



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

DSAW 6003/7003 Research Methods for Work-Based Learning

Day 2: Review & recap; assessment; moving forward

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*Trawsnewid Addysg; Trawsnewid Bywydau
Transforming Education; Transforming Lives*



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Aims, day 2

- Review & recap
- Discuss progress with assignment (assessment component 1)
- More on action learning
- Thoughts on data analysis (looking ahead to research project)
- Writing critical essays, and assessment component 2

MODULE AIM(S)

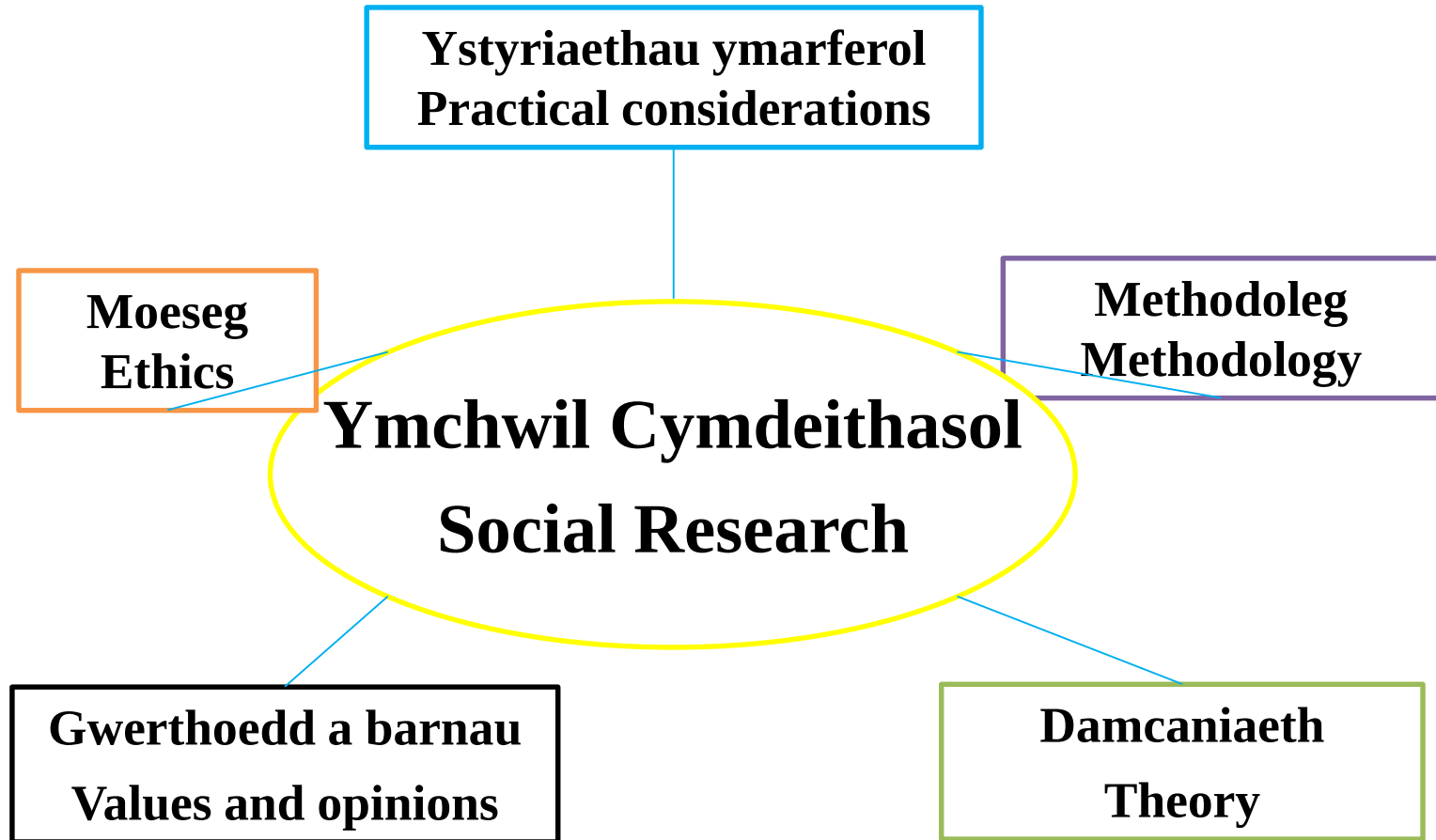
- To develop critical awareness of the main issues in undertaking research in work-based settings

