

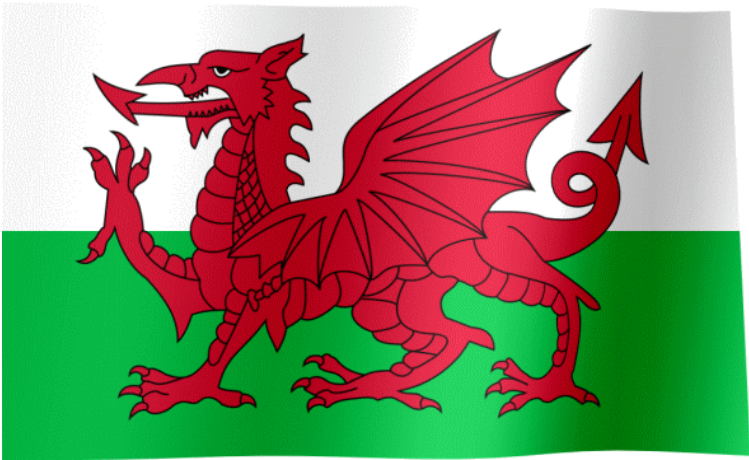
**Ymchwilio i'r Dysgu:
Pwy, beth a pham ydw i'n addysgu?**

**Researching the Learning:
Who, what and why am I teaching?**

*Trawsnewid Addysg, Trawsnewid Bywydau
Transforming Education, Transforming Lives*

Gair Cymraeg y dydd

Welsh word of the day



Dull / Dulliau
(Approach(es), method(s))

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Diwrnod 2: Methodoleg

Day 2: Methodology

Erbyn diwedd y dydd, byddwch yn:

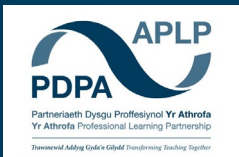
- ✓ deall dulliau ymchwil amrywiol a'u perthnasedd i'ch ymchwil chi
- ✓ meddu ar ymwybyddiaeth o ddulliau samplu amrywiol a'u perthnasedd i'ch cyd-destun chi
- ✓ meddu ar drosolwg critigol o ddibynadwyedd ac hygrededd y dulliau amrywiol hyn
- ✓ Dechrau llunio'ch cwestiwn ymchwil

By the end of today, you will:

- ✓ understand a variety of research methods and their relevance to your research
- ✓ have an awareness of a variety of approaches to sampling and their relevance to your context
- ✓ have a critical overview of the reliability and credibility of these various methods
- ✓ Begin to form your research question



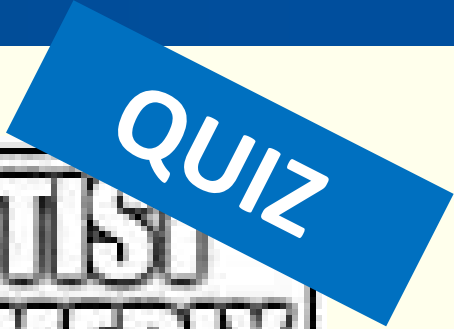
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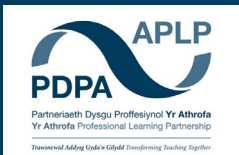
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Faint ydych chi'n cofio am fod yn foesebol?

How much do you remember about being ethical?

The logo for Wayground, featuring the word 'WAYGROUND' in a stylized, colorful font. The letters are in shades of pink, purple, and orange, with a small graphic of three slanted bars to the left.A blue banner with the word 'QUIZ' in white, slanted text.A pixelated, black and white sign that reads 'ARTIST FORMERLY KNOWN AS PRINCE'.The Quizizz logo, featuring a stylized 'Q' in a purple square and the word 'QUIZZ' in purple text.

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Y Ffurflen Foesege

The Ethics Form



Beth yw nodau ac amcanion eich prosiect ymchwil chi?

What are your research project's aims and objectives?

