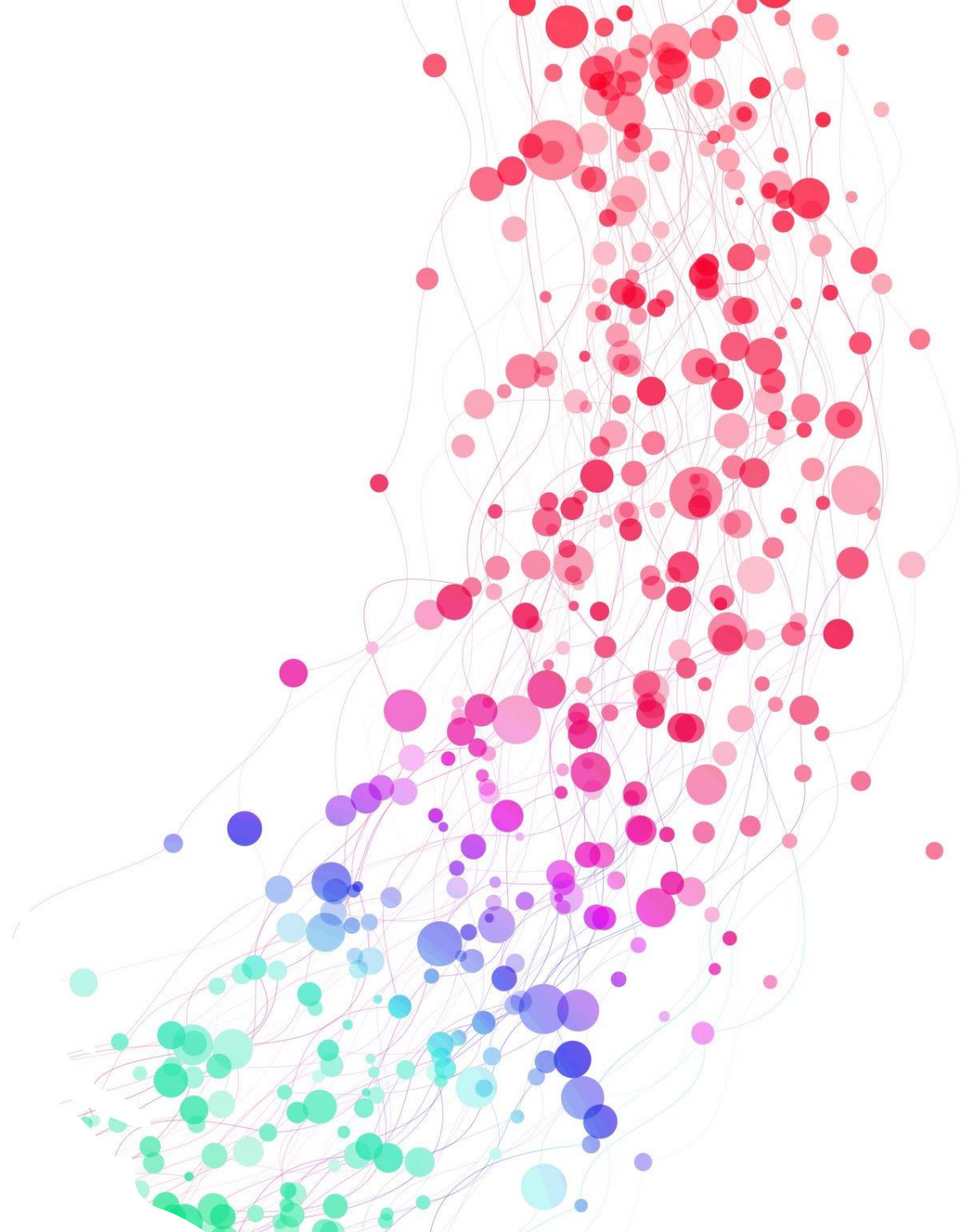


ECDE7012

Research Design and Management in Education



Module Handbook



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

MODULE HANDBOOK

ECDE7012

Research Design and Management in Education

Doctorate in Education (EdD)

LEVEL 7

Institute of Education and Humanities

2023 – 2024

Module Aims and Outcomes

Module Aims and Outcomes

This module builds directly from ECDE7002 and revisits some material in order to deepen and broaden research insights.

AIMS

- To plan and design a research project which improves and informs practice.
- To ensure that all ethical considerations are addressed during the planning process.

LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to demonstrate the ability to:

- Identify, through complex inquiry, an area of study which would be suitable for a substantial piece of academic research.
- Critically reflect upon the design and methodology required to engage with an academic research project.
- Clearly identify and critically reflect upon the ethical issues involved in undertaking an academic research project, particularly child consent in education research.
- Evaluate in depth the potential challenges of undertaking research within the specified area of study.