MODULE OUTCOMES

- Upon the successful completion of this module, the learner should be able to demonstrate the ability to:
 - critically evaluate a selected range of methodological approaches appropriate for research in work-based settings;
 - identify and evaluate a range of research techniques to gather data from complex work-based settings.

Re-cap from last session

Different aspects of research



Values and opinions

- What is the term we use when referring to viewpoints on definitions and explanations of 'being' or **reality**?
- **ONTOLOGY**
- What is the term we use about what is regarded as valid **knowledge** and how it is created?
- **EPISTEMOLOGY**



- Q: What does this diagram represent?
- A: The concept of a 'research paradigm'

Ontology

- What are two key ontological positions?

Objectivism

Reality is objective, and independent of other external /social factors

Subjectivism

Reality is subjective, and cannot be considered independently of experience, viewpoints, social factors

More about 'Epistemology'

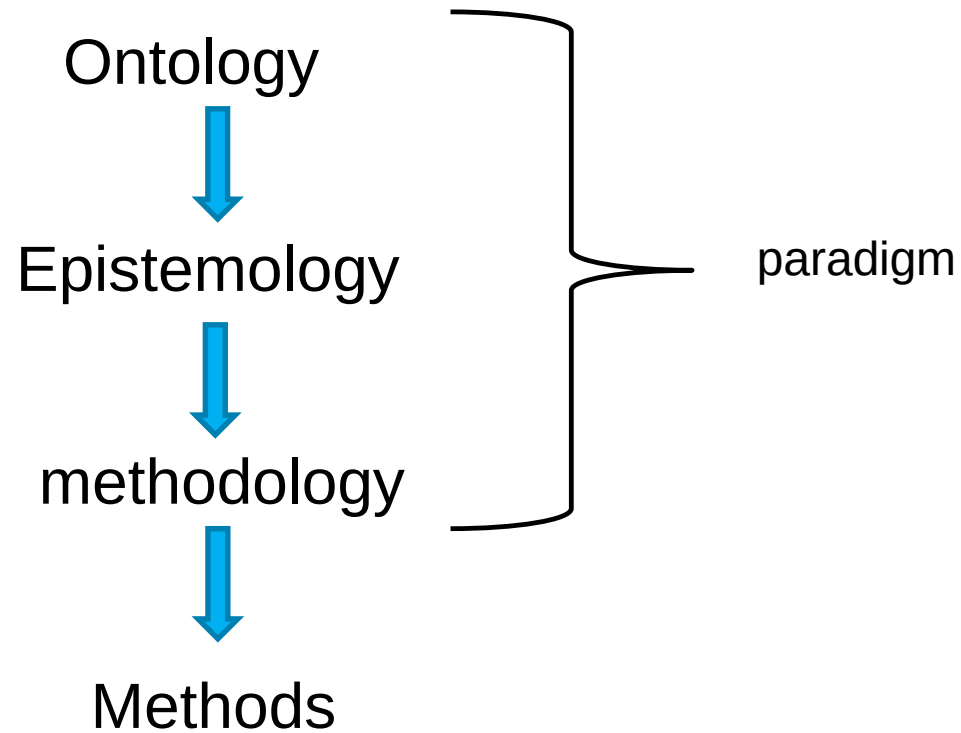
- What are two important epistemological positions?

Positivism

there is a positive, objective reality that can be observed and measured using the senses following a scientific approach ('the scientist'!)

Interpretivism

people and their institutions are fundamentally different from the natural sciences, and they need to be understood and interpreted ('the detective'!)
Social factors may be important ('social constructivism')



What are two main methodological categories?