- Mae angen i chi wybod hyn i allu:

1. Llunio'ch cwesiwn ymchwil
2. Dewis eich dulliau ymchwil

- You need to know this to be able to:

1. Create your research question
2. Choose your research methods

Nodau ac amcanion eich ymchwil

Aims and objectives of your research

Nodau: Grym gyrru cyffredinol yr ymchwil. **Beth** ydych chi am ei ddarganfod?

Aims: The overall driving force of the research. **What** is it that you want to find out?

Amcanion: Y ffordd rydych chi'n bwriadu cyflawni'r nod. **Sut** y byddwch chi'n darganfod hyn?

Objectives: The means by which you intend to achieve the aim. **How** will you find this out?

Enghraifft:

Example:

- Nod y prosiect ymchwil hwn ydy [berf: archwilio, adnabod, deall] **effaith** [gweithred/ymyrraeth] **ar** [ddysgwyr] **mewn** [pwnc]
- Nod y prosiect ymchwil hwn ydy archwilio effaith gwirio dysgu dysgwyr Blwyddyn X ar bwyntiau penodol mewn gwersi Mathemateg
- The aim of this research project is to [verb: explore, identify, understand] **the impact of** [action/intervention] **on** (learners) **in** [topic].
- The aim of this research project is to explore the impact of using mini-plenaries on Year X learners in Mathematics.

Tasg: Ysgrifennwch nodau ac amcanion eich prosiect ymchwil chi

Task: Write your research project's aims and objectives

- Gwiriwch eich nodau ac amcanion yn erbyn yr **enghreifftiau** ar y sleidiau blaenorol.
- Yna gofynnwch i **ddau aelod** o'ch grŵp i'w gwirio.
- Yn olaf, gofynnwch i'ch tiwtor eu gwirio.
- Check your aims and objectives against the **examples** on the previous slides.
- Then ask **two members** of your group to check them.
- Lastly, ask your tutor to check them.

Ymagweddau Ymchwil Yr Athrofa

Bod yn sgeptigol

- Deall **tystiolaeth empirig** mewn meysydd a amheuir
- Bod yn ymwybodol o yrwyr gwleidyddol, economaidd a chymdeithasol ar gyfer 'tystiolaeth'

Bod yn foesegol

- Gwybod a defnyddio egwyddorion moesegol ymchwil
- Deall **ymagweddu (positionality)**

Bod yn ymchwilydd crefftus

- Deall dulliau **ansoddol** a **meintiol**
- Gallu llunio dadl yn seiliedig ar dystiolaeth
- Defnyddio sgiliau **darllen beirniadol**

Bod yn rhan o broffesiwn ymholgar

- Cyfrannu'n rhagweithiol at ystod o gynulleidfaoedd
- Cymryd rhan weithredol mewn ymholiadau a chanfyddiadau pob eraill

Yr Athrofa Research Dispositions

Being sceptical

- Understand empirical evidence in contested fields
- Being aware of political, economic and social drivers for 'evidence'

Being ethical

- Knowing and using ethical principles of research
- Understanding positionality

Being a skilled researcher

- Understanding qualitative and quantitative methods
- Be able to construct an argument based on evidence
- Employing critical reading skills

Being part of an inquiring profession

- Proactively contributing to a range of audiences
- Actively engaging with the inquiry and findings of others



Aseiniad Assignment

ECAD7006/C: Aseiad

Gwaith Cwrs (100%): Aseiniad Ysgrifenedig
Unigol

Prosiect ymchwil – prosiect ymchwil
gweithredol sy'n deillio o ymarfer ac sy'n cael
ei archwilio drwy **ddulliau**
ymchwil adnabyddedig.

4500 o eiriau

Cyflwyno: Dydd Mawrth 5ed o Fai: 23.59

ECAD7006: Assessment

Coursework (100%): Individual Written
Assignment

Research project – an action research project
arising from practice and investigated
through **identified research**
tools.

