

ECAD6017-C Darlith Arweiniol – Lead Lecture 7

Dadansoddi Data - Data Analysis



Photo by [Arie Wubben](#) on [Unsplash](#)

A close-up photograph of a hand holding an open, thick book. Sunlight streams through the pages from the left, creating a bright, hazy glow. The book's cover is dark, and the pages are aged and slightly yellowed. The hand is positioned at the bottom right, supporting the book.

- Darllen/Read:

Braun, V. and Clarke, V.
(2006) Using thematic
analysis in
psychology. *Qualitative R
esearch in Psychology*, 3
(2). pp. 77-101



How might researcher positionality impact upon the analysis of your data?



Safleoldeb Ymchwilydd

Mae angen cydnabod safleoldeb drwy gydol y broses ymchwil. Bydd ein safleoldeb yn effeithio ar y data yr ydym yn ei ystyried a sut rydym yn ei ddehongli.

Ystyriwch y ffordd y gallai sefyllfa'r ymchwilydd effeithio ar ddadansoddi eich data?



Data Analysis

The way you analyse the data should meet the aim/s of the research – be 'fit for purpose' (see Cohen et al., 2011)

i.e. what do you want the data to do? For example:

- Describe
- Summarise
- Interpret
- Generate themes
- Understand individuals
- Understand groups
- Raise issues
- Demonstrate
- Explore?



Dadansoddi Data

Dylai'r ffordd rydych chi'n dadansoddi'r data fodloni nod(au) yr ymchwil – bod yn addas i'w bwrpas (gweler Cohen et al., 2011)

h.y. beth ydych chi eisiau i'r data ei wneud? Er enghraifft:

Disgrifio

Crynhoi

Dehongli

Creu themâu

Deall unigolion

Deall grwpiau

Codi materion

Arddangos

Archwilio?



Activity

- Go back to your research question.
- Which of these elements (from the previous slide) are you trying to answer?



Gweithgaredd

- Ewch yn ôl at eich cwestiwn ymchwil.
- Pa un o'r elfennau hyn (o'r sleid flaenorol) ydych chi'n ceisio eu hateb?

Reviewing your data – organising, classifying, anonymising

Data Analysis Worksheet 1

Reviewing and Managing your Data

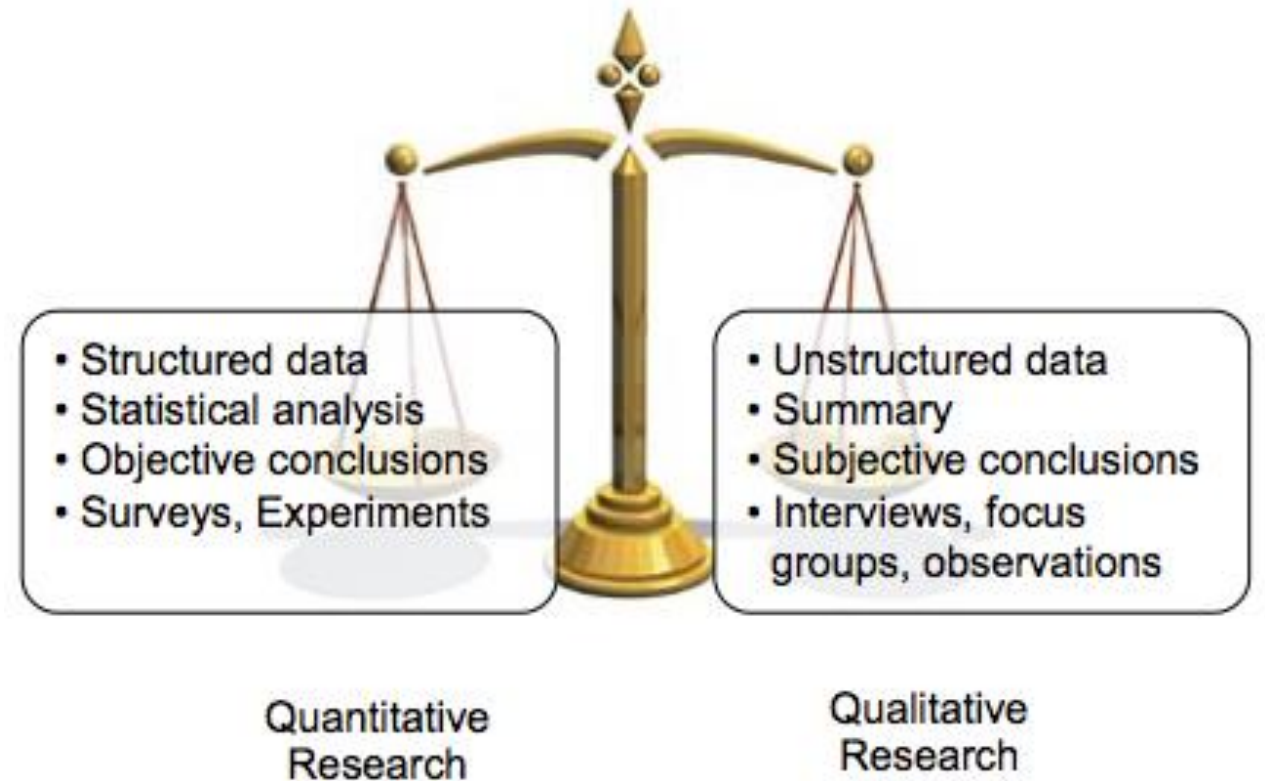
Research Question:

