultural figures including Jackie Kay and Brian Cox as well as subject matter experts. Here I involved Mary T. MacInnes, retired head teacher from Shoil Lochdair and key educationist figure in Gaelic Medium Language, as board member in Bòrd na Gàidhlig. This event and follow up conversations and designed probes (postcards to the future) served as the mechanisms for discussion around remote educational futures. I am aware that this perspective could have been overseen if not represented. and the influence this had upon the research outcomes. This chapter opens with a quote from Mary at the event, where she declared 'You are given the island a microphone? You'll never get it back again.' Mary MacInnes of South Uist, 2019. The film can be viewed online: <https://www.youtube.com/watch?v=Y6QOeS37XvQ&t=73s>



Our Future Scotland

Figure 44: Screenshot from Our Future Scotland film, available to view on YouTube

The second key event which occurred during my collaboration within the Scottish Parliament was an event presenting at the Goodison Group Scotland's project on Schooling, Education, and Learning: 2030 and Beyond. This project, led by the chair, Sir. Andrew Cubie, spanned several years, with a series of public events and a co-created report produced from educationalist in Scotland. I supported this programme through collaboration and representation of remote island perspectives. This included presenting research data to the board and an audience of educational change-makers, including Education Scotland. During this event, my research findings were still emerging. Through playing back the insights at this well attended event, with over 50 attendees, I received encouraging feedback about the value of presenting this approach and the importance in presenting where rural and centralised opinions differ. I was also included in the final report, which can be viewed here: https://www.scotlandfutureforum.org/wp-content/uploads/2023/04/SchoolingEducationLearning_2030Beyond_ProjectReport_WebVersion.pdf I went on to encourage learner-led collaboration with the Youth Parliament and supported

the use of creative methods of engagement, such as below, with pupils from St Paul's RC High School and feeder primary schools in Glasgow film their vision of school in the future in February 2020. This method is aligned to the approach I took during classroom engagements in schools across the archipelago.



Figure 45: School pupils filming their visions for education, 2020

Phase 4: Analysis

The analysis phase involves building a dataset of insights and outputs from creative interventions, leading to synthesis of findings to form diegetic prototypes. These centred around the following themes:

- **Closed schools;** the impact of school rationalisation programme on geographical placement
- **Open schools;** the need for communities of practitioners that work for remote education



Figure 46: High school in Castlebay, Barra (2018)

The figure above shows a school building that is offering Barra island pupils schooling up to level S4. Interviews, observational data, visual images, audio-recordings are the main examples of research to use in data analysis. These different sets ought to be treated separately and demand different analysis techniques. Utilising a mixed method approach provides different aspects of an insight and these should be defined and outlined separately. Mapping one set of data with another creates multi-textured accounts.

In the place of ‘tradition’ analysis of research data I translated the date set into a series of three future fictions as presented in full in appendix item 15. Here are high level summaries of the analysis outcomes. Future visions from the edge centre around the following themes;

- Hyper-globalisation
- Decentralisation of power
- Lifelong learning

Gach Aon, *Teagaisg Aon* is Gaelic for Each One, Teach One, which is an African-American phrase and movement created following the denial of education in the USA during slavery. This concept builds on the idea of decentralisation of power, and tells of a worldview that sees us return to our elders as the experts. A concept for Gaelic resurgence with the elderly population turned to for their wisdom, guided by the young who are taking control of their learning paths.

Secondly is the story *Centre of Learning*. This future vision builds on ideas of hyper-globalisation. A concept where each learner is an island. Individualism and personalisation have increased and enabled decisions of settlement to move away from notions of metropolis. Technology and automation plays key roles in this way of life, with previously 'isolated' communities becoming equally connected to a world market.

The third futurescape is titled, *Roofless Classroom*. Here a future is painted where the parental nature of education is increased. Traditional ways of schooling are revitalised and old buildings inhabited, along with a strong place-based ethos of survival. Small scale schools becoming sustainable with newly enrolled elderly learners. School building is fully inhabited, run for the communities' wellbeing. Thus, creating unique spaces of learning which show greater relevance for the local area.

These three futurescapes all hold the threads of the research data. The data sources include the outputs for design-led workshops with the five schools across the archipelago. For example, the importance learners placed on supporting and being linked to their local community was collected from the classroom architect design brief outputs and appears in *Gach Aon*, *Teagaisg Aon* and *Roofless Classroom* as community rooted concepts. Another example comes from data analysis of teacher's future cookie responses. There was a strong thematic which

highlighted their vision to open learners' eyes to that of the rest of the world, a key thread in *Centre of Learning*.

Phase 5: Dissemination

The dissemination phase involves taking diegetic prototypes to educational change-makers to draw out further awareness of the context and understand the culture for change. Phase five entailed returning to original project partners to gain reflections on project collaboration. In addition, further dissemination of findings, through relevant conferences and panel discussions, helped to gain critique from a wider body of influences. This feedback provides a final round of iterations in the research framework and creative outputs, helping to achieve participatory involvement throughout the design process.



Figure 47: Exhibition, viewers discussing edge perspectives (2018)

To present the five phases of the framework, and to contextualise the work in outcomes, I held an exhibition, titled *Archipelago of Futures*, in December 2018, in which practice was evidenced for a supervisory meeting and small scale public exhibition. A photograph and accompanying description shall present each one of the phases singularly, before a full framework summary provided.

In the exhibition, I showcased my practice-based outputs. The work spans three years of remote research into educational pasts, presents and futures in the Outer Hebrides. From field notes to futurescapes, these cautionary tales and conflicting visions invite the viewer to take part in questions around the implication of replacing small scale island school with centralised digital learning.

In all instances, a conversational approach was taken to engagements and this follows through to the design of disseminated outputs. Participants, readers, and respondents encouraged to provide both practical critique and personal accounts in response to the work.

ARCHIPELAGO OF FUTURES
FIONA J. MACLELLAN

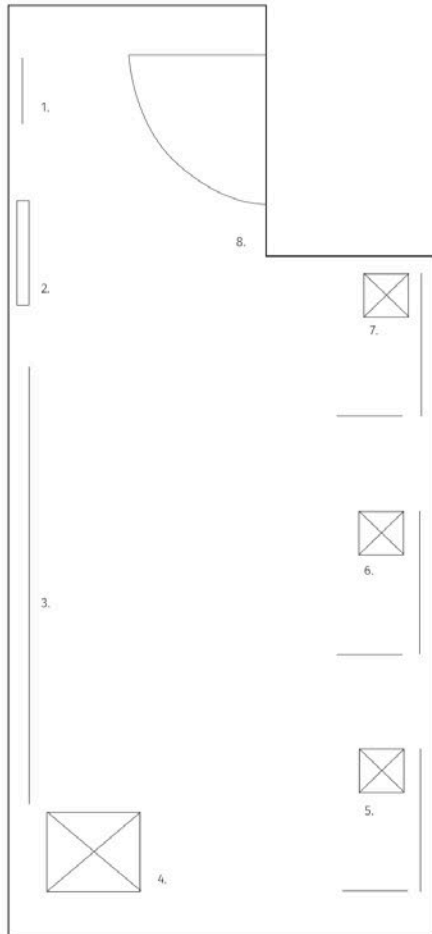
11 December - 12 December 2018
 Project Space 1
 Glasgow School of Art
 20 Scott Street

In *Archipelago of Futures*, Fiona J. MacLellan showcases her practice-led PhD outputs from Glasgow School of Art's Highlands and Islands Campus. The work spans three-years of remote research into educational pasts, presents and futures in the Outer Hebrides. From field notes to futurescapes, these cautionary tales and conflicting visions invite the viewer to take part in questions around the implication of replacing small scale islands school with centralised digital learning.

With thanks to funding from Highlands and Islands Enterprise, Glasgow School of Art and Scottish Graduate School for Arts and Humanities.

THE GLASGOW SCHOOL OF ART
 HIE Highlands and Islands Enterprise
 SCOTTISH GRADUATE SCHOOL FOR ARTS & HUMANITIES
 Scottish Funding Council

Figure 48: Exhibition pamphlet – front (2018)



1. Distance Between Lands (2018), map, pin and pencil, 70x100cm.

Nautical charts of the Outer Hebrides with white pins locating schools closed since 2008 and last three census data population in 2001, 2011, 2021 [predicted] marked in pencil. Charts on loan from Morar Lass, c/o Ewan and Jane MacLellan.

2. Community Mantle (2018), engraved acrylic and Caithness slate, 70x150cm.

Commemorative plaque to the closed schools across the archipelago. A full list of educational institutes who closed their doors during the rationalisation programme from 2005 to 2015. Data sourced from Comhairle Nan Eilean Siar, Education and Children's Services Department's reviews of educational provision.

3. Project Wall (2018), photography, sketches and extracts from research journals, 5x2m.

The three-year research journey plotted across the wall. From initial observations, dialogue and creative interventions with learners, teachers, and change makers. With thanks to the research collaborators.

4. Reference Shelf (2018), metal and glass shelving unit, books, and Monitor CRT: 14" showing videography from the Outer Hebrides, running time 00:04:31, 1x2m.

A collection of key literature, as source material to the project. With accompanying monitor showing cuts from a journey around the archipelago, filmed in 2016. School shots from Nicolson Institute, Stornoway, CalMac ferry on route from Oban to Barra.

5. Centre for Learning (2018), multiple exposure photography, sound recording, running time 00:02:00, paper, school seat, acrylic, 2x2x2m.

1/3: As part of a suite of future fictions, inspired by visions from school pupils and teachers in the Outer Hebrides A short story with accompanying sounds piece, and view.

6. Roofless Classroom (2018), multiple exposure photography, sound recording, running time 00:02:00, paper, school seat, acrylic, 2x2x2m.

2/3: As part of a suite of future fictions, inspired by visions from school pupils and teachers in the Outer Hebrides A short story with accompanying sounds piece, and view.

7. Gach Aon, Teagaisg Aon (2018), multiple exposure photography, sound recording, running time 00:02:00, paper, school seat, acrylic, 2x2x2m.

3/3: As part of a suite of future fictions, inspired by visions from school pupils and teachers in the Outer Hebrides A short story with accompanying sounds piece, and view.

8. Futures/Fortunes (2018), shelf, wrapped fortune cookies, and paper, 11 of 10x10cm.

Individually wrapped fortune cookies with eleven alternative provocations to promote thought and discussion amongst visitors, (text either begins 'how can...' or 'what if...').

Figure 49: Exhibition pamphlet – back (2018)

Post-fieldwork

Wrapping up the case study into a three-part process journal, with learners, teachers, and change-makers. This included journal extracts - a reflexive account of the experience - from the lens of a public-sector service designer. This seeks to answer the questions of what next.

CHAPTER 5. DISCUSSION

‘If the structure does not permit dialogue the structure must be changed.’

Paulo Freire

This chapter includes interpretation of the research data, with a summary of key findings, implications, limitations, and recommendations. The principle research question is: **in what ways can design research methods enable learners and teachers in island schools to participate in the creation of educational futures?**

Summary of Key Findings

The key findings are presented by working through the research sub-questions:

SUB-QUESTION 1. What are a design practitioner’s reflections of the SAAtSD, when applied with school networks in remote geographies?

SUB-QUESTION 2. Through participatory futures, how might we increase diversity of thought in political discussions around educational reform.

Sub-Question 1. What is a design practitioner's approach to working with school networks in remote geographies?

The kind of research findings to emerge from a SAAtSD practitioner tends to be non-bias, highlighting the needs of under-represented groups and considerate of the end-to-end experience, including both digital and non-digital users, and focused on social impact. SAAtSD practitioners are trying to act in the service of the people of Scotland. Here we are focussed on social impact, place-based, and it needs to encompass the cultural qualities. SAAtSD practitioners are trying to promote marginalised or under-represented voices, the appropriate approach for doing that is through meaningful participation.

Within Scottish Politics the devolved powers have led to policy changes which are more tailored to the cultural, geographical, economic, social needs of Scotland. Policy changes are not enough, SAAtSD represents a methodological change/change to approach which also represents the uniqueness of Scotland's cultural, geographical, economic, social needs. It is good that SAAtSD practitioner are getting into conversations about the how not the what. SAAtSD can give Scotland a more distinct voice — it can help Scotland form its own unique identity by building the diversity of Scotland's perspectives into public services. These practitioner insights can be summed up as follows:

1. The SAAtSD is about acting in the service of Scotland
2. The practice is centred around involving under-represented voices.
3. This is an evolution of Scotland's devolved powers, moving beyond policy delivery (what), to methodological/approach changes (how).

Research showed that SAAtSD practitioners are giving more voice and agency to marginalised or under-represented voices **so that** we can build a more diverse picture of what Scotland's unique needs are, **in order to** build public services that match these diverse needs (geographical, economic, cultural, social). This is challenging established preconceptions and norms (which have been created outside of Scotland) about how services should be delivered.