Dates and Times

DATES AND TIMES

Date	Time
18 th January	Session 1: IQ106, 10-4
25 th January	Session 2: AS305, 10-1
1 st February	Session 3: AS305 or online, 10-1, to be arranged individually
8 th February	Session 4: AS305, 10-1
22 nd February	Session 5: AS305, 10-1
Session in place of 29 th February	Session 6: online, to be arranged individually
7 th March	Session 7: AS305, 10-1
21 st March	Session 8: AS305, 10-1
11 th April	Session 9: IQ106, 10-4, individual tutorials as needed
Assessment deadline	Assessment components 1,2 & 3: Monday the 15 th of April by 23:59pm via Turnitin

Session Details

Sessions	Content
Session 1: IQ106, 10-4	Focus: Revisiting ECDE7002. Introduction to module ECDE7012: ○ The module content; ○ The expectations; ○ The assignment. Task 1: Consider the following: ○ Is your proposed research from ECDE7002 a project you want to take forward? ○ If so, what alterations might you make? Can you refine / develop / amend it? ○ If not, then identify an area of research interest that you want to explore in this module. ○ Consider the question: <i>What gap in knowledge or understanding will your research fill?</i> Key Questions for this session: • What is/are the gap/s in knowledge or understanding that the research project seeks to fill? • What is/are the research question/s that will address these gaps? • What is the nature of the knowledge or understanding to be generated? Task 2: Are you able to answer the following questions? • What is the area of research that you want to explore? - a research problem being addressed? (What? Why?) • Do you have ideas of research questions? • Do you know what your research methods will be? (How? Why?) • Do you know what your research paradigm might be? (Why?) • What perspectives and experiences do you bring to your research that might influence the outcomes? • Is there any further reading that you need to plan for? • What are your expectations for this module (ECDE7012)? Task 3: Draft a diagrammatic outline of your research design. This might take the form of a flow diagram, a timeline or a table. It should show the research activity of the project and, where needed, indicate where there are dependencies (for example, when the outcomes of a survey will inform the question design for an interview). Show this on a PP slide <u>or</u> on a piece of paper in order to present to the class.

Follow up thinking tasks

Follow up thinking task:

Consider Assessment Component 1: Your Research Study.

- What is/are your research question/s?
- Will you choose one or more of the questions that you discussed in your ECDE7002 assignment? Or will you create completely different questions?
- What are the aims and objectives of the research?
- Is there more literature that you need to read before writing your research questions?
- If not, how has the literature led you to form your research question(s)?
- Do you hope to fill a gap in the current literature?
- Are you taking the research of another author further within your own context?

Assessment



Submission Date

Monday the 15th of April
23.59pm



Assessment Component 1

40%

Written Assignment: 3200 words

Select an issue in education that you wish to explore.

Present a short literature review to justify why the issue is important to the community.

Establish clear research question(s), aims and objectives for the research.



Assessment Component 1: Suggested Structure

Assessment Component 1

Select an issue in education that you wish to explore. Presenting a short literature review to justify why the issue is important to the community; establish clear research question(s), aims and objectives for the research.

Written Assignment: 3200 words

Suggested Content	Approximate Word Count
Aim, focus and purpose of the <u>research</u> What is the purpose/aim of your research? What is the issue that you want to address in your research? Why are you interested in this? Why is the issue important? Who would benefit from the information that you intend to research?	200
Overview of relevant literature This section should be based on your research topic. It should consist of a discussion of key literature that relates to your study / research question. Remember to: • Summarise and <u>synthesise</u>: give an overview of the main points of each source and combine them into a coherent whole; • Analyse and <u>interpret</u>: don't just paraphrase other researchers. If possible, discuss the significance of the findings in relation to the literature as a <u>whole</u>; • Critically <u>evaluate</u>: mention the strengths and weaknesses of your sources, consider the author(s) and their expertise; • Write in well-structured paragraphs: use transitions and topic sentences to draw connections, <u>comparisons</u> and contrasts. You should refer to literature wherever possible.	1500
Your Research Study What is the relevance of the literature that you have selected to your own study? How has the literature led you to form your research question(s)? Do you hope to fill a gap in the current literature? Are you taking the research of another author further within your own context? What is/are your research question/s? What are the aims and objectives of the research?	1500
References	

Assessment Component 2

40%

Written Assignment: 3200 words

Describe and critically evaluate the philosophical/theoretical framework within which your research sits, justifying why it is appropriate.

Present a plan for an appropriate data collection process and associated analysis of the data, reflecting on its strengths and limitations.



Assessment Component 2

Describe and critically evaluate the philosophical/theoretical framework within which your research sits, justifying why it is appropriate. Present a plan for an appropriate data collection process and associated analysis of the data, reflecting on its strengths and limitations.