Data Log

ID	Type	Date	Description	Participants	Format	Notes
<i>For e.g. Ob1</i>	<i>Observation notes</i>	<i>30/1/19</i>	<i>30 minutes session at School A. 1st of four sessions on using creative practice to improve wellbeing. Observation framework: activities; goals; events; resources; discourse around creativity and wellbeing; feelings.</i>	<i>N = 6 teachers/TAs from School A</i>	<i>Transcribed, Word file</i>	<i>Participant 7 withdrew from research. <u>Obs</u> notes written by hand, and later transcribed</i>

Qualitative and Quantitative Data

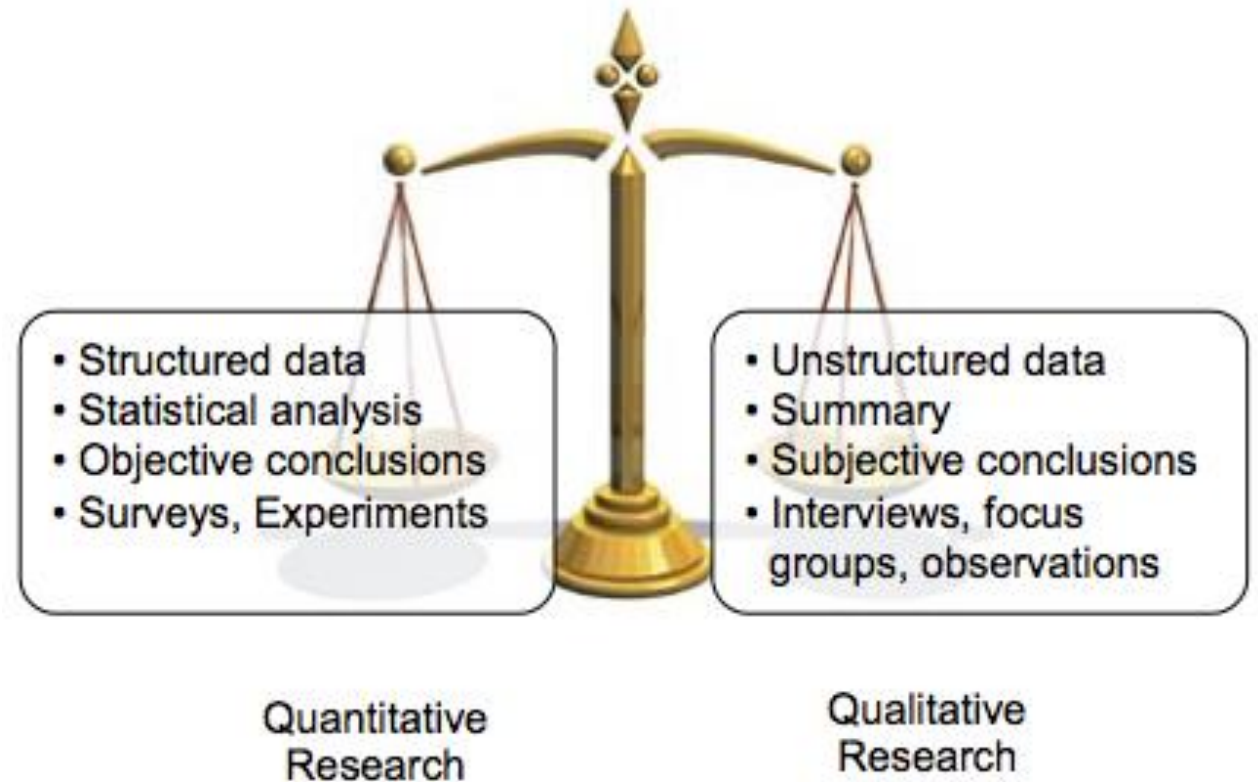
- Quantitative data refers to numerical information generated through the research process that can be understood, represented and analysed statistically.
- Qualitative data is non-numerical (e.g. text, image, audio) and offers the researcher a descriptive account of the phenomenon being studied.