Island school networks vary depending on their access to educational services and the confidence they have in the continuity of these services. Traveling from an early age to reach school creates young adults who are highly independent and aware of the role education plays in their future.

Access to the full range of subjects offered in a city school is not possible, other than in Nicolson Institute. Western Isles is a council area created out of convenience, many southern islanders have more connection to Oban or Mallaig on the mainland than they do Stornoway. Classes are made up of school pupils in mixed level classes, often with other family members present, are more likely to be generalist and not specialise in any subject as they move through their educational pathway. The island school network is made up of more than just learners and teachers, it is the bus driver, the cook, carers and so on. More than a school's component parts, these networks form an important support network for a community to thrive and survive. For instance, the food served in a canteen comes from a local farm, without this contract the farmer would not have enough money to sustain sheep farming levels. The reason the bus runs a regular service is because of the school, allows those without access to their own vehicles to connect with family and friends. Cognitive and social constructivism were observed much more regularly, with nearly no behaviourism in island school setting.

The reason we do not consider school networks so much in the city is because many public services are already setup to support people outside of school age (public libraries,

transport etc.). The centralised idea of the role of the school does not take into consideration the wider societal impacts. In a city, the system is complex and relies on a critical mass. A change to the urban infrastructure and system can be accommodated by the complex and ever adapting social and urban infrastructure of a city. Within a build-up urban environment if there is a change to educational provisions the system can accommodate for a level of change. However, on an island, a school is a very significant part of all parts of the system and changes made to schools have a much larger relative impact on island infrastructure. Research showed that these unintended consequences were found to be under represented.

The problem space was explored through a period of observation, dialogue, and interventions. Research shows that these preparatory phases are key to meaningful engagement. Following this period of immersion in the context, creative exchanges can be conducted. Thus, enabling a SAAtSD practitioner to put learners and teachers at the heart of research aims and objectives. One example of this is the project consent form, they were designed as two-way. Both parties agreeing to take part and using carbon paper to create identical copies for both the researcher and the participant. The intention here was to create level power dynamics and shift preconceived ideas of the clipboard moment.

Through creating diegetic prototypes SAAtSD practitioner can make engagement more accessible. SAAtSD is about design and delivery of public services — trying to work out what could be better, but positioned in a remit of what is changeable. E.g. ‘what new tools can we add to the classroom, what would your classroom do with an interactive whiteboard.’. The SAAtSD has limitations:

- it is an approach, currently with no clear tools guides
- it is operating within a context of constantly shifting targets due to parliamentary cycles, meaning that SATSD practitioner are not given much opportunity to think long term

It is worth putting time into tools that support engagement beyond critiquing what exist (which is currently the focus because of the above limitations). Commenting on, critiquing and passing judgement on an existing system that people are currently engaging with is problematic, there is a risk of devaluing or insulting something that someone is currently experiencing.

Therefore, the research showed that we ought to look to critique the status quo as a constructive method through the following guidelines:

- Position the conversation as ‘what else’ could exist / alternative reality / future scenario allows people to critique the existing system in a sensitive manner
- Given that it is hard for people to imagine alternative realities — (teachers stuck in the grind and school kids bound into exam systems), it is important to give people the tools to help them do so
- This gives people more power (to imagine, propose, enact alternatives)
- Ideas in the abstract can be hard to discuss, bringing together multiple voices on the creation of tangible objects makes it easier to discuss through individual’s own frames of references.

Another key finding of the research was that if the SATSD was deployed as community engagement approach it could allow for a more nuanced understanding of what a community’s needs are because it is used to define problems. Through observation of how school

rationalisation affects people there is a disparity between centralised ideas of innovation and that which is appropriate for the region. People who are responsible for educational reform do not know the impact of blanket modernisation. This is due to a lack of meaningful consultations with people in island communities. While on paper the technical benefits of modern education are extensive, but when looking at this from an island perspective there are unintended consequences that are not noticed. This came across strongly from some of the themes of the future fictions presented to Parliament, for example: schools having open doors helps to blend learning across a community, as appose to current health and safety checklist, permission forms and risk assessment to enable city-centric children to access a local park or museum.

The research shows that SATSD provides more nuanced impact/implications of certain decisions, in particular, centralised reform. While traditional consultation asks for opinions once solutions have been defined, but the strength of this practice is that it engaged with communities prior to problem definition. The engagement with communities through SATSD *is* the problem definition.

Sub-question 2: How might we increase the diversity of thought in discussions around educational futures?

The research project could promote agency through futures workshops, enabling participants to express visions and their preferability. SAAtSD and Participatory Futures are about empowering people to actively participate, when this involves a component of future visioning this has a larger impact for the following reasons.

Participants build confidence/empowerment in their ability to articulate, envision and influence the future. This was demonstrated in this project with participants responses being positive and

there being a keen sense of support for the studies wider aspirations around creating impact through the audience of change-makers. ‘Our ideas were taken into consideration’ (Participant 17, 2017). People had confidence to articulate their ideas at the Scottish Parliament, defending what was good for their island school and not just Scottish education. This group of people did not previously have an opportunity to represent their preferences in a political context. The emphasis here is that the futures exercise themselves had specific impact in giving people **agency** and **voice**, which they previously did not have. In addition the following factors should be considered:

- Sustainable futures for educational services
- Continued growth of remote learning
- Decentralisation of power, with the goal to have their unique needs known and well representation in reform
- Hyper-globalisation, an increased move away from city-centric growth
- Gaelic resurgence, new native speakers born in the next generation
- Lifelong learning with a return to small scale schooling and open doors for the local community

The classroom design created in 1900s has not changed much since when observing a current day educational setting. This could be down to the fact that it works well in areas with less access to space. The research observed that the design requirements for classrooms are city-centric and are about optimising numbers of learners to teacher ratio. This is not necessary centred on creating an optimal learning environment for the pupils, it is centred on operational efficiency.

The makeup of a classroom in an island community has multiple age groups. The use of the space differs from that of a city-centric classroom, different pupils are engaged in different activities, which informs a different use of the space. For example, in most instances it is rare to see all students facing in the same direction engaged in the same lesson.

Experiments conducted here found that island communities welcomed the opportunity to talk openly about their unique needs and culture. This is an example of applying alternative futures methods to give those with lived experience more of a voice. Change-makers and specifically politicians can be short of time, often with competing priorities. They benefit from information being presented in a way that catches their attention. This was achieved in this study through impactful visuals, thoughtful placement and steering away from lengthy text. It is essential to find an audience for alternative future, however, it can be difficult to find without institutional connections/knowledge. It was helpful to align with groups that are already creating a space for relevant conversations about ‘what might be’ e.g. e-Sgoil, The Goodison Group, Scotland’s Futures Forum.

The dataset of futures was translated into future fictions and artwork once the audience was known. The artwork, framing, tone of voice, the level of information/detail could have changed based on the audience. The pace of change in the public sector is a factor here, given that in decision of systemic change timing is everything, especially given the five-year (parliamentary) cycles. When seeking impact at a parliamentary/national level, ideally one would deploy alternative future visions during/before political parties manifesto writing phases (innovation in education is often discussed at this point). The timing of The Goodison Group and Scotland’s Futures Forum project Scotland 2030 delivery plan aligned with the run up to the

2021 General Election. Further research would need to be conducted to measure impact in change-makers aspirational targets.

Returning to The Principle Research Questions

This practice-based research project centres around the principle research question: **In what ways can design research methods enable learners and teachers in island schools to participate in the creation of educational futures?** In answer to this, there are many ways for design practitioners to be involved in increasing agency and diversity of through an inclusive methods-set. This has been demonstrated through this study, with practitioner's reflection culminating in the five-stage design framework for pre-and-during discovery engagement.

The core factor in ensuring suitable method selection is in a deep understanding of the place, people, and context. Understand than can be gained from a study with upfront observation and dialogue phases. Secondly, it is key to ensure that analysis and dissemination methods befit the audience (target for impact). There is a failing in the study if its outputs do not attempt to represent participants desire for achieving a greater goal, ultimately to be heard. Audience should always be considered carefully throughout a SAAtSD project. The idea of decision-making without consultation is an unpopular one and therefore more discussion on how to meaningfully engage is sought after.

Implications, Limitations & Recommendations

This research is relevant to the field for several reasons, firstly because SAAtSD is relatively new and lacking practical case studies. It is still exploring what is unique to Scotland

in the context of devolved powers, therefore it is an important moment to defend the role of design in public sector.

This research is relevant to the context because between 2016 – 2019 the archipelago's school networks were represented (for a brief moment) in parliament, **which is not normally the case.**

Limitations are as follows:

1. This research was conducted with The Outer Hebrides, insights here may not apply to another island group e.g. Orkney and Shetland
2. This work was conducted during a period that experienced significant change to educational approaches due to the pandemic
3. Ideally a more diverse range of perspectives to avoid unconscious bias
4. Ideally sustained engagement with the same cohort of participants over a year.
5. Engagement was limited due to cost associated with travel and accommodation
6. Limitations to the sense making approach to synthesis

Recommendations for future research are mainly centred around the SAAtSD community building on suitable guidance to support full articulation of the vision to 'put people at the head of government'. Further SAAtSD case studies should be documented by practitioners allowing the community to develop a more critical understanding of then framework. Looking Scotland Education system, to deliver on the CfE's core vision, 'put learners at the heart of education,' Education Scotland need to develop resource and approaches to promote agency and opportunities for meaningful participation in decision making around improvements in education. The alignment between these the context and the field are apparent, a challenge in the

disparity between theory and practice. As such, here are three core recommendations aimed at change-makers or those authoring frameworks for transformation:

1. Do not make practitioners change the system without supporting them. Teachers cannot be expected to review and improve a system that they are currently experiencing - with limited understanding or control of what can change and how e.g. access to the change process. Designers cannot be expected to increase agency and act inclusively if project delivery targets are outputs driven.
2. Learners will find it complex to review a system that they are legally bound to go through. This needs to be supported through carefully crafted methods and facilitation that is sympathetic to this conflict.
3. Change-makers need to manage expectations on levels of involvement and impact learners and teachers can have on the system - bound to political shifts.

Furthermore, this study's context selection should be looked at. Remote island school networks are about properly listening currently. To look to the edge cases is vital for improving representation and diversity of through — something that might seem like an obvious decision to the mainstream might have significant unintended consequences for edge cases. This is of course also about giving people tools to think about the future.

Finally, to close the discussion chapter here is a final recommendation around continuing to understand politically what is the 'Scottish' approach to government. This is about creating more mechanisms to challenge the assumed ways of doing and expose alternatives. By creating approaches like SAtSD the community is creating the tools to expose the needs that are unique to the population — helping to further define what 'Scottish' means.

CHAPTER 6. CONCLUSION

‘Overcoming the complex challenges ... won’t happen unless we democratise futures thinking.’

nesta – *Our future: by the people for the people*

Designing Remote Educational Futures concludes with a look back at the body of work.

In chapter one the study was introduced by sharing contextual points of relevance around the key factors, including the a look at the journey to current day Figure 9: National Records of Scotland, note: figures have been rounding to nearest digit, the sticking nature and cultural heritage of **Archipelago of the Outer Hebrides**, what is means to be part of a **School Networks**, a look at the emerging framework for designing public services in the **Scottish Approach to Service Design** (SAAtSD), how **School Rationalisation** is affecting island population, how **Participatory Futures Methods** are guiding the way in increasing agency around futures thinking and finally this designer’s role in all the above. The scope of context was unpacked in chapter 2: included giving a brief account of remote island schooling today, with educational pilot **e-Sgoil** pointed to as an example of innovation from the edge. The timely nature of this study was presented, with both SAAtSD and CfE calling for **increased participation** of the public in the design and delivery of their public services. Then on to the how; the **design framework** was presented for delivering social impact, with introduction to participatory futures methods. The study framed its audience

as educational change-makers, with engagement with the **Goodison Group**, Scotland's Futures Forum and Education Scotland.

The fieldwork chapter followed three-years of engagement in the field, with outputs culminating in the three futurescapes which were presented at parliament in 2019. With discussion chapter diving into answering the research question through So, what has been learned?

Between 2016 – 2019 the aspirations from the archipelago's school networks were represented in parliament, **which is not normally the case**. Visions of alternative schooling was met with intrigue and curiosity. A celebratory moment in this study was when Mary McInnes was selected for the #OurFutureScotland (to view online visit:

<https://www.scotlandfutureforum.org/catogory/our-future-scotland>) film and showcase following involvement in this project. This was an opportunity for island viewpoints to be shared at a national stage, alongside politicians and influential Scottish figures including Nicola Sturgeon (First Minister), Brian Cox (Actor) and Jackie Kay (Scottish Makar).