4500 words

Submission date: Tuesday 5th May: 23.59hrs

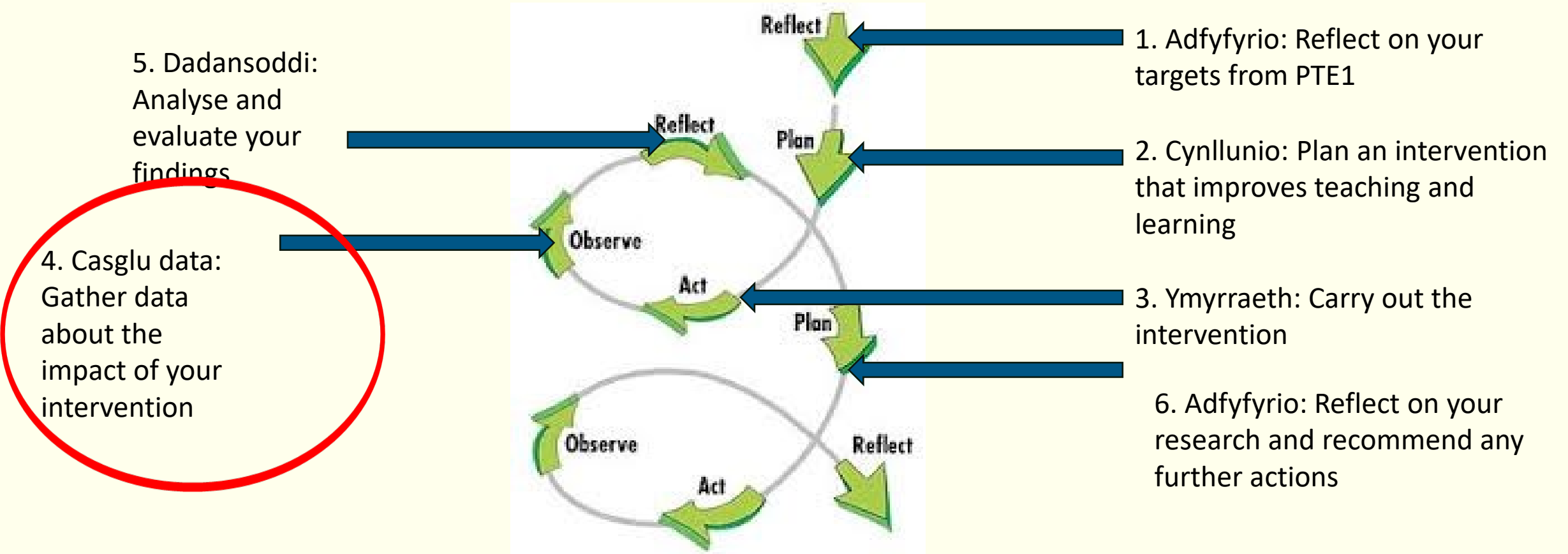
Y dulliau ymchwil adnabyddedig:

The identified research tools:

- Holiadur
- Cyfweliad
- Recordiad (fideo/sain)
- Arsylwi
- Questionnaire
- Interview
- Recording (video/audio)
- Observation

Cylchred Ymchwil Gweithredol (McNiff, 2017)

Action Research Cycle (McNiff, 2017)



Pa ddull(iau)?

Which method(s)?

Wrth archwilio'r dulliau sydd ar y sleidiau nesaf ac ar Moodle, ystyriwch:

1. Pa rai sy'n cyfateb orau i'ch ymchwil chi?
2. Beth, yn ôl llenyddiaeth, ydy cryfderau a chyfyngiadau'r dulliau?
3. I ba raddau mae'r dulliau yn ddibynadwy ac yn ddilys?

When exploring the methods on the next slides and on Moodle, consider:

1. Which ones best match your research?
2. What, according to literature, are the strengths and limitations of the methods?
3. To what extent are the methods reliable and valid?