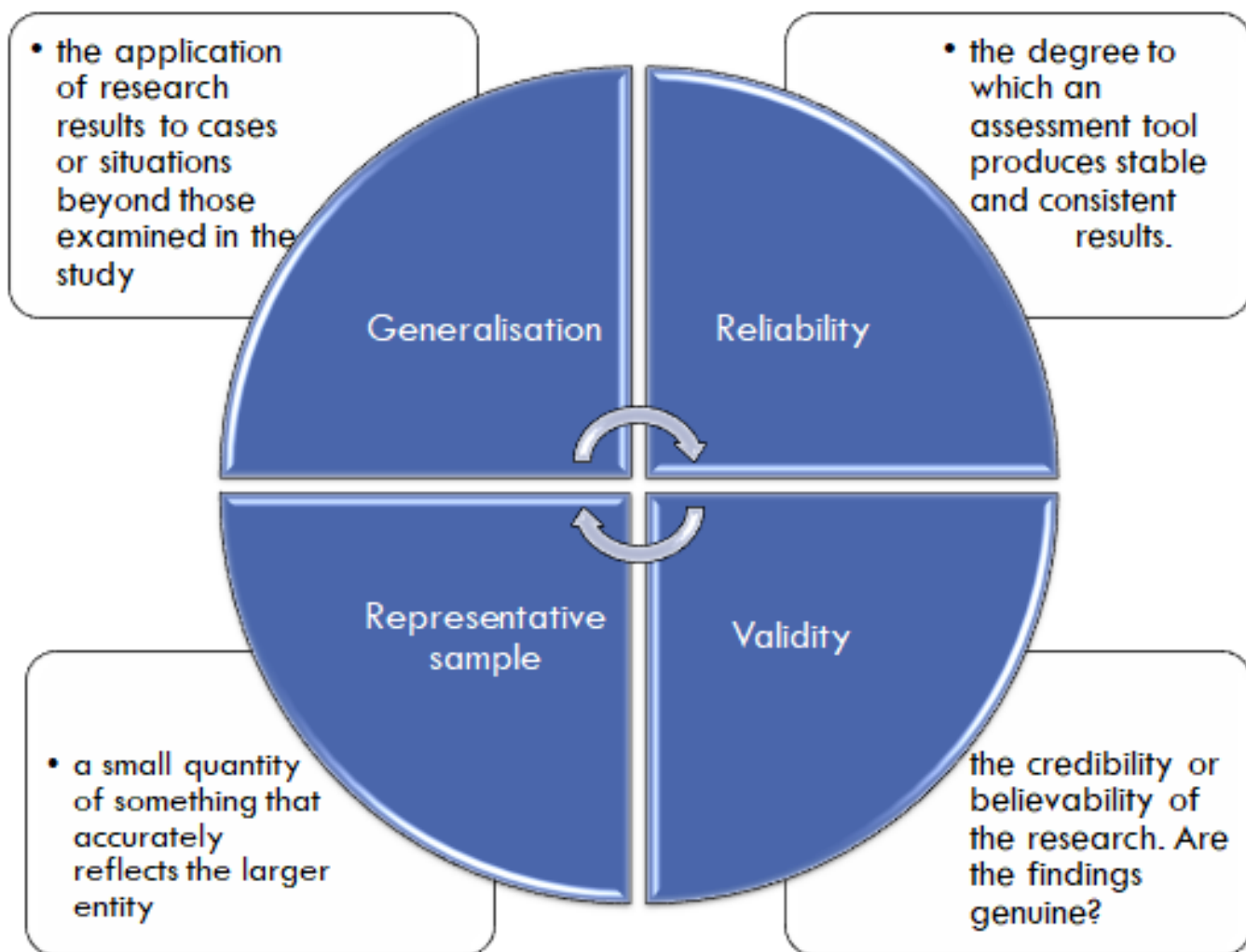


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Data ansoddol a meintiol

- Mae data meintiol yn cyfeirio at wybodaeth rifiadol a gynhrychir drwy'r broses ymchwil y gellir ei deall, ei chynrychioli a'i dadansoddi'n ystadegol.
- Mae data ansoddol yn an-rifiadol (e.e. testun, delwedd, sain) ac mae'n cynnig