The conclusion is centred around answering the principle research questions: *in what ways can design research methods enable learners and teachers in island schools to participate in the creation of educational futures?* This is presented as a summary of the key points organised into the following headings:

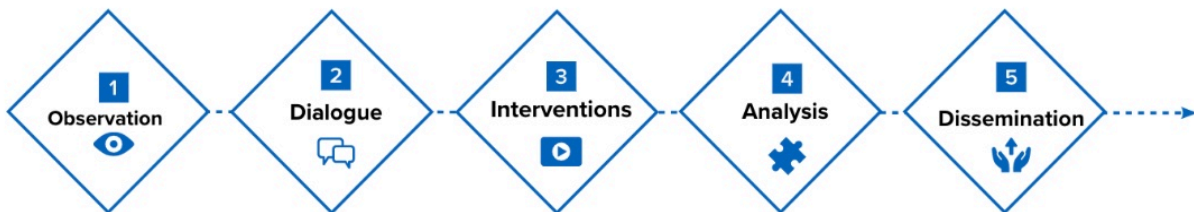
1. **Scotland's maturing education system;** how educationalists and politicians can give more agency to school networks
2. **Designer's role in systemic change;** how design plays an increasing part in democratising futures thinking

Scotland's Maturing Education System

Having grown up in a family that moved from the Highland and Island's region due to lack of access to educational services the independence and levels of innovation did not meet my expectations. The regions ability to produce high performing pupils also surpassed my expectations, those who go on to successful destinations is higher than that of some of the biggest schools in the country. Small scale schooling is expensive, but is it worth much more to the community and its ability to thrive (by attracting school age residents and adults of working age).

Designer's role in systemic change

Answering the research questions: In what ways can the Scottish Approach to Service Design be applied with learners and teachers in island schools to enable representation in political discussions around preferable educational futures?



This was achieved through the following research framework, that aligned to the pre-discovery and discovery phase:

1. Observation - spend time embedded in the context
2. Dialogue - spend time listening to what matters to people
3. Design-led workshops - use creative exchanges to gain new knowledge

4. Analysis - develop themes, common patterns, and synthesis outputs to create diegetic prototypes/probes
5. Dissemination - socialise these artefacts with change-makers and develop meaningful next steps to address problem space

Designers should use this framework to get more involved in the pre-discovery and the discovery phase. In current dominant approaches, problem definition, and in some cases solution definitions are conducted before engagement. This is disempowering, and does not allow for the nuance required to fully understand a community's needs. This is particularly impactful in edge cases. While this was demonstrated in an educational context for island communities in the Outer Hebrides there could be parallels with marginalise ethnic groups, those with protected characteristics, with different learning styles, and economic backgrounds.

The SAAtSD is a suitable framework to investigate this context due to its participatory focus and connection to social impact. Learners and teacher's engagement cannot fully engage in speculation, this needs to be heavily facilitated. Synthesis/analysis of results was not collaborative, therefore carries unconscious bias.

Limitations

The timespan of the research data collection and submission to research repository is less than ideal. This should be avoided in future iterations of this study or studies of its like. The study would have benefited from an analysis to add rigor and remove researchers bias from final phase of dissemination. This project could have been equally as impactful in documenting the

approach if conducted with a single school network case study as numerous. Time and budget also affected the scale of this research study considerable.

Further recommendations

The study goes a long way to show the disparity between the edge and the centre, or dominant and contesting visions. This exploration of the unknowns is an important contribution to and public service for reasons of increasing equality and diversity. A fully recruited SAAtSD team, including roles such as user research, analysis and policy officers would enable more fully formed results. Futures methods in design are growing in popularity, SAAtSD ought to adopt its stance on their application, including advice on best practice.

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APPENDIX

Appendix item 1: Walkshops Conversation Guide

24th January 2018

Introduction

Where would you like to walk? What does this route mean to you?

Can you describe your current role in education?

Reflection on the past

(If not a current learner)

Tell me about your journey through education? How did you feel about that?

Present personal experience

What is your current experience like?

Tell me about changes in the education system? How did you feel about that?

Your vision

What would you liked to have happened?

Tell me about your vision for the future of education?

Grounding

How will be get to there?

How would you like to be involved in this project going forward?

Appendix item 2: Workshop invitation

10th March 2019

THE MAKING OF A SCHOOL

Workshop & Preview

Fiona J. MacLellan

March 10

CCA

Learners, teachers, and educationalists are invited to join Fiona J. MacLellan to open ideas of schooling. The event will kick off in the ground floor gallery with a preview of work that responds to the challenges around providing an education model that supports the nation's diversity of people and place. This is set amongst other works by an international artist in the show *Forms of Action*. Here we demonstrate a range of socially-engaged art practice linked through a shared methodology of art as a way of observing and responding to society.

We will then move to the first floor where tea and coffee will be served and the workshop will kick off. We will be building on the idea of 'innovation from the edge'. Be that from the perspective of islands and their physical distance from services or that of inner cities and the inequality in service distribution through social distances. Guests are welcome to map responses and shape new concepts, adding to an emerging research project at a key point of consultation.

CCA:

THE GLASGOW
SCHOOL OF ART



Appendix item 3: Consent form

PHD RESEARCH CONSENT

You are invited to take part in a research project that will explore futures of education in the Outer Hebrides of Scotland. This project is part of a PhD with Glasgow School of Art’s campus in the Highlands and Islands and is funded in collaboration with Highlands and Islands Enterprise. The research analysis and write up shall be conducted by Fiona J. MacLellan. Before giving your consent, it is important for you to understand the aims of the research and what it will involve. This consent form hopes to share such information with you, but there will be further opportunity to discuss matter in more detail in person. If you have any immediate questions, if anything is unclear or if you would like more information then please do not hesitate to get in touch.

Name: _____

Email: _____

Region: _____

School: _____

Please circle your role(s): _____

Pupil Senior Management Recent School Leaver

Parent Other School Staff Educationalist

Teacher Student Other:

I give my consent for audio recording to be taken during the event

Yes

No

I give my consent for photography to be taken during the event

Yes

No

I give my consent for any handwritten outputs of the event to be documented

Yes

No

I give my consent for quotes using pseudonyms from an audio transcript of the event in be used in PhD thesis and any supporting research documentation

Yes

No

I give my consent for photography from the event to be published in PhD thesis and any supporting research documentation

Yes

No

Having given this consent I understand that I have the right to withdraw from the research project at any time and without having to give any reason

Sign:

Date:

Appendix item 4: Design-led Workshop – Brief**Unleash Your Creativity | Sci-Fi School | Animation Brief**

Your task is to work in your group to build an animation that will last around one/two minutes. Your story should teach us about what schools will be like in the future.

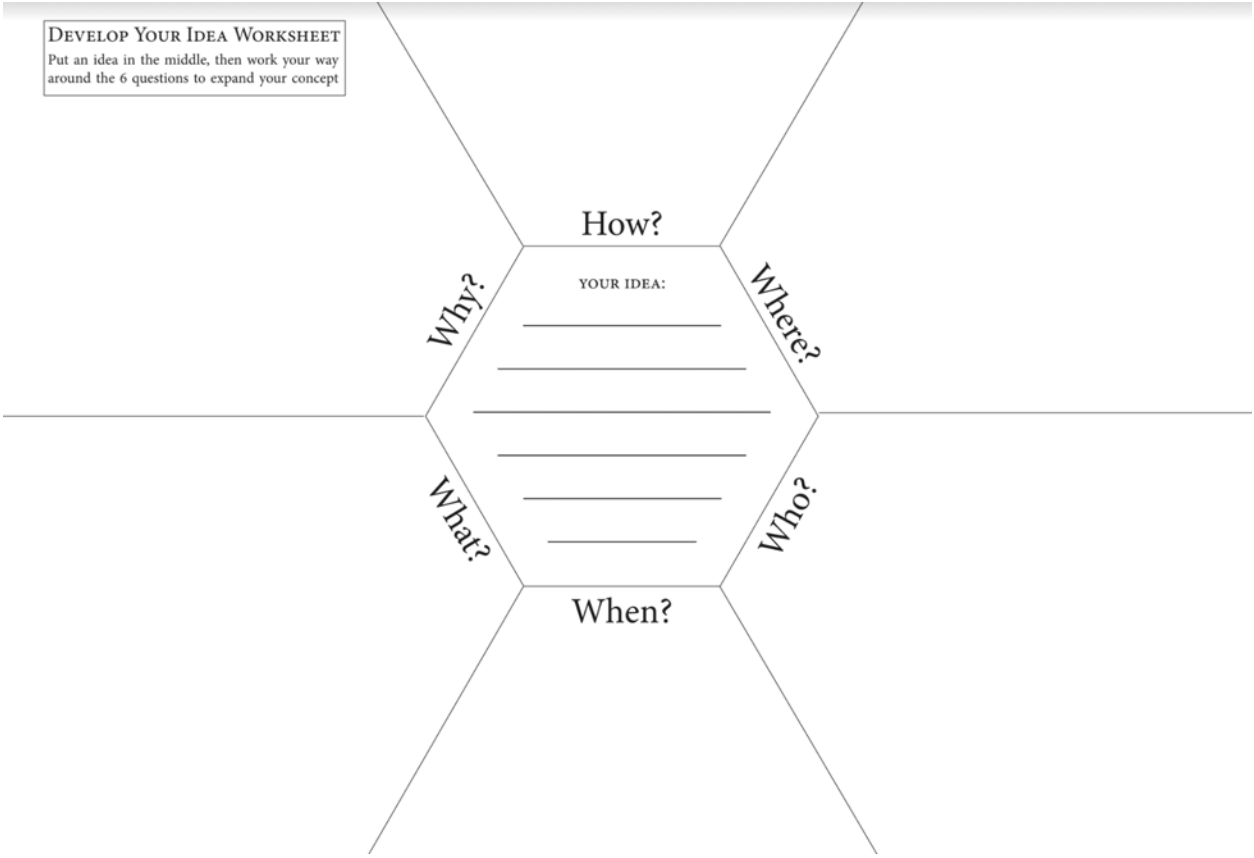
Steps:

1. Develop a theme
2. Build characters (a teacher, a pupil and a few extras)
3. What's the plot?
4. Develop a storyboard
5. Test it

Key Facts:

- You should give your story a name
- Tell us where and when it is set
- Use a story board to plan your collage animation
- Don't forget to include some of the things we discussed on day one
- Include audio recording and/or subtitles in Gaelic and English
- Have end credits with all your names and the name of your school
- Animation Screening: 3:00pm on Tuesday 25th April

Appendix item 5: Design-led Workshop – Handout activity sheet for idea development



Appendix item 6: Design-led Workshop – Handout activity sheet for idea development

DESIGN BRIEF

BECOME A CLASSROOM ARCHITECT

Imagine that once you leave school you are in charge of teaching a class, you need to choose what subject you teach, how your pupils learn and what your classroom looks like.

Your task is to make a poster to advertise your class, to let people know what your class is all about and why they should join.

Together we are going to hold an exhibition called 'Classroom of The Future' where we will display all our posters.

START NOW...

1

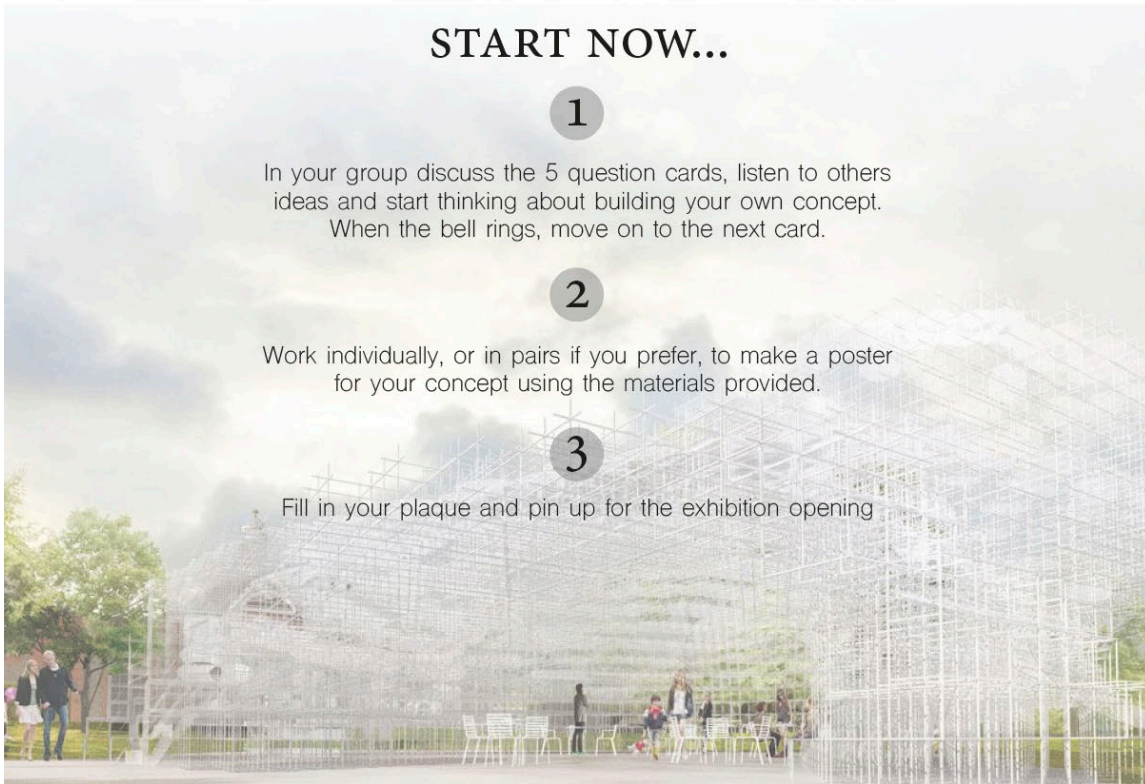
In your group discuss the 5 question cards, listen to others ideas and start thinking about building your own concept. When the bell rings, move on to the next card.