Holiadur Questionnaire

Yn dibynnu ar natur y
cwestiynau, gellir dosbarthu
holiaduron fel hyn:

meintiol

Mae atebion a gafwyd trwy
gwestiynau caeedig gydag opsiynau
ateb dewis lluosog yn cael eu
dadansoddi gan ddefnyddio dulliau
meintiol a gallant gynnwys siartiau
cylch, siartiau bar a chanrannau.

ansoddol

Mae atebion a gafwyd i gwestiynau
holiadur penagored yn cael eu
dadansoddi gan ddefnyddio dulliau
ansoddol ac maent yn cynnwys
trafodaethau a dadansoddiadau
beirniadol heb ddefnyddio rhifau a
chyfrifiadau.



Holiadur Questionnaire

Depending on the nature of the questions, questionnaires can be classified as:

quantitative

Answers obtained through closed-ended questions with multiple choice answer options are analysed using quantitative methods and they may involve pie-charts, bar-charts and percentages.

qualitative

Answers obtained to open-ended questionnaire questions are analysed using qualitative methods and they involve discussions and critical analyses without use of numbers and calculations.

Holiadur

Questionnaire

Os ydych yn ystyried defnyddio holiadur fel dull ymchwil, mae gwybodaeth bellach ar gael yma:

[ECAD7006C: Dulliau | Home](#)

If you are considering using a questionnaire as a research method, further information can be found here:

[ECAD7006C: Methods | Home](#)

Cyfweliad

Interview

Fel arfer, sgwrs wyneb yn wyneb rhwng ymchwilydd a chyfranogwr sy'n ymwneud â throsglwyddo gwybodaeth i'r cyfwelydd yw 'cyfweliad' (Creswell, 2012).

Tri math:

- Strwythuredig
- Distrwythur
- Lled-strwythuredig

An 'interview' is typically a face-to-face conversation between a researcher and a participant involving a transfer of information to the interviewer (Creswell, 2012).

Three types:

- Structured
- Unstructured
- Semi-Structured

Cyfweliad

Interview

Os ydych yn ystyried defnyddio cyfweliad fel dull ymchwil, mae gwybodaeth bellach ar gael yma:

[ECAD7006C: Dulliau | Home](#)

If you are considering using an interview as a research method, further information can be found here:

[ECAD7006C: Methods | Home](#)

Observation

Arsylwi

Beth y gellir ei arsylwi?

- Ymddygiad dynol
- Gweithredoedd corfforol
- Ymddygiad geiriol
- Ymddygiad mynegiannol
- Cysylltiadau gofodol a lleoliadau
- Gwrthrychau corfforol
- Cofnodion llafar neu ddarluniadol

What can be observed?

- Human behaviour
- Physical actions
- Verbal behaviour
- Expressive behaviour
- Spatial relations and locations
- Temporal patterns
- Physical objects
- Verbal or pictorial records

Mathau o arsylwi

Types of observation

Strwythuredig

Anstrwythuredig

Penodol

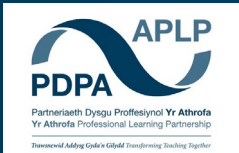
Pen
agored

Arsylwi ar
rywbeth

Naturiol



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Partnersiaeth Dysgu Profesiynol Yr Athrofa
Yr Athrofa Professional Learning Partnership
Transforming Addysg's Global Transforming Teaching Together

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Mathau o arsylwi

Types of observation

Structured

Unstructured

Focused

Open ended

Observing
something
specific

Natural



Observation

Arsylwi

Os ydych yn ystyried defnyddio arsylwi fel dull ymchwil, mae gwybodaeth bellach ar gael yma:

[ECAD7006C: Dulliau | Home](#)

If you are considering using observation as a research method, further information can be found here:

[ECAD7006C: Methods | Home](#)

Recordiad (fideo/sain): Manteision

Recording (video/audio): Advantages

- Cywirdeb a chyfoeth y data
- Modd ail-ymweld sawl tro
- Ymatebion mwy cynhwysfawr gan gyfranogwyr sy'n gwybod bod modd iddynt adolygu eu hymatebion yn ddiweddarach
- Data accuracy and richness
- Able to revisit multiple times
- More detailed information from participants that know they can review their responses later.