cyfrif disgrifiadol o'r ffenomen sy'n cael ei astudio i'r ymchwilydd.





- cymhwyso canlyniadau ymchwil i achosion neu sefyllfaoedd y tu hwnt i'r rhai a archwiliwyd yn yr astudiaeth

- y graddau y mae adnodd asesu yn cynhyrchu canlyniadau sefydlog a chyson.

Cyffredinoli
(Generalisation)

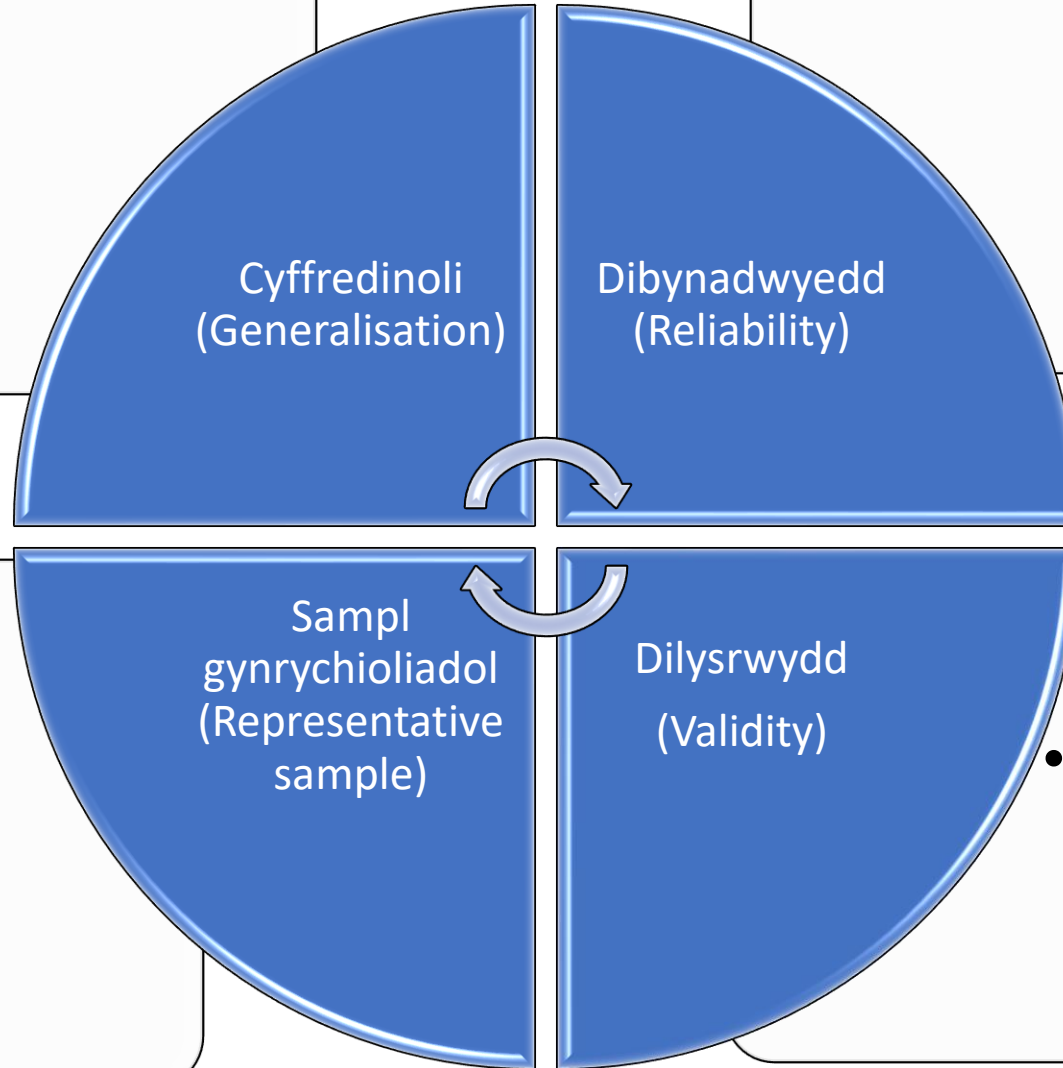
Dibynadwyedd
(Reliability)