Quantitative	Qualitative
Looking for cause and effect; testing theory ('deductive')	Looking for meaning, experience; developing theory ('inductive')
Data collected is numerical, eg. measurements of height, time; numbers of people, plants etc	Data collected has 'qualities' that are predominantly not numerical eg. narratives, observations, video, case studies

Activity

Connect the correct pairs of terms!

Suggest some key Research Methods

Qualitative

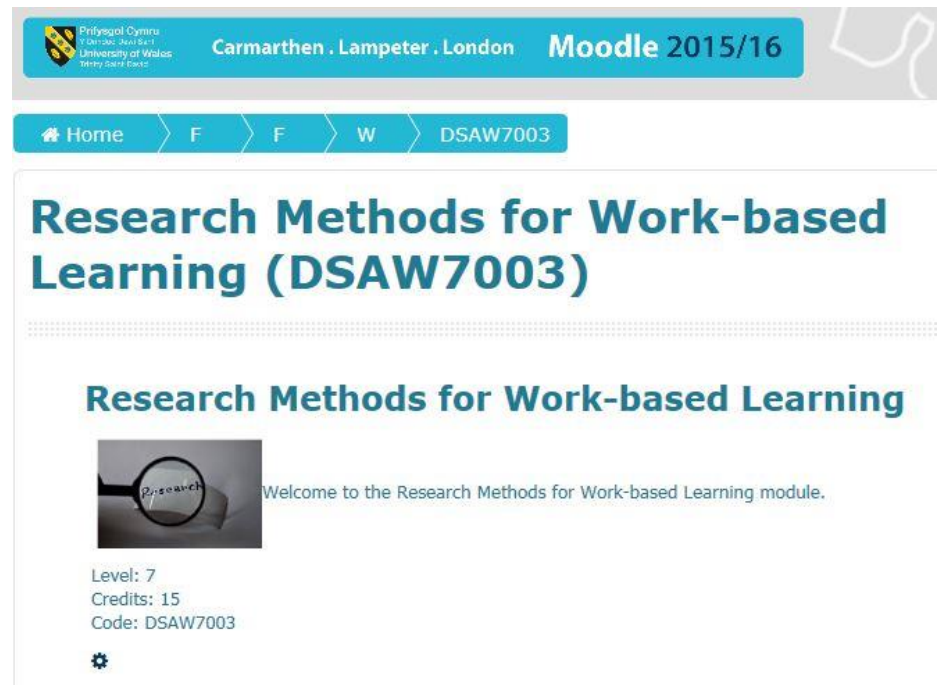
- Interview
- Dialogue /Narrative
- Focus group
- Observation
- Video, audio recording
- Case study
- Action research
- Diary/ log