Written Assignment: 3200 words

Suggested Content	Approximate Word Count
Research Context Opening sentence - What is the purpose/aim of your research? What is the issue that you want to address? What is your research question?	100
Research Design / Methodology This section could include: Within which research paradigm are you working? Why does this matter? Epistemology / Ontology – What do these words mean? How/why are these things relevant to your study? Are you working within a specific research paradigm? e.g. a positivist / constructivist / interpretivist paradigm? Are you using a quantitative / qualitative / mixed-method approach? Why? Does your choice of paradigm have an impact on the approach to data collection that you will take? You could also discuss researcher positionality in this section. For each element, justify your choices by citing literature. You should refer to literature wherever possible.	800
Research Methods / Tools Write about the research methods that you have chosen that will give you sufficient data to answer your research question. Explain your observation schedule / interview questions / questionnaire questions / other method. Have you used a specific structure? (closed or open questions, tick boxes etc.); a specific scale? (e.g. Leuven) For each method , discuss these points, justifying the choices that you have made: - What does the research literature tell us about the method? - What are the strengths and limitations of the method? You should also discuss: *Sampling *Ethical Considerations	1300

Assessment Component 2: Suggested Structure

You should refer to literature wherever possible.	
Data Presentation and Analysis Method(s) Explain the method(s) that you will use to report your data. Refer to relevant literature to support your decisions. For each method , discuss these points, justifying the choices that you have made: - What does the research literature tell us about the method? - What are the strengths and limitations of the method? You should refer to literature wherever possible.	800
Conclusions Critically examine the work that you have planned for your research <u>study</u> ; for example: - Do you think that the methods of collecting data are reliable? - Do you think that the methods of collecting data are valid? - Do you think that the findings would be generalisable?	200
References	

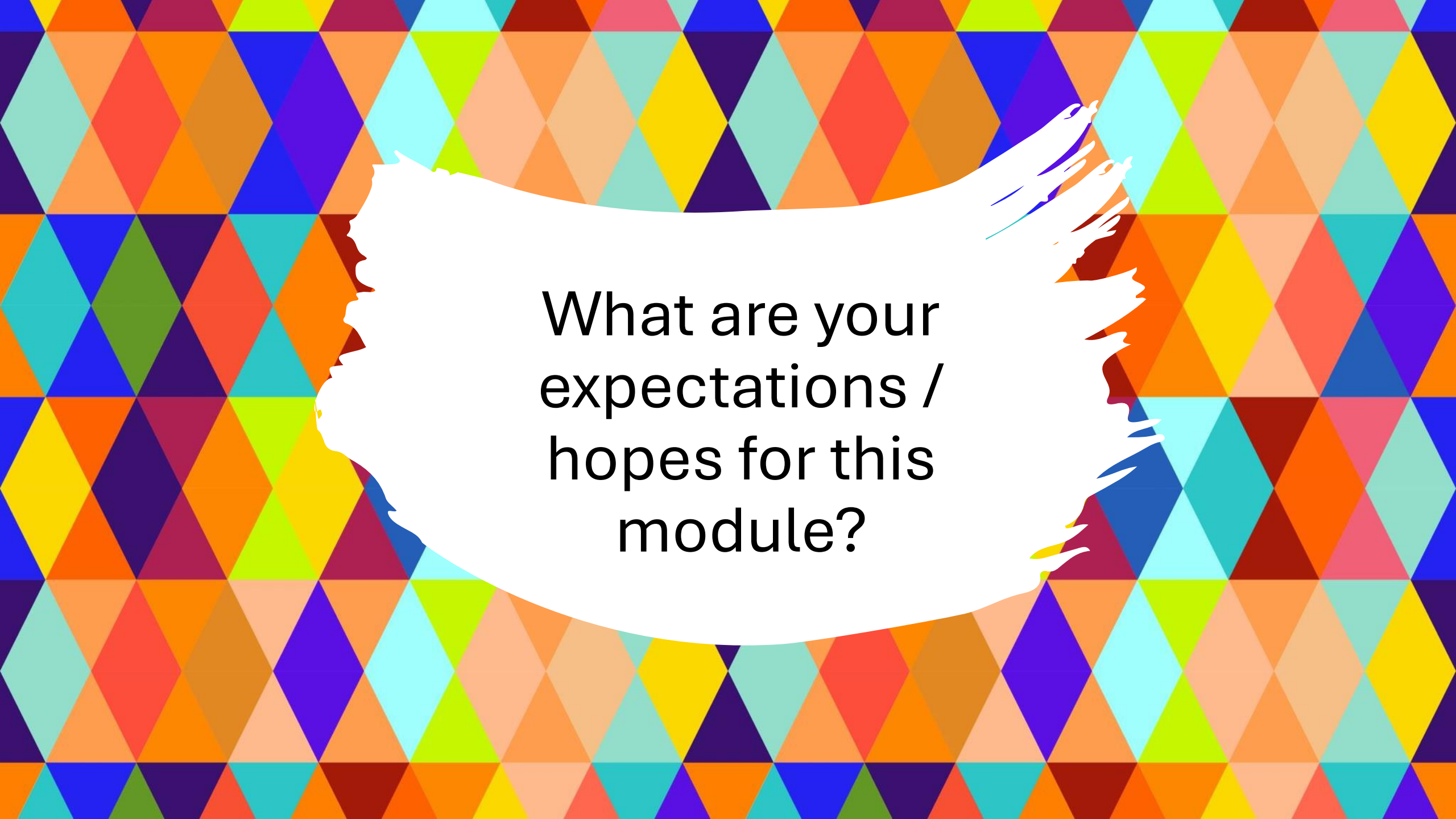
Assessment Component 3

20%

Written Assignment (1600 words equivalent)

Complete a draft of the UWTSD Ethics Form for your proposed research project.