Recordiad (fideo/sain): Cyfyngiadau

Recording (video/audio): Limitations

- Dadansoddiad yn llafurfawr
- Potensial am duedd
- Heriau technegol
- Ystyriaethau moesegol pellach
- Time-consuming analysis
- Potential for bias
- Technical challenges
- Ethical and privacy concerns

Dylai ymchwilwyr bwysu a mesur y ffactorau hyn yn ofalus wrth benderfynu defnyddio recordiadau yn eu hymchwil.

Researchers should weigh these factors carefully when deciding to use recordings in their research.

Triongli

Triangulation

- Yn ôl Cohen, Manion & Morrison (2007, tt. 141-144) mae triongli yn gwella hygrededd a dilysrwydd canfyddiadau ymchwil trwy integreiddio ffynonellau data lluosog, dulliau, ymchwilwyr, neu safbwyntiau damcaniaethol.
- Efallai mai triongli data a thriongli dulliau sydd fwyaf priodol ar gyfer eich ymchwil chi.
- According to Cohen, Manion & Morrison (2007, pp. 141-144) triangulation enhances the credibility and validity of research findings by integrating multiple data sources, methods, investigators, or theoretical perspectives.
- Data triangulation and method triangulation may be most appropriate for your research.

Samplu

Sampling

- Mae yna wahanol ddulliau o ddewis eich cyfranogwyr.
 - Gelwir y broses hon yn 'samplu'.
 - Mae eich safleoldeb yn medru effeithio ar eich gallu i ddewis cyfranogwyr mewn ffordd ddi-duedd.
 - Sut medrwch leihau'r effaith hon?
- There are a variety of ways for you to select your participants.
 - This process is known as 'sampling'.
 - Your positionality can impact your ability to select participants in an unbiased way.
 - How can you minimise this impact?

Mae bod a thuedd anymwybol yn normal, OND...

Having unconscious bias is normal, HOWEVER...

NID yw'n iawn ei anwybyddu.

- Mae'n effeithio ar y modd yr ydym yn gwerthfawrogi, yn grwpio, yn trin ac yn ymwneud â phobl bob dydd.

Ignoring it is NOT ok.

- It impacts how we value, group, treat and engage with people everyday.

STRATEGIES TO REDUCE EFFECT OF UNCONSCIOUS BIAS



Challenge stereotypes



Notice in others



Be aware of own



Look for alternative points of view



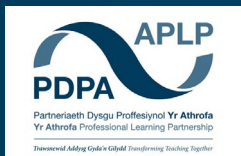
Spend time with people different to yourself



Challenge assumptions
Challenge traditions



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Samplu a safleoldeb

Sampling and positionality

- Os nad oes gan eich cwestiwn ymchwil unrhyw beth i'w wneud â hil, yna ni ddylai hil gynnwys eich samplu.
- Os nad oes gan eich cwestiwn ymchwil unrhyw beth i'w wneud â gallu, yna ni ddylai samplu gallu fod yn ffactor.
- Mae'r un peth yn wir am ryw, anabled, gan gynnwys niwroamrywiaeth, a'r holl nodweddion gwarchodedig eraill
- If your research question has nothing to do with race, then race shouldn't factor in your sampling.
- If your research question has nothing to do with ability, then ability sampling shouldn't be a factor
- The same applies to gender, disability, including neurodiversity, and all other protected characteristics.

Samplu Sampling

Mae gwybodaeth bellach am
samplu ar gael yma:

[ECAD7006C: Dulliau | Home](#)

Further information about
sampling can be found here:

[ECAD7006C: Methods | Home](#)

Y Ffurflen Foesege

The Ethics Form



Rhestr gyfeiriadau

References

Brace, I. (2018) *Questionnaire Design* (4th edition). London: Kogan Page.

Cohen, L., Manion, L. & Morrison, K. (2018) *Research Methods in Education* (8th edition). Oxford: Routledge.

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