2

Work individually, or in pairs if you prefer, to make a poster for your concept using the materials provided.

3

Fill in your plaque and pin up for the exhibition opening



What

is the subject of your class?

Who

is it for?

How

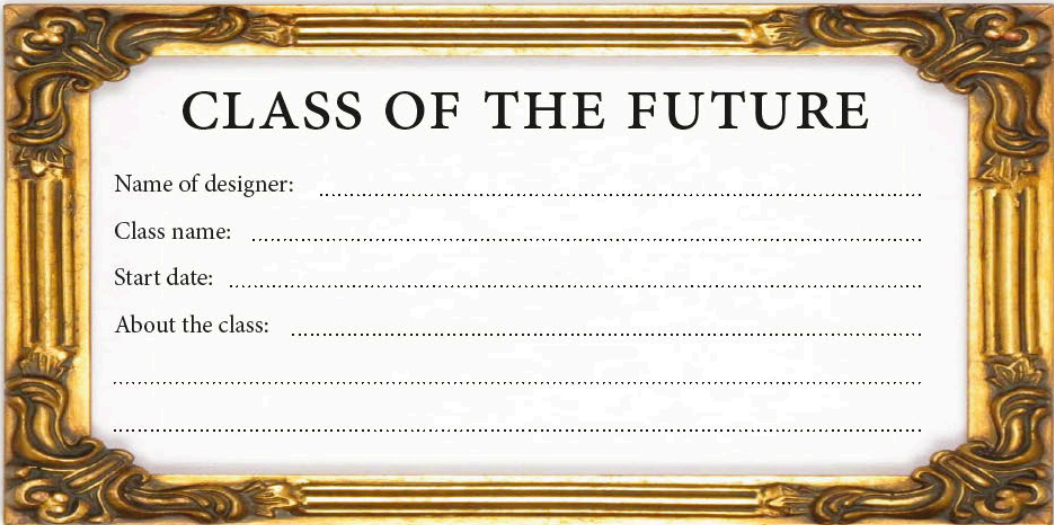
would you teach it?

Where

would you teach your class?

Why

is your class interesting?



CLASS OF THE FUTURE

Name of designer:

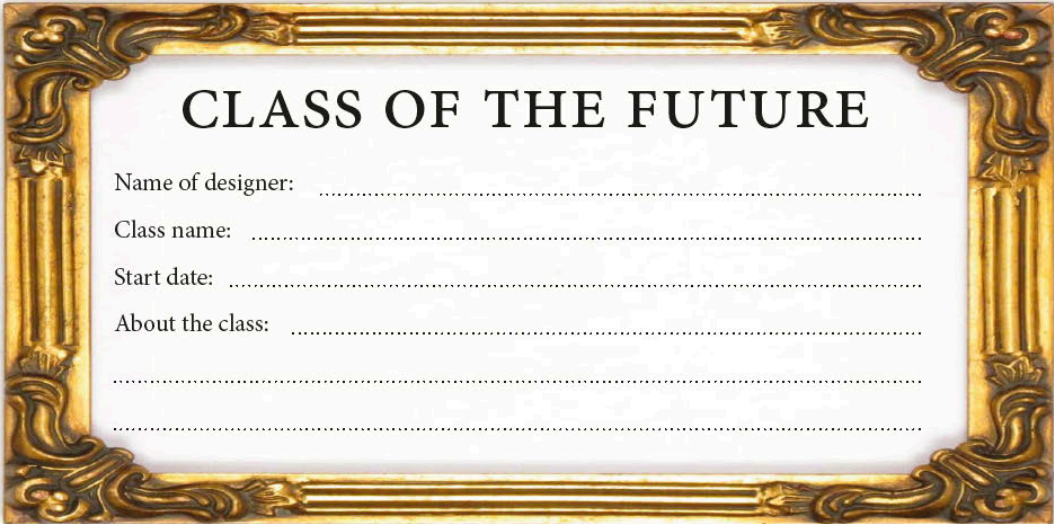
Class name:

Start date:

About the class:

.....

.....



CLASS OF THE FUTURE

Name of designer:

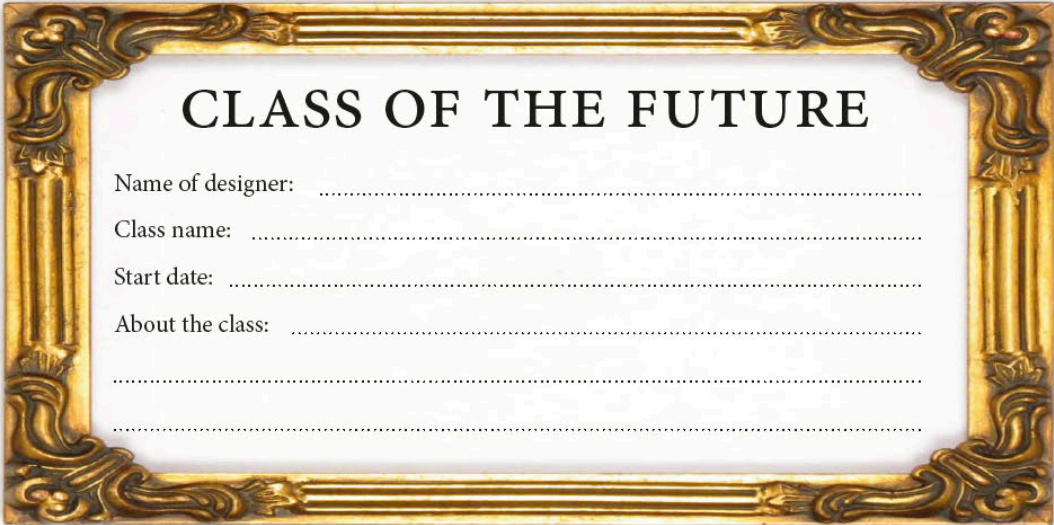
Class name:

Start date:

About the class:

.....

.....



CLASS OF THE FUTURE

Name of designer:

Class name:

Start date:

About the class:

.....

.....

Appendix item 7: Design-led Workshop – Presentation slides for workshop a & b

UNLEASH YOUR CREATIVITY/SCI-FI SCHOOL

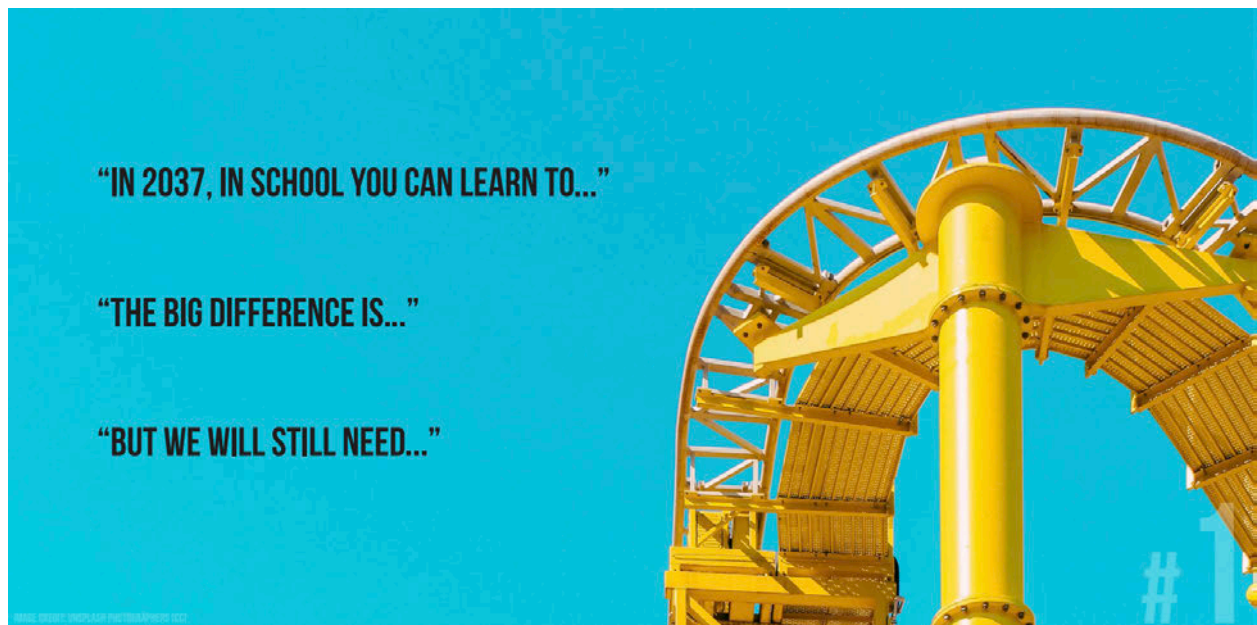
we are going to spend the next hour and a half building characters that will take part in a story set in the future, we will start by going through four quick task, then use what we have created in the second session:

our first task is a game of future forecasting

the second task involves creating as many character profiles as we can in just 15 minutes

thirdly we will build on these by adding in their motivations

and the last task is to share what we have made and vote for who we think are the most important





UNLEASH YOUR CREATIVITY/SCI-FI SCHOOL

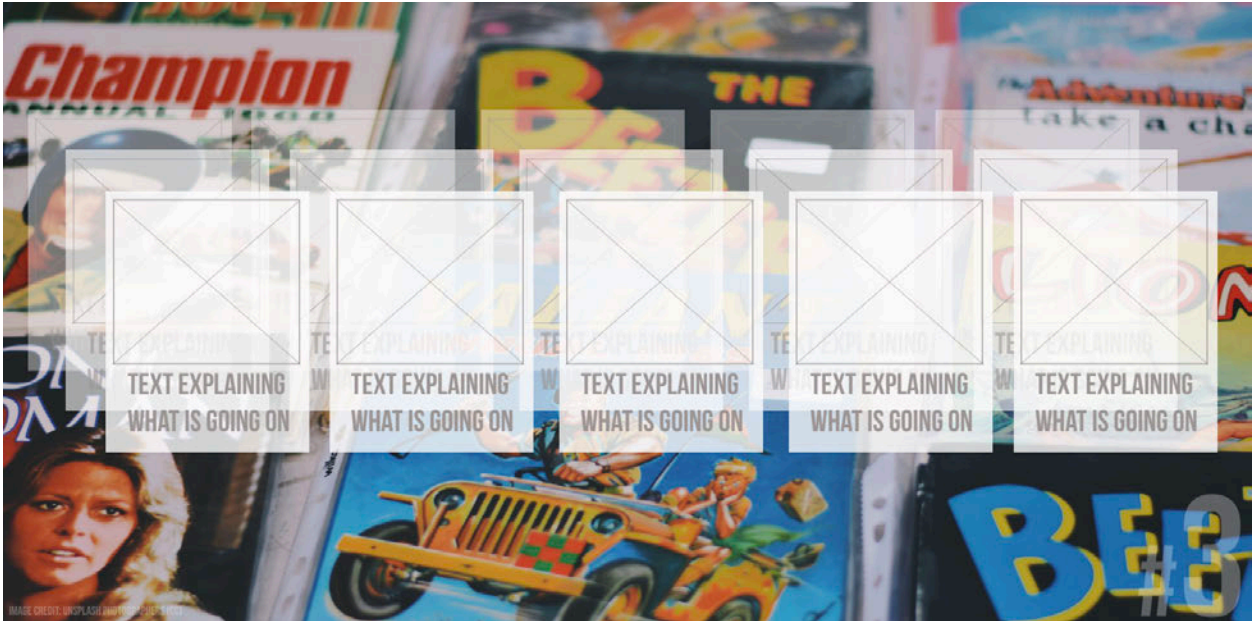
we are going to spend the next hour and a half building scenes for our future fictions, the characters were made earlier, now its our job to animate these through the scenarios we build, these will then be passed on to the next group in production:

our first task is a game of provocations

the second task involves selecting the characters and mapping their connections

thirdly we will build on these by storyboarding a narrative like a comic strip

and the last task is to share what we have made and vote for our favourite moments



Appendix item 8: The Centre of Learning – English/Gaelic

The Centre of Learning

As part of a suite of future fictions, inspired by visions from school pupils in the Outer Hebrides
[English]

Standing on a cliff edge. I watch the constant conflict between land and sea. Deep blue against a familiar mist.