Ensure that you consider consent /assent processes for **all** your participants.



What are your
expectations /
hopes for this
module?

The background is a vibrant, abstract composition. It features a series of overlapping triangles that create a sense of depth and movement. The colors transition from a bright cyan at the top, through green, yellow, and orange, to a deep purple at the bottom. Scattered throughout the geometric shapes are numerous small, semi-transparent circles and dots in various colors, adding a textured, bokeh-like effect. The overall aesthetic is modern and digital.

Today's Session

Key questions for this session:

- What is/are the gap/s in knowledge or understanding that the research project seeks to fill?
- What is/are the research question/s that will address these gaps?
- What is the nature of the knowledge or understanding to be generated?



Key Questions

- What is/are the gap(s) in knowledge or understanding that the research project seeks to fill?
- What is/are the research question(s) that will address these gaps?
- What is the nature of the knowledge or understanding to be generated?

Why this, why now?

What makes you think this?

- What else do you need to know / to tell the reader?

Task 1

Consider the following:

- Is your proposed research from ECDE7002 a project you want to take forward?
- If so, what alterations might you make? Can you refine / develop / amend it?
- If not, then identify an area of research interest that you want to explore in this module.

Consider the question:

What gap in knowledge or understanding will your research fill?

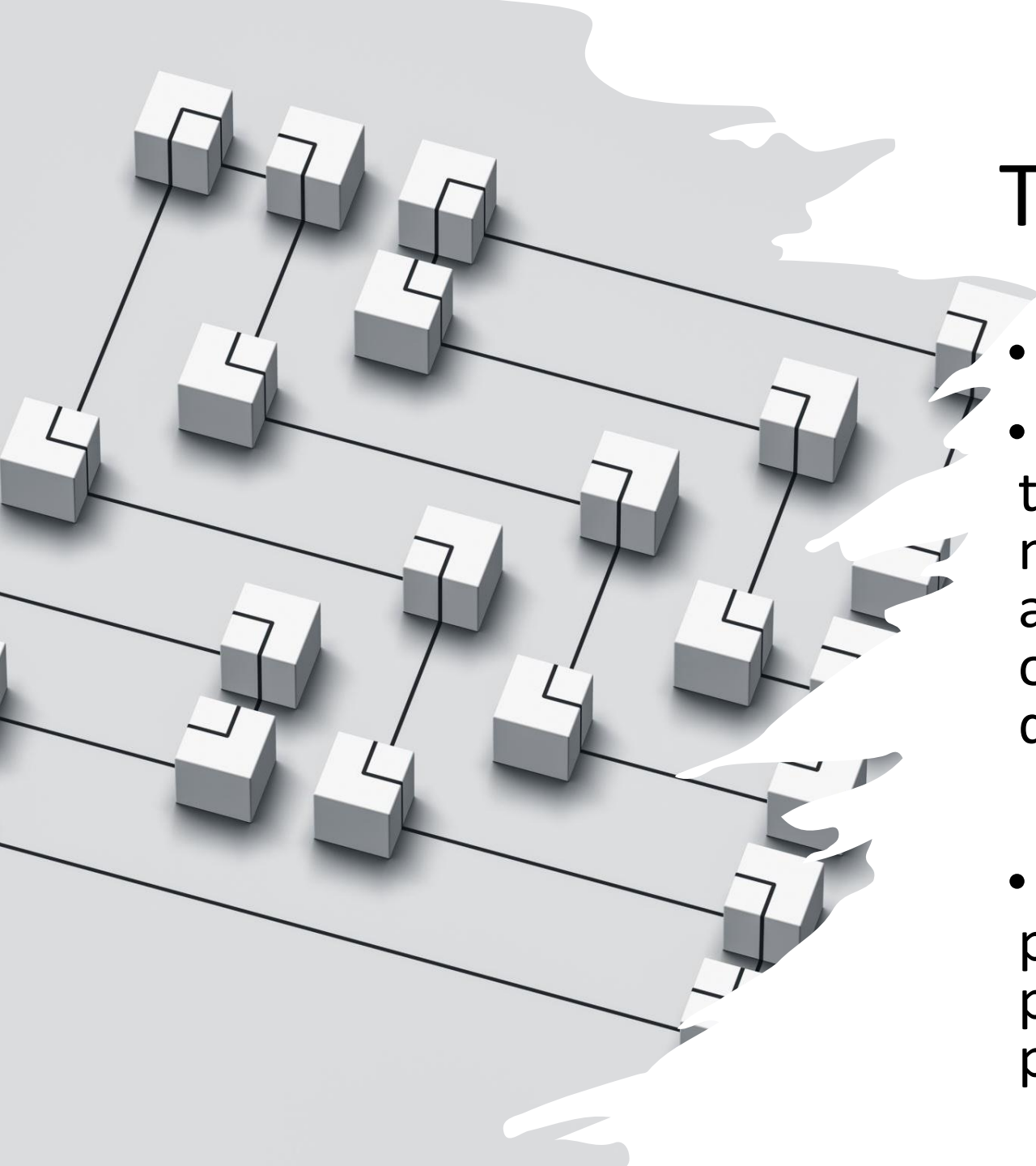




Task 2

Are you able to answer the following questions?

- ⌚ What is the area of research that you want to explore? - a research problem being addressed? (What? Why?)
- ⌚ Do you have ideas of research questions?
- ⌚ Do you know what your research methods will be? (How? Why?)
- ⌚ Do you know what your research paradigm might be? (Why?)
- ⌚ What perspectives and experiences do you bring to your research that might influence the outcomes?
- ⌚ Is there any further reading that you need to plan for?



Task 3

- Draft an outline of your thinking so far.
- It should show the research activity of the project and a timeline. Where needed, you should indicate where there are dependencies (for example, when the outcomes of a survey will inform the question design for an interview).
- Show this on a PP slide **or** on a piece of paper. Begin to construct a poster presentation as if you were going to present at a conference.

What is a poster presentation?

- Poster sessions typically take place in a large room where poster boards are set up and numbered and each presenter can hang a poster illustrating their proposal OR their results.
- During the poster session, conference attendees can wander around the poster hall to browse the posters. The presenters are expected to stay by their poster for the duration of the session so that other participants can come and listen to them talk about their work and ask them questions.
- Presenting your research at a poster session is a great opportunity, especially for early-career researchers who are less likely to be invited to give a longer oral presentation at a big conference.



Giving a poster presentation

- For a longer poster session, you might prepare a 5 minute oral summary of your work.
- For a shorter session you should probably cut that down to 1 or 2 minutes.
- If someone visiting your poster is interested in hearing more, they will ask you questions.