Sampl
gynrychioliadol
(Representative
sample)

Dilysrwydd
(Validity)

- rhywbeth bach sy'n adlewyrchu'n gywir y darlun mwy

- hygrededd neu gredadwyedd yr ymchwil. A yw'r canfyddiadau'n ddilys?



Validity and reliability

- In **qualitative data**, validity refers to the process of determining the fidelity (sometimes understood as accuracy) of the findings from the standpoint of the researcher, the participants, and/or the consumers of the research (Lincoln, Lynham, & Guba, 2013).
- In **quantitative data** validity is a factor of careful sampling, appropriate use of data collection instruments, and statistical analysis
- Reliability refers to the 'soundness' of the research (Rose & Johnson 2020), i.e. how dependable, consistent and replicable the data is.

DILYSRWYDD A DIBYNADWYEDD

- Mewn **data ansoddol**, mae dilysrwydd yn cyfeirio at y broses o bennu ffyddlondeb (weithiau'n cael ei ddeall fel cywirdeb) y canfyddiadau o safbwynt yr ymchwilydd, y cyfranogwyr, a/neu ddefnyddwyr yr ymchwil (Lincoln, Lynham, a Guba, 2013).
- Mewn **data meintiol**, mae dilysrwydd yn ffactor o samplu gofalus, defnydd priodol o offer casglu data, a dadansoddiad ystadegol.
- Mae dibynadwyedd yn cyfeirio at 'gadernid' yr ymchwil (Rose a Johnson 2020), h.y. pa mor ddibynadwy, cyson ac atgynhyrchadwy yw'r data.

Ensuring Trustworthiness in Qualitative Data (Bloomberg and Volpe, 2019)

- Credibility (believability) – triangulation of methods, reflection on bias/assumptions, allowing data to 'speak for itself'
- Dependability (consistency) – weaknesses in data collection tools? Using best method to answer question?
- Confirmability (ability to corroborate) – triangulation to reduce investigator bias – would someone else arrive at similar conclusions?
- Transferability (applicability) – is there sufficient context (rich data) to authentically convey meaning?, can readers use this to develop deep understanding?



Hygreddedd (validity) – triongli dulliau, myfyrio ar ragfarn/rhagdybiaethau, gan ganiatáu i ddata 'siarad drosto'i hun'.



Dibynadwyedd (cysondeb) – Oes gwendidau yn yr offer casglu data? Ydych chi wedi defnyddio'r dull gorau i ateb cwestiwn?



Cadarnhau (gallu i ategu) – triongli i leihau rhagfarn ymchwilydd – a fyddai rhywun arall yn cyrraedd casgliadau tebyg?



Trosglwyddadwy (perthnasedd) – a oes digon o gyd-destun (data cyfoethog) i gyfleu ystyr yn ddilys? A all darllenwyr ddefnyddio hyn i ddatblygu dealltwriaeth ddofn?

Sicrhau
dibynadwyedd
mewn Data
Ansoddol

(Bloomberg and
Volpe, 2019)

Reflexivity and transparency

It is worth remembering that no research can ever be 100% valid or reliable

In order to increase the levels of validity and reliability, it is important for researchers to adopt a reflexive approach.

If a researcher clearly describes the contextual intersecting of relationships (e.g., race, socio-economic status, age, cultural background) between the participants and themselves, it not only increases the credibility of the findings but also deepens our understanding of the work (Berger, 2015).

Adweithedd a thryloywder

(Reflexivity and transparency)

Mae'n werth cofio na all unrhyw ymchwil fyth fod 100% yn ddilys neu'n ddibynadwy.