A pulsing vibration comes from my pocket to interrupt my thoughts; my 10 minutes must be up. 50 minutes connected to the network, 10 minutes unconnected. 50 minutes to listen in and upload my response, 10 minutes to stop. 50 minutes, 10 minutes, 50/10, 50/10, 50/10, 50/10, the rhythm of my day.

I take a second to work out how it all relates. My project is about power consumption, supply, and demand. It is a loop, and somehow, it's all around me.

An incoming message: "Tuesday 26th March 2020, Slot 2, new notifications 3, are you ready?"

"Yup"

"I'm sorry, what was that?"

Its windy, I have to say it twice, "Yes"

"Notification 1 of 3: George has uploaded a response, 12 and a half minutes listening time". I can listen to that on the bus over,

"Push to slot 2.6"

"Complete. Notification 2 of 3: Query from the front desk, your ratings for yesterday's discussants are now due"

"Push to tomorrow"

"I'm sorry, invalid response, how about slot 4, you will be docked by then?"

"OK, next?"

"Notification 3 of 3: recorded message from mum, "Hey, just a quick one, the new lambs have all found their feet, can you sort dinner tonight and I haven't forgotten that we need to talk about Canada, love you, bye."

It all washes over me, somehow dealt with, that is apart from Mum saying we need to talk. I don't know how that will go, it fills me with worry. I have some time before the bus arrives.

"Search for free discussant: wave power, Norway, community led. Record: "Hi, my name is Sophia, based in Lewis, I am in my doing my self elected and need to do some international case studies. Hope you can help me! In exchange, I have loads on new farming methods to share.

Early slots any day. Bye.” End recording and upload to discussant search. Notifications on. Raising the frame, I capture a still to add to the request. Send.

A bus pop up appears; I confirm my route and book a seat. As I turn my back to the sea, the wind whips my hair over my face. I start scanning the winding road for a sign of the bus, should be due any minute. I wonder if Sue got all the kit in time for today's lab.

The bus pulls up just as I arrive at the road and the doors open. A cloud of warmed air meets me and I step up. Scanning my pass, I select my route to the blue lab on the pad, journey time 23 minutes. I accept... I will get there in plenty of time for slot 3. I will be joining Sue, George and the others to monitor the growth of our seeds and set up the next phase of our experiments. We have been looking into some raw methods and I reckon we might have the right combination of seed, feed and soil.

Taking an empty pod, I dock in and look out the window while the screen loads in front of me. I can take in the view. The bus has 8 passengers – an international family studying the bends and turns, three old women connected by free bus pass but with very different handbags, a young weathered guy who looks like he is too hot, and myself. Each taking up separate pods, no one talks, our glances sometimes unintentionally crossing as we scan around the bus windows. The road is uneven and winding, unpredictable. The way punctuated by small settlements with signs offering BED & BREAKFAST, hot rolls, take away coffees, points of historical interest, veterinary services, jewellery for sale and car mechanics.

My eyes lock on my screen. At some point, I notice Mr Richie's bar is glowing green, taking a bite of apple, I swipe to join his room.

“Hi Sophia, thanks for joining. Did any arrive in the night?”

“Hi everyone, yeah two from the same ewe, which brings us over last years' total”

“And still two weeks to go! Okay, let's get back to it.”

I read the notes and see a joint order for lambs' jackets to be made through the network is in the discussion feed. With low average temperature forecast and a lack of indoor feed, they will be needed, I move 6 credits to the pot. There is also an application coming together for butcher training. I load up the prep-videos and jump to where I left off yesterday. The bus rumbles on.

Sitting in the lab, I add data to our log sheet. When I get to levels of magnesium my monitor starts to pulse then I tap to turn on rest mode. The glow on our faces fades and as I look up I catch eyes with George.

“Let's go get soup from the hall, I am trying to save money for tickets to next weekend show. Have you heard? They are from Canada.”

George knew that I was thinking about moving there to join another project in the network. My stomach turned with nerves and I thought about the application on my dock that I couldn't seem to finish. I wanted to go, I had so much to learn for labs out there but it would mean leaving Mum and the farm and through the winter too. It must have shown on my face.

“Why don't we go through your application in slot 6?”

The busy hum of the hall starts to rise as we walk through the sliding doors. I scan my pass and select pea soup from the pad; we head to our seats, collecting our steaming bowls from the belt as we pass.

-

[Gàidhlig]

A’ seasamh air oir na creige. Tha mi a’ coimhead an strì eadar muir is tìr. Dubh ghorm is an sionnachan-mara an aghaidh na h-uaine ceòthach air a bheil mi eòlach.

Tha crìth cuisleachaidh a tighinn bhom’ phocaid, tha na deich mionaidean agam suas, caogad mionaidean ceangailte ris an lionra, deich mionaidean gun cheangal, caogad airson èisteachd a-steach is luchdadh suas an fhreagairt agam, deich mionaidean airson stad. Caogad mionaidean, deich mionaidean, caogad is deich, caogad is deich, caogad is deich, caogad is deich, sin ruitheam mo latha.

Tha mi a’ toirt diog airson obrachadh a-mach mar a tha e uile ceangailte. ‘S ann mu caitheamh cuachd tha am proiseact agam, solar is iarrtas. ‘S e lùb a th’ann, agus airson adhbhar air choireagan, tha e uile mun cuairt orm.

Teachdaireachd a-steach: “Dimairt 26mh den Mhairt, 2020, slot a dhà, bràthan ùra, 3, a bheil thu deiseil?”

“Tha”

“Duilich, dè bha sin?”

Tha i gaohach, tha feum agam ri radh a-rithist, “THA”

Bràth a h-aon a-mach à trì. Tha Seoras air freagairt a luchdadh suas, dà dheug mionaidean gu lèth ùine èisteachd”. S’urrainn dhomh èisteachd ris air am bus a-null.

“Put ri slot dhà puing sia”

“Deanta. Bràth a dhà a-mach à trì: Cèist bhon deasg aghaidh, tha na comhraidhean bho neach-pairteachaidh an dè ri chur air falbh a-nis.

“Put ri a-maireach”

“Duilich, teachdaireachd cèarr, dè mu dheidhinn slot a ceithir, am bi thu ann an doca an uair sin?”

“Ceart, an ath bhràth?”

“Bràth a trì a-mach à trì: teachdaireachd air a chlàrachd bho mam, “ Hai, dìreach fear luath, tha na h-uain ùra air na casan aca lorg, an urrainn dhut dìnnear a chur ri cheile a-nochd agus chan eil mi air diòchuimhneachadh gu bheil feum againn bruidhinn mu

Chanada, le gaol, tioraidh”

Tha beagan ùine agam mus tig am bus.

“Dean sgrùdadh air neach-pairteachaidh ùr: cuachd stuadhail, Nirribhidh, air stiùradh leis a chomhearsnachd: hai ‘s mise Sophia, air mo shuidheachadh ann an Leòdhas, tha mi a-steach a’ dèanamh an taghadh agam fhèin agus tha feum agam air neach pairteachaidh eadar-naiseanta. An dòchas gun urrainn dhut mo chuideachadh! Mar iomlaid, tha tòrr dhòighean tuathach ùra agam ri roinn. Slotaichean tràth latha sam bith. Tioraidh” Cur crìoch air a chlàradh is luchdaich e suas air

rannsachadh neach-pairtachaidh. Bràthan air. A togail an frèam, tha mi a’ togail dealbh dheth airson a chur comhla ris an teachdaireachd. Cuir e a-mach. Tha priob-uinneag airson bus a tighinn suas, tha mi a’ deimhneachadh a chùrsa agam agus a clàradh àite.

Fhad ‘s a tha mi a’ tionndadh mo dhruim ris a mhuir, tha a ghaoth a’ togail m’fhalt thairis air m’ aodann. Tha mi a’ toiseachadh sgrùdadh an rathad lùbach airson a’ bhus, bu chòir dha a bhith an seo mionaid sam bith. An dùil an d’fhuair Sue an acainn uile ann an àm airson lain-deuchainn an diugh. Tha am bus a’ tighinn suas aig an dearbh àm ‘s a tha mi faighinn dhan rathad agus tha na dorsan a’ fosgladh. Tha sgoth eadhar blàth gam bhualadh agus tha mi a’ coiseachd air. A’ sguabadh a’ phass agam tha mi a taghadh air am pada a’ chùrsa agam dhan lain-deuchainn ùaine – turas siubhail fichead ‘s a tri mionaidean. Tha mi ga ghabhail, bidh mi a’ faighinn ann ann am ùine gu leòr airson slot a trì.

Bidh mi a’ coinneachadh ri Sue, Seoras is an fheadhainn eile airson sùil a chumail air fàs na sil againn agus airson cur ri cheile an ath phàirt de na deuchainnean againn. Tha sinn air a bhith coimhead air dòighean ura agus tha mi den bheachd gu bheil am measgachadh ceart againn de shìl, biadh is ùr.

A’ toirt plaosg falamh, tha mi a docadh a-steach agus a coimhead a-steach air an uinneag fhad ‘s a tha mo scrìn a luchdadh nam aghaidh. S’urrainn dhomh an sealladh a thoirt a-steach. Tha seachdnar air am bus – seann chupal Iapanach, trìuir seann bhoireannaich air an ceangal le pass saor ach tha mi a’ mothachadh diofar stoidhlichean de bhag-laimhe, fear òg air dath nan sian a bha a’ coimhead mar gun robh e ro bhlàth, agus mi fhìn. A’ toirt plaosg falamh an duine, chan eil duine a’ bruidhinn, than na sùilean againn a coinneachadh bho àm gu àm gun dèoin fhad ‘s a tha sinn a’ sgrùdadh uinneagan a bhus. An rathad corrach is snìomhach, mar gum b’ eadh air clach an turrabainn, an slighe air a phuingeachadh le coimhearsnachdan beaga le sànasachd Leabaidh is Breacaist, rollaichean tèth, cofaidh ri thoirt air falbh, aitean eachdraidheil, leigh-lann bheathaichean, seudan is meacanaig caraichean.

Tha mo shùilean a stad air an sgrìn. Aig àm air choireigin tha mi a mothachadh gu bheil bar Mhaighstir Ritchie a’ dearrsadh ann an uaine, a’ toirt bìd den ubhal agam, tha mi a sguadaich airson dol dhan seòmar aige.

“Hai Sophia, taing airson ur coinneachadh. An d’thainig fear san oidhche?”

“Hai a h-uile duine, aidh dà bhon aon chaora, a tha gar toirt thairis air an aireamh iomlan againn bhon uiridh”

“Agus fhathast dà sheachdainn ri dhol! Ceart, theid sinn air ais ris.”

Tha mi a’ leughadh na notaichean agus a’ faicinn gu bheil ordugh ceangailte airson seacaidean uain ri chruthachadh tron lionrath anns an inbhir còmhradh. Le teòthachd ìosal ri thighinn agus dith bidh againn a-staigh bidh feum againn orra, tha mi a’ gluasad sia creideas dhan phot. Tha iarrtas ann cuideachd a tha tighinn ri chèile airson trèanadh

bùidseir. Tha mi a' luchdadh suas na bhidiothan-ullachaidh agus a leum rin àite far an do dh'fhag mi iad an dè. Tha am bus a' rùchadh air adhart.

A suidhe anns an lain-deuchainn, tha mi a' cur an fhiosrachaidh dhan loga againn. Air ìrean maignéiseam tha am monatair agam a sealltainn a'phut airson fois'. Tha dearrsadh an sgrìn air an aodainn againn a' toiseachadh ri crìonadh fhad's a tha mi a coimhead suas ri glacadh sùilean Sheorais.

“Nach tèid sinn airson bròt fhaighinn bhon talla, tha mi a' feuchainn airgead a' shabhaladh airson tiocaidean a cheannach airson an ath-sealladh na deireadh sheachdainn fhaicinn. An cuala sibh? ‘S ann à Canada a th'annta”

Bha mi a' smaoinntinn mu dheidhinn proiseact eile a thogail air an lionra. Bha an stamag agam a tionndadh le dealain-dè agus smaoinnich mi mun iarrtas air an doca agam nach b'urrainn dhomh crìochnachadh. Bha mi ag iarraidh dol ann, bha an uiread agam ri ionnsachadh airson na lain-deuchainn ach bhiodh e air ciallachadh mam agus an tuathanas fhagail, gu h-araidh tron Ghearradh. Tha mi cinnteach gun robh e follaiseach air m-aodann.

“Carson nach tèid sinn tron iarrtas agad ann an slot a sia?”