Giving a poster presentation

Your poster should be well-organized, with each section following clearly from the previous one, creating a visual path that tells a coherent story and ensuring readability.

Someone who is looking at your poster should not have to jump from one side of the poster to the other in order to understand your work.

Use colour to group text, graphs and images that belong together and numbers or arrows to indicate what comes next.

Giving a poster presentation

- A little bit of text goes a long way on a poster - the fewer the words the better.
- Posters with less text are more inviting and will draw more people.
- Don't forget that you will be there to explain your work, so there is no reason to try to include everything in the text.
- You can shorten your text by summarising sections with bullet points and highlight the key messages.

The background features several glowing, curved lines in shades of magenta and red, creating a sense of depth and movement. A solid blue horizontal bar is positioned in the upper left corner. The text "What makes a good poster?" is centered in a white, sans-serif font.

What makes a good poster?

Speak Up! Challenging Social Barriers in Classrooms to Empower Students

Aim : To explore and challenge gender boundaries in the classroom through interventions aimed at increasing classroom contribution, in order to facilitate the empowerment of students

Rationale : A noticeable lack of contribution to classroom sessions from female students, which this research aims to address. Social barriers to learning must be broken down to ensure optimal learning takes place. Science and society need empowered individuals who speak their mind.

Theories of Learning :

- **Maslow's Hierarchy of Needs** – creating safe environments to achieve self-fulfilment in students
- **Pestalozzi, Dewey** – education as a means of societal reform
- **Lev Vygotsky** – learning as an interactive experience

Methodology : [Anonymised Data]

- **Student Surveys**
To explore reasons for a lack of confidence
- **Group and Individual Tasks**
Encouraging extrovert, confident behaviour
e.g. *debates, presentations*
- **Seating Plans**
Implemented across classes (Chemistry, Physics), based on group profile
- **Feedback Questionnaires**
Taken from teachers to assess impact of seating plan on contribution and

Timeline:

Half Term

24th January 2017

- Finalise seating plan, based on group profile (in consultation with mentor)
- Recruit other lecturers across Chemistry, Physics etc. to adopt seating plan in their lessons

7th February 2017

- Conduct competitive, group-based revision quiz and insist on all members contributing
- Set research task to be presented first day back after half term

31st January 2017

- Implement seating plan across classes

Second half of Spring Term 2017 18th February – 7th April

- Continue data collection from teachers, across subjects
- Give out anonymised questionnaires to students to collect data about reasons for a lack of confidence in classes, amongst peers. *This should not be given out earlier in the event it alerts students to the conduct of this blind research. Additionally, if the measures taken are effective, students should be much more willing to talk about their experiences.*

Literature :

- *Introducing Research Methodology*
Uwe Flick
- *The Sage Handbook of Gender and Education*
Christine Skelton, Becky Francis and Lisa Smulyan
- *Introduction to Gender*
Gayle Letherby and Jennifer March

Good points?