Er mwyn cynyddu lefelau dilysrwydd a dibynadwyedd, mae'n bwysig i ymchwilwyr fabwysiadu dull atblygol.

Mae hyn yn golygu bod angen i chi fod yn ymwybodol eich bod yn rhan o'r broses ymchwil ac na allwch fyth fod yn 100% wrthrychol (Berger, 2015). Rydym yn gweld hyn mewn trafodaethau am gryfderau a chyfyngiadau'r prosiect.

Peidiwch â phoeni am fod y
disgwyllir (a chroesawir) hyn

Berger, R. (2015) Now I see it, now I don't: Researcher's position and reflexivity in qualitative research. *Qualitative Research*, 15(2), 219–234. doi:10.1177/1468794112468475

Qualitative Data: Thematic Analysis

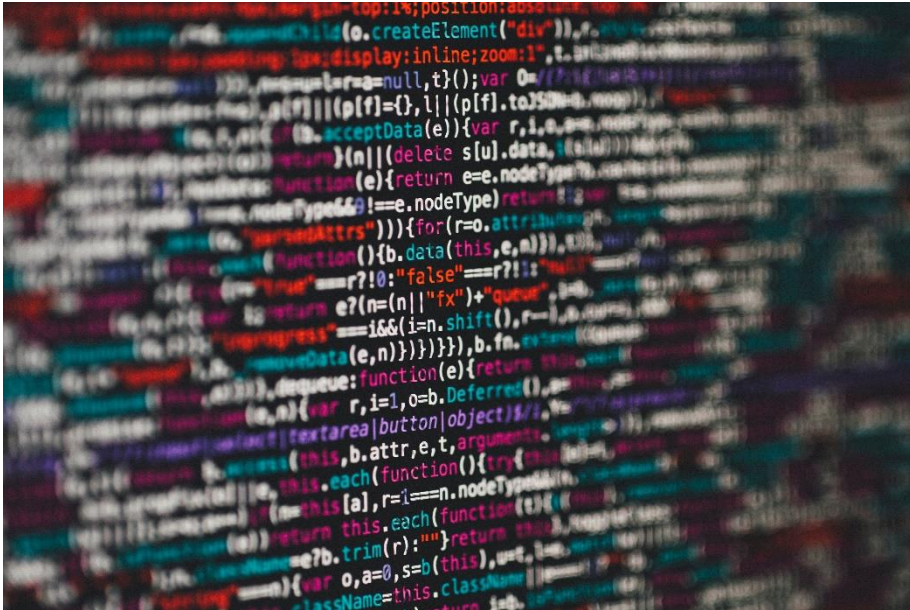


Braun and Clarke (2006)
define thematic analysis as,

“a method for identifying,
analyzing and reporting
patterns within data”
(p.79)

and propose a six-step
process for carrying out
this analysis, as follows:

Dadansoddiad Thematig



Mae Braun a Clarke (2006, t.79) yn diffinio dadansoddiad thematig fel:

“method for identifying, analyzing and reporting patterns within data”.

Maent yn cynnig proses chwe cham ar gyfer cyflawni'r dadansoddiad hwn.

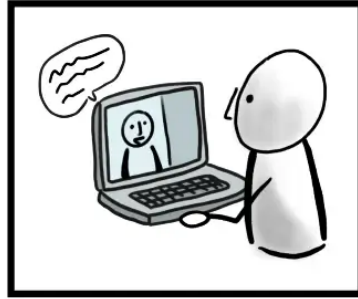
Gwyliwch y fideo yma am ragor o wybodaeth:

www.youtube.com/watch?v=rvMf1cbctYM

6 Steps to Doing a Thematic Analysis

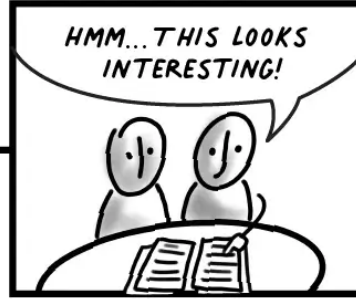
STEP 1

Gather your data.



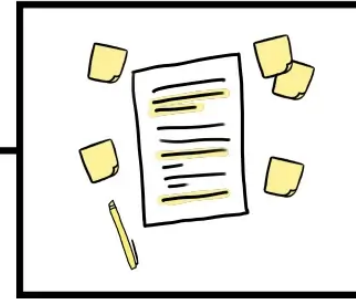
STEP 2

Read all your data from beginning to end.