Tha drannd trang an talla a toiseachadh ri togail fhad's a tha sinn a' coiseachd tro na dorsan spèileidh. Tha mi a' sguabadh a phass agam agus a taghadh bròt peasrach bhon phada, tha sinn a' coiseachd gu suidhichean, a'togail nam bobhlaichean teth againn bhon chrìos fhad's a tha sinn a dol seachad.

-

Original Text by Fiona Jane MacLellan

Translation by Iona Whyte

Appendix item 9: Centre for learning exhibition – A-Z of feedback

Attainment measurements
Ageless learning
Avoid challenges of commenting on tension with current classrooms
Bespoke craft learning scenarios
Broadband across islands
Community interests
Control issues
Creative opening
Eton in Highlands
For the greater good
Gaelic Medium
Gamification of learning
Government more controlling
Gripping
Highlands as case study
Home schooling
Iain M. banks
If e-learning is norm
Ignoring surroundings currently
Inspiring buzzwords
Isolated
Learning to knit
Let Scotland flourish, cloudy policy
Link to broadband connectivity
Making policy interesting
Malnutrition of knowledge
Mirror
More freedom
No average pupil
Nomadic learning
Not learning resources
Open doors
Opens with something in the future
Parents as guardian, register, governing body,
Peer to peer rationalisations
Pilot scheme
Points, ongoing assessment
Pokémon Go as example of active learning
Post industrialisation of education

Reaching a sense of equilibrium?

Reflective practitioner

Remedy for isolated eLearning

Wasp factory; isolation

Well how could that be, interesting discussion in exhibition

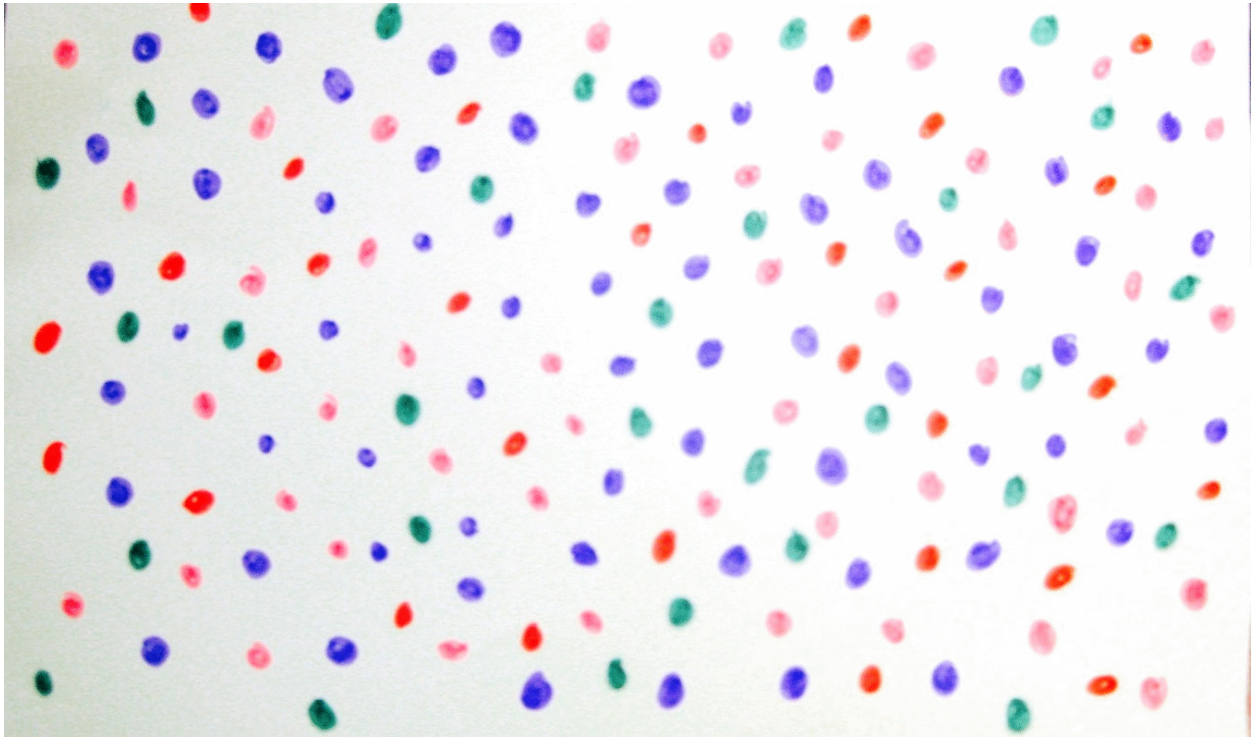
What happens to teacher?

What if...there were no job?

What resources are there to be balanced if measures on e-learning resources are open source?

White coat technician 38 years' experience

Why has government taken on parenting role in our lives?

Appendix item 10: School workshops – synopsis and screenshots from animations made by school pupils

Bertha - Betha, the driverless bus collects its passengers and delivers them right to their desk. Leaving very little need for physical activity. That is until the oldest teacher, Mr Thrump, refusing to ride on Bertha, stages an intervention to shock the mechanised school pupils into action. As a result, the pupils now walk to school two days a week.

By pupils at Balivanich School



Twinnie Trouble - Imagine having to study with your twin brother or sister right beside you? Getting muddled with your twin can cause loads of trouble. Especially in the future when everyone is born with a twin. It's like looking in the mirror and seeing your double! But no two twins are identical in character.

By pupils at Eoligarry School



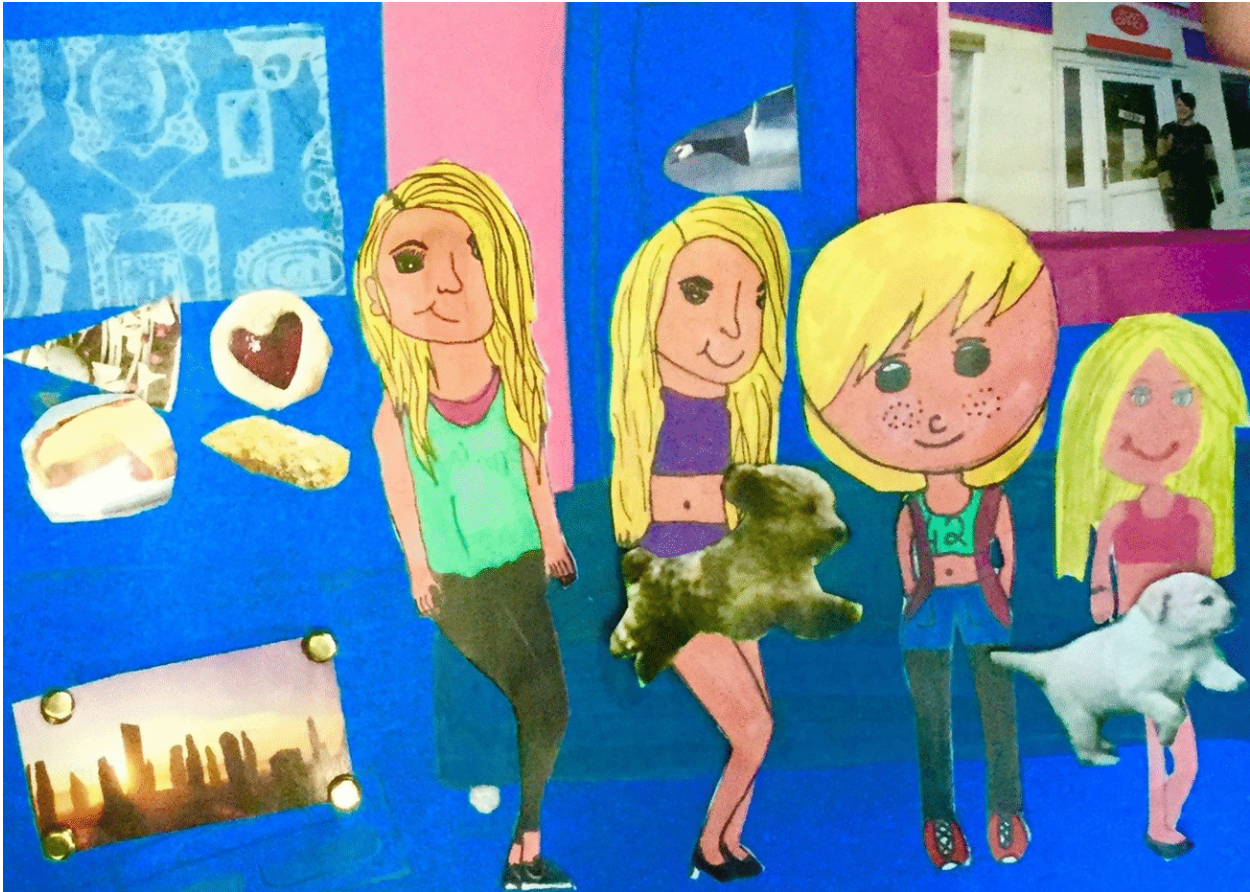
The Adventures of Bully Bot - What if there was a bot who fought against cyber-bullying? Bully bot helps keep virtual classrooms fair by monitoring pupils as they learn online. And if his sensors detect nasty behaviour he has a few tricks up his sleeve. He can cut bandwidth, cause buffering and putting a block on our favourites.

By pupils at Balivanich School



E.R.P. - What if a robot replaced your teacher? Electronic Robotic Prototype, Erp for short, is a robotic teacher. But it should learn from the kids before any teaching can start. The pupils at this school have a special dialect, unique interests plus a nasty problem with a bully to contend with.

By pupils at Balivanich School



Friends - What if you could learn from home? How would you make friends? Here is an online friendship world where your avitar can build friendship groups, adopt pets and hang out.
By pupils at Daliburgh School



It's Complicated - The politics of friendship groups don't get any simpler in the future. With the ability of make friends all over the world, to be in multiple places at one time and even become your idol for the day...things can get complicated. Who is who and where actually is the real you?

By pupils at Daliburgh School



Misbehaviors - What if schools were more like factories, led by headmasters that worked their pupils hard and could make up the craziest of rules? In the Misbehaviors a group of pupils take control, led by the newest pupil who turns out to be more wolf than human. They soon realise its not an easy job!
By pupils at Eoligarry School



Nick’s School - In a time when children have to take care of themselves, Nick realises his friends are his family when they throw him a surprise birthday party. But its not easy to find his secret den in the forrest without the help of his dog. And what does every boy want for his gift, a round the world ticket of course. Visiting all seven continents in an afternoon!
By pupils at Daliburgh School



School of Rock - What would you re-name your school if you had the choice?
By pupils at Eoligarry School

Appendix item 11: Openschool.co – outputs from project platform for school network

The brief is to design a website for the PhD research project. The website will serve as a platform for disseminating work made to date and shape future activities through the feedback/contact collected.

Key Facts:

- The website is primarily for teachers, learners and their supporters based in the Outer Hebrides. There may be some interest from educationalist/policy makers who are concerned with the process of change in schooling and other ‘remote schools’ across Highlands and Islands.
- The 3-year project shall be at its mid-way point in June 2017, the website needs to have a first review of visitor analytics by September 2017 in time for Progression and An Lanntair proposal
- The funding is provided by Creative Futures Partnership (CFP) and Comhairle nan Eilean Siar, the local authority in the Outer Hebrides, who are leading the educational pilot eSgoil. It provides online resources for Gaelic Medium Education (GME) to Senior Phase pupils and shares some research aims with Transformative Schooling.
- Other online engagement shall run with the launch of the site, including twitter, glow and monthly newsletter in order to draw people's attention to content

Content planning sheet can be viewed here:

https://docs.google.com/spreadsheets/d/1kenS91OTWtWQx8mLZ-u813ZZpyAW71fRd_djaNlojTk/edit#gid=0 also see extract below.

Page Name	Section	Content	Notes
Home	#1	H1: Designing New Schools of Thought H2: We are a creative collective of learners and teachers who are thinking about the future of education. [Link to About]	
Home	#2	H1: Projects H2: Open School is our meeting space, we welcome you to join the conversation and take part in the project work. Here is a taster of our latest activity... H3: Photography and Illustrations by Fiona J. MacLellan [3 x blocks for samples of recent project work]	
Home	#3	H1: Recent Posts [2 x latest posts pulled from blog]	
Home	#4	[twitter]	If possible can I have recent tweets visible on homepage in this section? and a follow CTA, also I could drop the logos right down to the bottom of the footer because i dont want them to take up too much room on home page
Home	Footer	H2: Here are a few ways you can join the project. [Block 1] Sign up: Join the project database to receive monthly newsletters with updates on recent activity and developments. [Block 2] Take part: Follow this link to find resources to download and help you to take an active role in shaping whats next. [Block 3] Upload: Add in your contributions to the growing body of work, this will help to seed new ideas and inspire next steps. [Join CTA] [Logos]	
About	#1	[Animation in banner adding text to end of url]	
About	#2	H2: Open School is a network H3: Created as part of a PhD research project in 2016. The project came about in ans - What educational traditions should we hold on to? - How can we collectively envisage alternative systems for schooling? - What will the role of a teacher be in the future?	(still to provide about text for profiles, new school manifesto prototype, acknowledgement for project funders)
About	#3	H2: With thanks to H3: Open school would not be possible without the generous funding and support provided by our project partners. [Block 1] GSA: Glasgow School of Art... [Block 2] CES: [Block 3] HIE:	
About	#4	H2: The Team [Block 1] Fiona: [Block 2] Teachers: [Block 3] Pupils and their Supporters:	

About: Acknowledgements:

The Glasgow School of Art, or GSA, is Scotland's only public self-governing art school offering further education and research in architecture, fine art and design. A three-year scholarship and stipend has been

awarded to this Ph.D research project by GSA's newly founded Highlands and Islands campus. With thanks to the invaluable support and supervision from faculty and cohort members.