Quantitative

- survey
- Structured interview
- Experiment
- Content analysis

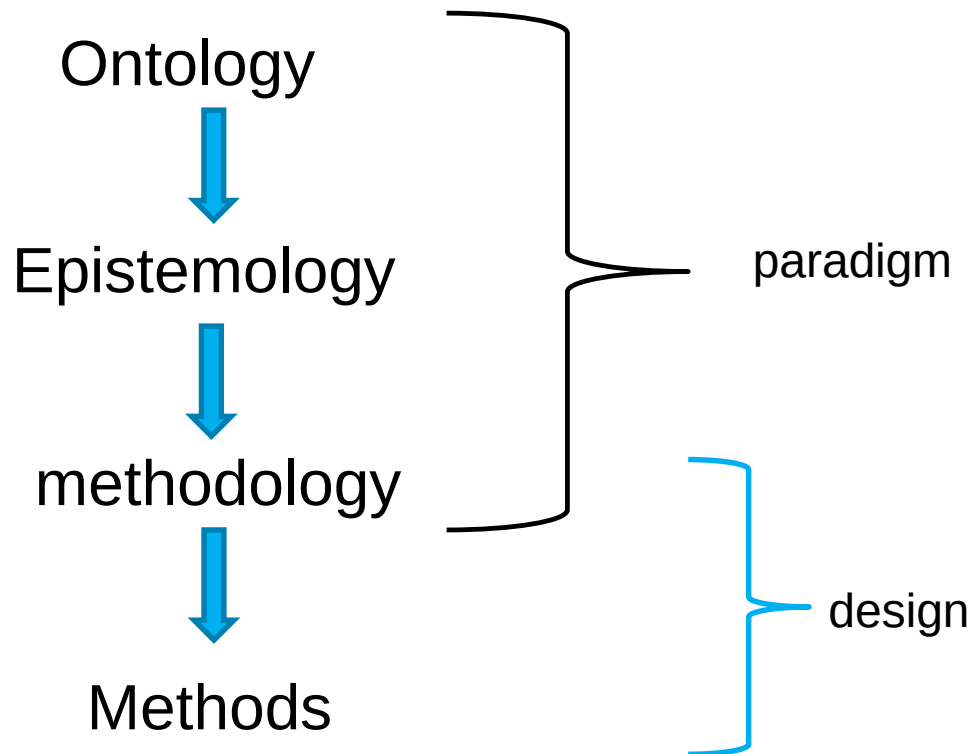
Reminder: Moodle

- All resources from Day 1 & Day 2 on Moodle
- Also all hand-outs, and many other guides



The screenshot shows the Moodle 2015/16 interface. At the top, there is a header bar with the University of Wales logo, the text 'Prifysgol Cymru Y Drindod Dewi Sant University of Wales Trinity Saint David', and the locations 'Carmarthen . Lampeter . London'. To the right of the header is the text 'Moodle 2015/16'. Below the header is a navigation bar with links: 'Home', 'F', 'F', 'W', and 'DSAW7003'. The main content area is titled 'Research Methods for Work-based Learning (DSAW7003)'. Below this title is a section titled 'Research Methods for Work-based Learning' with a small image of a magnifying glass over the word 'Research'. To the right of the image is the text 'Welcome to the Research Methods for Work-based Learning module.' Below the image and text are the details: 'Level: 7', 'Credits: 15', and 'Code: DSAW7003'. At the bottom of the section is a gear icon.

Research Design



What is a research design?

What?

Who?

How?

When?

Where?

I.e. the overall plan for the way in which the methodology and methods are implemented

Some Research Designs

Design type	Key points
Mixed methodology	
Experiment	
Cross-sectional study	
Longitudinal Study	
Case Study	