STEP 3

Code the text based on what it's about.



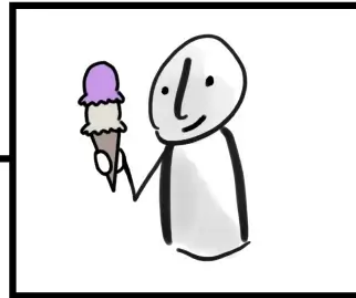
STEP 4

Create new codes to encapsulate potential themes.



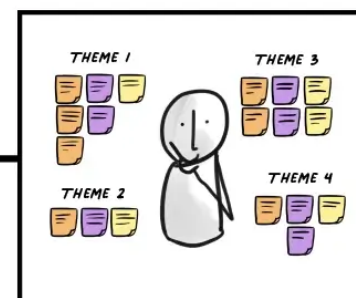
STEP 5

Take a break for a day.



STEP 6

Evaluate your themes for good fit.



REPEAT AS NEEDED



Proses dadansoddiad thematig:

1. Ymglyfarwyddo â'r data
2. Cynhyrchu codau rhagarweiniol i ddisgrifio'r data (codio agored)
3. Adnabod themâu – chwilio am batrymau neu themâu
4. Adolygu themâu i greu map thematig o'r dadansoddiad
5. Diffinio ac enwi themâu, gan gynnwys dadansoddiad parhaus sy'n adrodd y stori gyffredinol

(Braun and Clarke, 2006)



Thematic analysis process:

1. Familiarisation with data
2. Generate preliminary codes to describe the data (open coding)
3. Identification of themes – search for patterns or themes
4. Review themes to generate a thematic map of the analysis
5. Definition and naming of themes, including ongoing analysis that tells the overall story

(Braun and Clarke, 2006)

[Thematic Analysis in Qualitative Research \(Braun & Clarke, 2006\)](#) 🔍 [\(youtube.com\)](#)

[A worked example of Braun and Clarke's approach to reflexive thematic analysis](#) | [Quality & Quantity \(uwtsd.ac.uk\)](#)

Coding your data

The purpose of coding is to apply themes and subthemes to the data

You are aiming to organise the data into manageable 'chunks' so that you can compare relevant responses

Figure 7 Coding interview data

1

Start by making a list of the particular things that you are interested in and give each one a name – these become your code labels. Alternatively or as well, you may assign each code a colour.

2

Select a code label and go through the interview notes (or transcript) and mark every time it occurs. How you do this is up to you - some people use hard copies, others do it on screen. Repeat this step with the other codes.

3

Repeat step two with all the interview notes.

(NFER, 2013, p.11)

Codio'ch data

Codio yw “how you define what the data you are analysing are about” (Gibbs, 2007). Mae'n broses o nodi darn o'r testun neu eitemau data eraill (ffotograff, delwedd), chwilio a nodi cysyniadau a dod o hyd i gysylltiadau rhyngddynt. Felly, nid labelu yn unig yw codio - mae'n cysylltu data â syniad yr ymchwiler ac yn ôl i ddata eraill.

Rydych yn anelu at drefnu'r data i mewn i 'ddarnau' hylaw fel y gallwch gymharu ymatebion perthnasol.

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Cyfeiriadau - References

- Berger, R. (2015) Now I see it, now I don't: Researcher's position and reflexivity in qualitative research. *Qualitative Research*, 15(2), 219–234.
- Bloomberg, L.D. and Volpe, M. (2019) *Completing your Qualitative Dissertation: A road map from beginning to end* 4th Edition. CA: Sage.
- Braun, V. and Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3 (2). pp. 77-101
- Cohen, L., Manion, L. and Morrison, K. (2011) *Research Methods in Education*. 7th Edition. London: Routledge.
- Lincoln, Y., Lynham, S., & Guba, E. (2013). Paradigmatic controversies, contradictions, and emerging confluences, revisited. In N. Denzin & Y. Lincoln (Eds.), *The landscape of qualitative research* (4th ed., pp. 199–266). Thousand Oaks, CA: SAGE.
- Nfer (2013) How to Run qualitative and quantitative research. Berkshire: NFER. <https://www.nfer.ac.uk/media/2123/resm03.pdf>