Comhairle nan Eilean Siar is the local government council for the Outer Hebrides. This project has been supported by the Department of Education and Children's Services, in particular the eSgoil project team and associated schools. Kind regards to the school networks for their generosity of time and ideas.

Highlands and Islands Enterprise (HIE) is the Scottish Government's economic and community development agency. HIE have strong connection with GSA's Highlands and Islands campus, the Creative Futures Partnership has provided generous funded to this project and continues to provide opportunities to the region for further collaborations amongst communities.

About: The Team:

Project Lead: Fiona Jane MacLellan works in close liaison with all those involved in the project. Her family originates from a croft in Mallaig Bheag and she is now based in Glasgow with her children who are in Gaelic Medium Education. With over 10 years experience in design research she is committed to bringing about change through collaboration.

Educators: It was teachers who shaped early ideas of building the Open School Project, and their voices remain central to imagining and sharing preferable futures in education. Schools and affiliated organisations across the archipelago of the Outer Hebrides are involved in the discussions since 2015, be that through walkshops, workshops or online.

Learners: Involving learning in discussion of service design is key to the Open School Project. For over the last year classrooms have been taking on challenging questions with a problem solving mindset. Creativity has been bouncing off the wall and time has been flying with 100+ school pupils from primary and secondary schools across the Outer Hebrides.

Blog post #1: GSA Highlands & Islands Campus

The Glasgow School of Art has established the Creative Campus in partnership with Highlands and Islands Enterprise. With the campus situated in the Forres, Scotland, it presents a unique opportunity for transformation through research and co-creation. As well as through the development of capabilities to sustain innovation within the remote regions of the Highlands and Islands in Scotland.

The Creative Campus is positioning its research around themes generated by the concept of *Innovation from the Edge* and through creative capacity it aims to use design to stimulate socio-cultural and economic renewal. Each research project is individually led but exists within a network of other researchers. Together, this cohort is pioneering academic research through practice-based research at the Creative Campus distributed throughout the Highlands and Islands.

Residency / Winter School 2016

The cohort hit the ground running in January when we, together with design students from Cologne and Copenhagen, journeyed to Forres for The Glasgow School of Art's first annual Winter School. The school saw our founding steps into Ph.D's and Master

of Research study. Our first session together were spent examining shared thematics, and through those our relation to each other. Over the course of two weeks, we followed speakers from a plethora of disciplines, including Malcolm Maclean of UNESCO, exploring critical questions regarding island life, with a focus on the Western Isles. Discussions centered around how design innovation might address such topics ethically and collaboratively.

Residency / Spring School 2016

The second School of the year took place in Stromness, Orkney and saw us coming together under the theme of *Voices*. Together with members of the supervisory cohort, with Donald MacLean and Patricia Shaw, Katie Grant and representatives of Highlands and Islands Enterprise and the Pier Art Centre, we reflected on the voice of the individual, the voice of a cohort, the voice of a place as well as collective identity.

Residency / Winter School 2017

Winter School marks a one-year anniversary since the beginning of the Creative Campus. With the passing of a year there have been many milestones forged. The get together in Altyre Estate brought a multinational, interdisciplinary, gathering of 100+ dynamic minds. Winter School 2017 marked the first of a growing tradition for collaborative relations for Glasgow School of Art's Highlands and Islands campus. There was an excited energy amongst new faces and the 'locals' shared a sense of pride in opening up the door. The theme, *Innovation from Tradition*, was introduced by Prof. Irene McAra-McWilliam (OBE). This opened up ideas of contemporary archaeology around the customs of the region and its people. She was careful to promote a rigorous approach to creative expressionism, and set the ball rolling. There were the keynotes to kick off discussion in the morning, followed by streams of group work, workshops and surgeries, drilling down into specific interest areas. Topics included the future of social design education, the ethics of research, reflective journals and writing techniques. The event was rounded off in the tradition fashion, with a cèilidh. A first for many, but a great coming together that brought Winter School to a close.

Blog post #2: Learning Hubs (from Norway)

Plans are currently in development, backed by The Scottish Government, to launch Scotland's take on Norway's Newton Rooms. These learning centres across the Highlands and Islands shall see a focus on high quality, hands on experiences of science, technology, engineering and maths/digital (STEM/D). We spoke to Andrew Johnston (Highlands and Islands Enterprise), project director of Science Skills Academy about the development of the project.

The Science Skills Academy aims to build on primary teachers access to STEM teaching resources, particular to the Highlands and Islands region. Andrew shared a short video of primary pupils pointing out the benefits of project based learning/mentoring and interdisciplinary approaches. One primary pupil commented on why she had enjoyed the project and opened up her ideas of science: "I have seen senior pupils who study science and met people who work in science." This builds on a successful learning model from Norway, supporting new learning experiences, in addition to that of the classroom, that build strong roles in the community and integration into the curriculum. We discuss Andrew's research trip to Norway earlier in the 2016 and its potential for remote communities in Scotland.

The Newton concept was launched in 2007 in Norway by First Scandinavia and is a development of the First Lego League, a global science competition involving activities such as building robots. The Newton concept is a project based approach to STEM education involving 50 Newton modules covering all stages of the curriculum, focusing on under 15's. They are typically made up of three parts: starting in the classroom with a 2 hour session with the teacher covering the introduction to the module then the class move to a Newton room to spend a day of hands-on, lab-based activities facilitated by the Newton room staff, this is then concluded through a follow-up session back in the classroom with the teacher. In 2016 there were 32 Newton rooms across Norway; the resources are funded by industry sponsorship, the staff are employees of the municipality rather than the school cluster which they serve. There are strong connections to the local community, each Newton room is built around a theme appropriate to the region such as renewable energy, fish farming and engineering.

Andrew pointed out some of the reasons why he believes the Newton concept was successfully integrated into teachers' methods and was having a positive influence on a child's education. He noted the continuity in branding and assurance that European Union approved funding provided, the strong role in the community and integration into the curriculum makes it a reliable and sustainable service model.

Recent Activity

The Science Skills Academy is currently in pilot phase. Its goal is to increase access for local young people to STEM learning, in order to support the growing opportunities in life sciences, renewable energy and digital technologies. The Scottish Government signed off a £3M funding grant on 30 January 2017. This will be used to fund the main hub and Newton Rooms in the Highland Council area. Click [here](#) for further reading, Alyn Smith writes in The National on how Nordic-inspired Newton Rooms will equip our experts of the future.

Out of scope:

Game online roulette machine shall select characters, date, scene and what if statement. Players can then fill out their 'vision' for future learning and teaching scenario.

Infrastructure map is an interactive infographic depicting the change between 1950-2050 in sea, road and internet access for the Outer Hebrides. With comments feature.

Taxonomy of Digital Learning is a series of illustrations that builds on that of Bloom's Taxonomy. With comments feature.

Motivation of Learn is an empirical dataset of opinions of senior phase school pupils forecasting around subject choice, teaching resources and job prospects in the near future from an island perspective. With comments feature.

Add Your School Profile A template will provide other schools the opportunity to upload their data to collection. Profiles include the secondary schools: The Nicholson Institute, Sir E Scott,

Esgoil and CastleBay. Primary schools include: Daliburgh, Balivanich and Eoilgarry. Closed schools include The Studio, Museum and Shop.

Appendix item 12: Futurescapes

A series of three speculative future fictions set in the Outer Hebrides in the near future

The centre for learning

On the School bus docking in autonomous learner heading to research hub, annual trip to museum of failure

Roofless classroom

Community learning initiative, points based assessments/community currency, food/energy farms, getting ready for collection day, multi-generational roles, reflecting on past discrimination to stage based learning

Eachoneteachone

Retired teacher sharing reflecting on the death of the profession to group of young 'pupil' no vocab needed omniscience ultimate goal

Appendix item 13: Educational Futures Brief Generator

	A	B	C	D	E	F	G
1	This is your brief.	Fast forward to 2050,	and you have been assigned the role of disrupter.	You meet Barry who works in learning support,	but feels like all solutions have already been tried.	How can we make learning meaningful?	Try to come up with a solution that is local.
2	This is your brief.	The year is 2030,	and you need to make a difference to this island.	You meet Toby Hughes who is running for local council,	but feels like something needs to change.	What kind of service would help here?	Try to come up with a solution that is self-sufficient.
3	Can you help out here.	It's 2025,	and you have decided to live remotely.	You meet Ruth, a single parent of twins aged 13,	but comes from a low income home.	What will be the best way to work together?	Try to turn things on their head.
4	Here is your design challenge.	The year is 2030,	and we are rural changemakers.	You meet Miss MacDonald who teaches primary 1/2/3,	but comes from a low income home.	So, what will be the top priorities here?	Try to consider the new priorities of our time.
5	Can you help here?	Fast forward to 2050,	and we want to innovate away from the city.	You meet Beth, who is just about to start secondary,	but feels stuck.	What will be the best way to work together?	Don't forget the environment.
6	This is your brief.	The year is 2030,	and we are in a learning centre.	You meet Harry, a school pupil in his final year	but doesn't have a clear next step.	How can we make learning meaningful?	Don't overlook the obvious.
7	Here is your design challenge.	Fast forward to 2050,	and you are joining a new community.	You meet Pete, who has just left school,	but wants to break away from the system.	So, what will be the top priorities here?	Don't forget the economic climate.
8	Can you see a solution?	It's 2025,	and we are working with an online class.	You meet Toni, in her first year at school,	but is lacking in motivation and confidence.	What kind of service would help here?	Don't forget the priorities of the next generation.
9	This is your brief.	The year is 2030,	and you are moving to an island.	You meet Janice , who is in her 70s with plenty of free time,	but feels like all ideas have already been tried.	So, what will this future look like?	Try to come up with a solution this is global.
10	Can you see a solution?	It's 2025,	and we are all policy designers.	You meet Mrs Wallace who is a the head teacher,	but wants to break away from the system.	So, what will this future look like?	Don't forget the polical landscape.

Full set of provocation is available to view here:

<https://docs.google.com/spreadsheets/d/1ZNakMVAf5r5l74b784FCI7AX77t15jEhQYdD2jvkQFs/edit#gid=1796529686>

Appendix item 14: Dear future form

Share your aspirations: what would be the big difference, what would you keep the same?
A Scotland without Poverty A Scotland of Equality A Scotland of No Homeless People A Scotland of Peace A Scotland of Values of Social Justice and Inclusion Keep and develop A Scotland of Communities where Human Values are at the core of day to day life. People before Profit.
We would like iPad desks in classrooms as this means we would all be able to learn ICT skills more often and more quickly. It would also save trees and the environment if we stopped using paper.
We would like to see self drive cars and buses which would stop fuel emissions and save the environment. We would like to see robotic assistance for housework as this would help people who are not able to do it themselves.
We would like to see sorting-lorries for all recycling products so we don't have to separate them ourselves. This would stop any mistakes and more people would recycle.
We would like to see meat and/or animal products produced in labs so that we can save more animals.
Dual the A75 and A77 from the Loch Ryan Ports, to meet up with the other motorway network
The big difference would be that more schools, if not all, would be like the 'Agora' school in Roermond, Netherlands. At this school learning not teaching is the focus and the students are central to everything that happens. As a teacher and parent, Agora is currently my dream school! I just wish I could be part of a new school like it in Scotland!
https://medium.com/pi-top/meet-the-school-with-no-classes-no-classrooms-and-no-curriculum-7cc7be517cef
I would love to see a Kindergarten stage in Scotland for children up to 7. I would like to see a greater emphasis in all settings on the importance of play especially in the outdoors. I would like to see a stronger focus on wellbeing including tools to support anxiety, depression etc. I would like to see less testing of young children. I would like every school to be ACE aware and put connection and relationships at the centre. No more punishment. Children are our future and they really need invested in.
Smaller class sizes and floating pupil support assistants to help children who require support without necessarily being 1:1.
The most important element of our future education system is relationships. Getting back to basics, showing compassion and kindness where everyone who works with children and young people is trauma informed, where they understand all behaviour is communication. Staff who have a full in depth understanding of brain development in line with new up to date neuroscience research. A curriculum that puts wellbeing at the heart of everything. If we work together to look after health and wellbeing, we raise

attainment. A curriculum that focuses on play in early level CfE staff who value play and understand its importance. High school staff who listen to young people and understand them.