Bad points?



WALT DISNEY - EPCOT



LE CORBUSIER, PLAN VOISIN

Architecture of the Future: How is this perceived and represented within popular culture?

MArch Architecture - Year 2 - Kimberley Dewhurst

OVERVIEW INTRODUCTION

The motivation for commencing this project is my deep interest in futuristic architecture and how it is perceived by the architect/designer and the people who live in it. In particular I would like to examine how this is represented within popular culture. For this project I will be looking at towns/communities and concentrating on residential buildings in particular, comparing examples which have already been built, proposed designs and examples within films set in the future.

Aims

- What is futuristic architectural design? Who wants it the architect or the client? Is there a difference?
- Do current examples of communities/towns designed for the future work? How/why are they seen as futuristic?
- How do these ideas compare to those within fantasy and film? Are they closely related? Is there scope for promoting good futuristic architecture?

Objectives

- I intend on finding out the views on futuristic architecture from the perspective of the architect/designer and the client. I will be using literature reviews and surveys to find out this information.
- To do this I will be choosing two case studies of existing communities designed for the future. I will be circulating a questionnaire and following up with interviews and observations of the town to assess how successful these examples are and how they may differ.
- Using a number of case study examples of films set in the future I will be assessing how the designer perceives the built environment in many years to come.

1. Current Examples (Built in UK)

- Green Street (Meadows, Nottingham UK)
- Poundbury (Poundbury, Dorset UK)

Research Methods

- **Case Study** - From the two case studies already chosen will then be used to collect primary research directly from the source.
- **Questionnaires/Survey** - This will be the first step in collecting my quantitative data. Through this method I will be able to get answers to direct questions.
- **Interviews** - Based upon the results of the questionnaires circulated around the community it will enable me to know whom may be interested in conducting an interview where I can ask more in-depth questions and allow the interviewees to talk more freely about the topic.
- **Interviews** will also be conducted if possible with the architects of the projects to get a more in-depth knowledge of the vision of the projects.
- **Observations** - Whilst conducting these questionnaires and interviews I will also be observing the community/towns access how successfully the town works in comparison to vision of the architect and the views of the residents.

2. Proposed Designs (Not Built)

- Walt Disney EPCOT, Original Vision. 1962 (Florida, USA)
- Le Corbusier, Plan Voisin 1925 (Paris, France)

Research Methods

- **Case Study** - From the two case studies chosen I will be conducting secondary research to analyse the theory behind these examples and to assess why these visions were not fully realised.
- **Literature Review** - As these examples were not built I will only be able to use existing literature to analyse these projects. I will then be able to compare the examples to those that have been built.

3. Films set in the future

- "Metropolis" 1927
- "Oblivion" 2013
- "Elysium" 2013

Research Methods

- **Case Study** - From the three chosen case studies I will again be conducting secondary research to analyse the problem of futuristic architecture set in the future. Here I will quickly be able to understand the differences between what has already been built, what has been proposed and how it is represented in a fantasy world.
- **Literature Review** - If at all possible I would like to find some published material about these films (This however may not be possible at two of the films where only released this year).

Good points?

Bad points?



PIGS IN SPACE: EFFECT OF ZERO GRAVITY AND AD LIBITUM FEEDING ON WEIGHT GAIN IN CAVIA PORCELLUS



SPACEEXES

ABSTRACT:

One ignored benefit of space travel is a potential elimination of obesity, a chronic problem for a growing majority in many parts of the world. In theory, when an individual is in a condition of zero gravity, weight is eliminated. Indeed, in space one could conceivably follow ad libitum feeding and never even gain an gram, and the only side effect would be the need to upgrade one's stretchy pants("exercise pants"). But because many diet schemes start as very good theories only to be found to be rather harmful, we tested our predictions with a long-term experiment in a colony of Guinea pigs (*Cavia porcellus*) maintained on the International Space Station. Individuals were housed separately and given unlimited amounts of high-calorie food pellets. Fresh fruits and vegetables were not available in space so were not offered. Every 30 days, each Guinea pig was weighed. After 5 years, we found that individuals, on average, weighed nothing. In addition to weighing nothing, no weight appeared to be gained over the duration of the protocol. If space continues to be gravity-free, and we believe that assumption is sound, we believe that sending the overweight — and those at risk for overweight — to space would be a lasting cure.

INTRODUCTION:

The current obesity epidemic started in the early 1960s with the invention and proliferation of elastane and related stretchy fibers, which released wearers from the rigid constraints of clothes and permitted monthly weight gain without the need to buy new outfits. Indeed, exercise today for hundreds of million people involve only the act of wearing stretchy pants in public, presumably because the constrictive pressure forces fat molecules to adopt a more compact tertiary structure (Xavier 1965).

Luckily, at the same time that fabrics became stretchy, the race to the moon between the United States and Russia yielded a useful fact: gravity in outer space is minimal to nonexistent. When gravity is zero, objects cease to have weight. Indeed, early astronauts and cosmonauts had to secure themselves to their ships with seat belts and sticky boots. The potential application to weight loss was noted immediately, but at the time travel to space was prohibitively expensive and thus the issue was not seriously pursued. Now, however, multiple companies are developing cheap extra-orbital travel options for normal consumers, and potential travelers are also creating new ways to pay for products and services that they cannot actually afford. Together, these factors open the possibility that moving to space could cure overweight syndrome quickly and permanently for a large number of humans.

We studied this potential by following weight gain in Guinea pigs, known on Earth as fond of ad libitum feeding. Guinea pigs were long envisioned to be the "Guinea pigs" of space research, too, so they seemed like the obvious choice. Studies on humans are of course desirable, but we feel this current study will be critical in acquiring the attention of granting agencies.

MATERIALS AND METHODS:

One hundred male and one hundred female Guinea pigs (*Cavia porcellus*) were transported to the International Space Laboratory in 2010. Each pig was housed separately and deprived of exercise wheels and fresh fruits and vegetables for 48 months. Each month, pigs were individually weighed by duct-taping them to an electronic balance sensitive to 0.0001 grams. Back on Earth, an identical cohort was similarly maintained and weighed. Data was analyzed by statistics.

RESULTS:

Mean weight of pigs in space was 0.0000 ± 0.0002 g. Some individuals weighed less than zero, some more, but these variations were due to reaction to the duct tape, we believe, which caused them to be alarmed push briefly against the force plate in the balance. Individuals on the Earth, the control cohort, gained about 240 g/month ($p = 0.0002$). Males and females gained a similar amount of weight on Earth (no main effect of sex), and size at any point during the study was related to starting size (which was used as a covariate in the ANCOVA). Both Earth and space pigs developed substantial dewlaps (double chins) and were lethargic at the conclusion of the study.

CONCLUSIONS:

Our view that weight and weight gain would be zero in space was confirmed. Although we have not replicated this experiment on larger animals or primates, we are confident that our result would be mirrored in other model organisms. We are currently in the process of obtaining necessary human trial permissions, and should have our planned experiment initiated within 80 years, pending expedited review by local and Federal IRBs.

ACKNOWLEDGEMENTS:

I am grateful for generous support from the National Research Foundation, Black Hole Diet Plans, and the High Fructose Sugar Association. Transport flights were funded by SPACE-EXES, the consortium of wives divorced from insanely wealthy space-flight startups. I am also grateful for comments on early drafts by Mafiana Athletic Club, Corpus Christi, USA. Finally, sincere thanks to the Cuy Foundation for generously donating animal care after the conclusion of the study.

LITERATURE CITED:

- NASA. 1982. Project STS-XX: Guinea Pigs. Leaked internal memo.
Sekulić, S.R., D. D. Lukač, and N. M. Naumović. 2005. The Fetus Cannot Exercise Like An Astronaut: Gravity Loading Is Necessary For The Physiological Development During Second Half Of Pregnancy. *Medical Hypotheses*. 64:221-228.
Xavier, M. 1965. Elastane Purchases Accelerate Weight Gain In Case-control Study. *Journal of Obesity*. 2:23-40.



Good points?

Bad points?

Complexity theory (Cohen et al., 2018)

The interconnected nature of the education ecosystem results in a complex understanding of the phenomenon *curriculum design* driven by lived experiences. Common themes include: culture, context, professional identity.

Research Aims:

1. Establish an understanding of the phenomenon 'curriculum design' within Curriculum for Wales guidance.
2. Fulfil an identified research gap (Roberts-Ablett, 2023) in understanding the phenomenon 'curriculum design' within the context of Curriculum for Wales.
3. To identify any potential risks to successful implementation of Curriculum for Wales through assessing any emerging gap between policy and practice in understanding the phenomenon 'curriculum design' within the context of Curriculum for Wales and ongoing curriculum reform.
4. To establish a theoretical framework for Curriculum for Wales that articulates the place of curriculum design within a process-orientated, purpose-led curriculum.

Epistemology: Constructivism

Knowledge is constructed and changes. Our understanding of curriculum design will be influenced by a range of factors and change over time. Dependent on experiences, experience, context, culture, professional identity.

Ontology: Interpretivism

Many interpretations of the phenomenon curriculum design influences these themes. There is no single truth. Participant interpretations and individual cognition of the phenomenon will be very different from each other and influenced by a range of factors, including a developing understanding over time as realisation of CfW develops.

Hermeneutic phenomenology

Insider status in policy and practitioner experience enables an understanding of the complexity within the phenomenon. The objective is to identify any gaps in policy coherence that pose a risk to the coherent realisation of Curriculum for Wales within Welsh secondary schools. fulfils an identified gap in focusing specifically on how current guidance reflects the policy ambitions of Curriculum for Wales.