Empathy – anti-bullying – use of technology for the greater good for a more economic and cleaner way of living. Use technology for good management of life to free up time for personal time, family, friends and leisure. Share and effectively encourage jobs growth throughout Scotland’s beautiful towns and villages and lessen the glut of city capitalism. An education system that empowers learners, no matter what their background and instils in them the ability to think and act for themselves and acknowledge peer pressure, but to have the confidence to make their own choices and learn that it is okay for people to make their own choices and be different; as long as they are not hurting themselves or others. A society that embraces all cultures, races, sexuality, mental and health issues – so that government doesn’t have to be involved and single out any of these characteristic over others; to try and make this point – embrace being human first and foremost and that the sanctity of life is a gift with all sorrows, pitfalls – happiness and freedoms to live it; within a society that gives and takes equally. Create better all sector managers of the future, who see people as human beings and have the skills to develop workers of the future without embittering or embarrassing them. A society where people make good choices about their own health and well-being and are equipped to do so, but equally accountable if they don’t. A better justice system, where people are actually made to payback to society – more money is definitely needed in these areas of high anti-social crime as current community services struggle to make any differences to offenders or the areas that suffer anti-social crimes. A Scotland were people feel good about themselves and in doing so, try to help others to do so; if needed – by 2040 all Scottish people can be empowered to be highly operational, performing, engaging, effectively communicating, caring, sharing and loving society.

Appendix item 15: Futurescapes
Gach Aon, Teagsaig Aon

Written by Fiona J. MacLellan, 2018, as part of a suite of future fictions, inspired by visions from school pupils and teachers in the Outer Hebrides. Set in 2030.

He wakes and notices that in his dreams they spoke in Gaelic. The AI had not yet become an expert in the accents yet. Instead, as he came to, the metallic version of his mother tongue filled his mind. Rubbing the spot behind his ear where he had had it removed, he thought about how the language implant had made everyone's voice and tone somewhat metallic. Translation was become a political power. What was once seen as an enhancing technology has not been maliciously used to subtly plant doubt fear and unrest in the middle states mind.

His relationship with his father had become difficult since his choice to leave. But he knew he wanted to walk in the shoes of his ancestors and hear them with a new understanding. Learning the language was one thing, having the implant to process and translate was another. His decision to leave and join the movement to the northwest did not go down well. He was heading to where language and learning was a living breathing experience, to his father, this was too far. Static and preconceptions are getting in the way of understanding. Echo and bias are causing a lack of understanding.

First, he would need a new name. He had seen Earsaidh far back in his family tree, but then in 1880s it disappeared. He considered how this had coincided with the Scottish Learning Act (1872), where primary state schooling has first become compulsory. This had taken its time to move north, but soon all children were going through school doors on the sound of the morning bell. Teaching was held in English, Gaelic was not permitted in schools. This was accompanied by a syllabus informed by centralised histories and ritualised reading, writing, and arithmetic, or the three R's.

Earsaidh was heading north, to a movement that seeks to refresh our past histories and empower the narratives that were once suppressed. It was his belief that if too much speak the through the implant, language was lost, some things must be passed on by hand and mouth. In the northwest the machine, the middle man, is being cut out of the equation to save interference.

It is hard to imaging he just ate it all up. Took it at face value. Never questioning the source or the motivations of those who were behind it all. Earisaidh said it aloud, "xxx", nothing came out. The censorship chip was still taking effect. He knew he had to keep moving north. He had been told the blockers would start taking effect shortly but underwater drones where always a possibility.

-

They are walking, going from place to place and hearing about the significance of the place names. The narrative of the land is given voice. Words from a time gone are full of new meaning. He considered the malice with which the language was cut from the land. Language ties itself to a place. Huge populations have turned to the implant. But here there is a silent language which is mobilising new energy, a coalition of power. Stories that are owned by the land and are shared between the extremes in ages of people. A 110-year-old walks with a 16-year-old and sings a song of her grandmother's words, words that connect the new with the old. Helping roots to form in this place, in an age of transitions.

He pulled up a chair, looking around he saw each was odd in their own way and he sat with a cumbersome stance. The filters were switched off here. Was he really about to do this, he imagined standing up and the thought made his head spin. Reminding himself that along with the constant hum there would be other reactions in withdrawal of the filter. But looking out the window he could see the green fresh growth, trees busting with fruit. Clearly the clean air was better for growth. He was pre-programmed to expect feedback, seeing himself on a scale of approval. He would have to do without this gratification, playing to his competitive edge. Could he find the teaching, unfiltered and without judgment from the centre, the enhances chance to connect, a new goal? What did his voice even sound like anyway? What thoughts were really his? He gazed out the window, it had turned dark and he saw his reflection looking back at him. Really looking at him. He stood and shared what he had to offer, it was enough to connect.

There are different ways of thinking about the learner, the teacher, and the exchange of knowledge; every person can both learn and teach; everyone is a learner; everyone is a teacher; learning is for everyone; teaching is for everyone. Thinking about education in this way removes the power dynamics around the handing down of knowledge or the acquisition for it.

Centre of Learning

Written by Fiona J. MacLellan, 2018, as part of a suite of future fictions, inspired by visions from school pupils and teachers in the Outer Hebrides. Set in 2030.

Standing on a cliff edge, I watch the constant conflict between land and sea. Deep blue changing to a soft mist, as waves break on the shore. A fluid edge that shifts with time. A pulsing vibration comes from my pocket to interrupt my thoughts; my 10 minutes must be up. 50 minutes connected to the network, 10 minutes unconnected. 50 minutes to listen in and upload my response, 10 minutes to stop. 50 minutes, 10 minutes, 50/10, 50/10, 50/10, 50/10, the rhythm of my day. I take a second to work out how it all relates. My project is about power consumption, supply, and demand. It is a loop, and somehow, it is all around me.

An incoming message: “Tuesday 26th March 2020, Slot 2, new notifications 3, are you ready?” “Yup.” “I’m sorry, what was that?” Its windy, I should say it twice, “Yes.” “Notification 1 of 3: George has uploaded a response, 12 and a half minutes listening time”. I can listen to that on the bus over, “Push to slot 2.6.” “Complete. Notification 2 of 3: Query from the front desk, your ratings for yesterday’s discussants are now due” “Push to tomorrow” “I’m sorry, invalid response, how about slot 4, you will be docked by then?” “OK, next?” “Notification 3 of 3: recorded message from mum, “Hey, just a quick one, the new lambs have all found their feet, can you sort dinner tonight and I haven’t forgotten that we need to talk about Canada, love you, bye”

It all washes over me, somehow dealt with, that is apart from Mum saying we need to talk. I do not know how that will go, it fills me with worry. I have some time before the bus arrives. “Search for free discussant: wave power, Norway, community led. Record: “Hi, my name is Sophia, based in Lewis, I am in my doing my self-elected and need to do some international case studies. Hope you can help me! In exchange, I have loads on new farming methods to share. Early slots any day. Bye.” End recording and upload to discussant search. Notifications on. Raising the frame, I capture a still to add to the request. Send. A bus pop up appears; I confirm my route and book a seat. As I turn my back to the sea, the wind whips my hair over my face. I start scanning the winding road for a sign of the bus, should be due any minute. I wonder if Sue got all the kit in time for today’s lab.

The bus pulls up just as I arrive at the road and the doors open. A cloud of warmed air meets me and I step up. Scanning my pass, I select my route to the blue lab on the pad, journey time 23 minutes. I accept... I will get there in plenty of time for slot 3. I will be joining Sue, George, and the others to monitor the growth of our seeds and set up the next phase of our experiments. We have been considering some raw methods and I reckon we might have the right combination of seed, feed, and soil.

Taking an empty pod, I dock in and look out the window while the screen loads in front of me. I can take in the view. The bus has 8 passengers – an international family studying the bends and turns, three old women connected by free bus pass but with very different handbags, a young weathered guy who looks like he is too hot, and myself. Each taking up separate pods, no one talks, our glances sometimes unintentionally crossing as we scan around the bus windows. The road is uneven and winding, unpredictable. The way punctuated by small settlements with signs offering BED & BREAKFAST, hot rolls, take away coffees, points of historical interest, veterinary services, jewellery for sale and car mechanics.

My eyes lock on my screen. At some point, I notice Mr Richie’s bar is glowing green, taking a bite of apple, I swipe to join his room. “Hi Sophia, thanks for joining. Did any arrive in the

night?” “Hi everyone, yes two from the same ewe, which brings us over last years’ total” “And still two weeks to go! Okay, let us get back to it.” I read the notes and see a joint order for lambs’ jackets to be made through the network is in the discussion feed. With low average temperature forecast and a lack of indoor feed, they will be needed, I move 6 credits to the pot. There is also an application coming together for butcher training. I load up the prep-videos and jump to where I left off yesterday. The bus rumbles on. Sitting in the lab, I add data to our log sheet. When I get to levels of magnesium my monitor starts to pulse then I tap to turn on rest mode. The glow on our faces fades and as I look up I catch eyes with George. “Let us go get soup from the hall, I am trying to save money for tickets to next weekend show. Have you heard? They are from Canada. “George knew that I was thinking about moving there to join another project in the network. My stomach turned with nerves and I thought about the application on my dock that I could not seem to finish. I wanted to go, I had so much to learn for labs out there but it would mean leaving Mum and the farm and through the winter too. It must have shown on my face.

“Why don’t we go through your application in slot 6?” The busy hum of the hall starts to rise as we walk through the sliding doors. I scan my pass and select pea soup from the pad; we head to our seats, collecting our steaming bowls from the belt as we pass.

Roofless Classroom

Written by Fiona J. MacLellan, 2018, as part of a suite of future fictions, inspired by visions from school pupils and teachers in the Outer Hebrides.

‘For better or for worse, it is the producers who shape the landscape, and we create the demand.’

She considers what was worse, that they are having to retreat further and further in land. Or, what little land they have left was becoming more manufactured.

Our Manifesto: An Island for Tomorrow

Turn off, and tune out,
Disconnect so you can connect.
Keep it small,
In knowing one another, you know oneself.
Say within the schools means,
While planting seeds for future generations.

Care is our currency, and we all gather round the table to divide the tasks. We do not have any need for their services, but they need us. We are the blip in the map on their data charts.

If we want this school to run, we must run it ourselves. We divide our time with one another, the clan. Under one roof. There is no return process to the norm, they do not allow it. Or have not yet. Our different skills profiles must complement one another, this reliance on one another grounds us all. We are rooted in the tangible. The bricks and mortar leave no room for false facades. This way our palette comes from the land. We need to eat sleep live breath our school. Without us it would not stand.

The true sign of civilisation is when a person plants a tree, in the knowledge they know they will never rest in its shade enjoying its fruits. This means thinking beyond the parliamentary cycles, looking further and further. We look up to the cosmos. Once the land goes we know there is some in the group talking of space over the mainland. Are we really a testing group on earth for the space station. Self-sufficient are skills we have had to look back to relearn, and now we know they will come to us to inform the next move.

At the heart of our school is the kitchen. There is an oven for communal use – we bake bread twice a day and each take it in turn to mill, knead, and cook, before eating together.

Appendix item 16: Teachers design workshop provocations

What if all pupils were allocated a mentor (from within or outwith the school) from a very young age?

What if all pupils had to do some volunteering work within their community?

What if teachers never gave homework?

What if we stopped measuring attainment through exams?

What if we staged mock job interviews with pupils in primary school?

What if all care for the elderly were carried out by robots in the future?

What if the school bell stopped working?

What if teachers had to wear a uniform?

What if suitability for a job depended on who you knew rather than what qualifications you had?

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Appendix item 17: Scotland's Futures Forum placement

The three phases would run as follows; phase I: January – March 2018, phase II: March – May 2018, phase III: July – August 2018. During which the phased work programme would cover the following aims and objectives.

Phase I: The output for this initial period would be an illustrative account of Scotland's Futures Forum. Built in close consultation with the head of the Future Forum; these would include information on the Forum's research area, collaborative network, key actors, and methods (see material on left).

Phase II: The second phase would take a more active approach, such as:

- Participating in Futures Forum activity, including supporting events and internal organisational meetings
- Designing assets to support in Futures Forum communication, including posters, event programmes, post-cards to collect feedback, post event surveys etc.
- Workshops: utilising design strategies and future research to collectively understand the Futures Forum core brand.

Phase III: Reflective outcomes could include blog posts shared amongst the SGSAH network around the experience of the placement. The placement outcomes and process could be shared amongst Glasgow School of Art's research community to raise awareness of the work of Scotland's Futures Forum and the benefits and/or pitfalls of collaborative research/knowledge exchange. With further engagement around the findings as they emerge.