Ethical considerations: insider status, generalist nature of civil service, civil service code and BERA guidelines.

Purposive sampling: Identification of 6 policy officials from questionnaire of all those working within curriculum reform of Welsh Government who are currently working within CfW policy and responsible for policy decisions influencing the lived experience of curriculum design. Boosted sample of those involved in pioneer process and experience of curriculum design.

Step 1: Linguistic phenomenology – analysis of the use of 'curriculum design' within CfW framework and guidance. Interpretive hermeneutic analysis. Identify key themes to support interview questions.

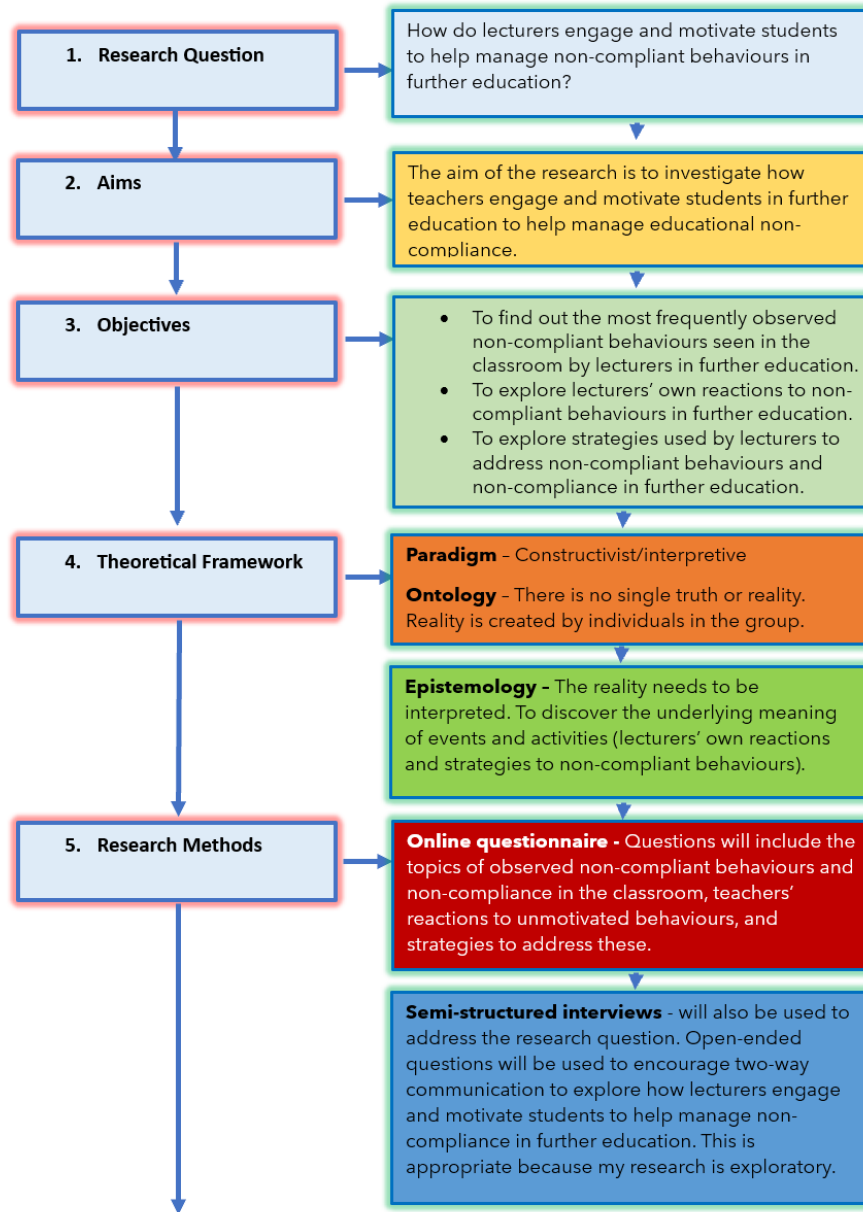
Step 2:

- a) Questionnaire – identify professional history and role within CfW policy making.
- b) Semi-structured interviews - 6 x 1.5 hr interview

Reflexive Thematic Analysis (Braun and Clarke, 2023)

6 phases: familiarisation, coding, generating initial themes, review of themes, refinement and naming of themes, writing up. (Analytical sensibility – reflexive journal supporting inquiring and interpretative position – bracketed phenomenology)

Research Design



Follow up thinking by next week:

Follow up thinking task:

Consider Assessment Component 1: Your Research Study.

- What is/are your research question/s?
- Will you choose one or more of the questions that you discussed in your ECDE7002 assignment? Or will you create completely different questions?
- What are the aims and objectives of the research?
- Is there more literature that you need to read before writing your research questions?
- If not, how has the literature led you to form your research question(s)?
- Do you hope to fill a gap in the current literature?
- Are you taking the research of another author further within your own context?

See you next week!

Remember that we will
be here:

AS305

10-1