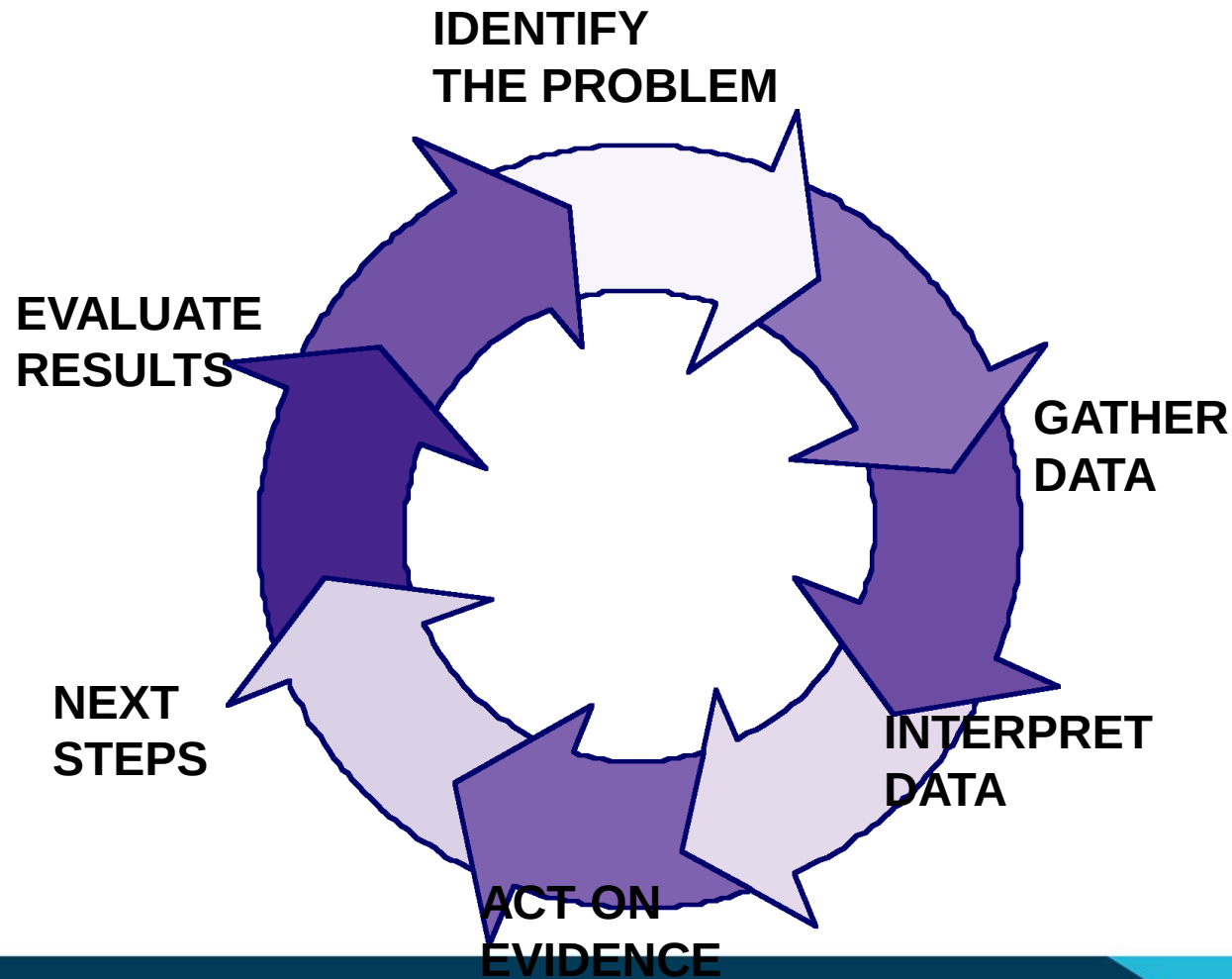
More about Action Research

What is 'Action Research?'

Action research is simply a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understanding of these practices, and the situations in which the practices are carried out (Carr and Kemmis, 1986: 162).

Action Research is a common method/design used
by practitioner researchers

Action Research Cycle



Participatory Action Research (PAR)

- The research 'subjects' are active participants in the research
- There is an emphasis on community and social improvement

Action research article

- Spend 10 min or so reading through the article by C. Wang
- The term 'action research' is present in the title of this article, but if it wasn't, how could you tell that 'action research' is involved in the 'photo-voice' project?
- What other key terms associated with research does the article mention?
- What are your thoughts about this article?

Assessment so far

- **Assessment Component 1:** Short report to explain how research could be personally and professionally relevant (20%; 800 words)



A brief look at the data generated by research and how to present and analyse

Examples of Data

- Observations, recordings



- Discussions/ dialogues/ interviews/ narratives from individuals or groups



- Case Studies: all material that covers what people do/ processes etc



- % preference and other numerical responses

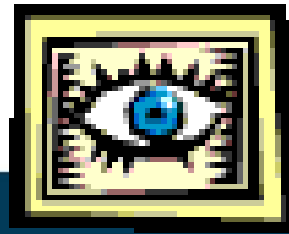


Data (information) from Research

- **Primary data:** data newly-generated by research
- **Secondary data:** data generated by past research
- **Secondary analysis:** further/new analysis of secondary data. An important source of such data is the UK Data Archives (<http://data-archive.ac.uk>)

Populations and Samples

- Imagine that you wished to find out number of people doing different jobs in a factory.
- The whole factory would provide you the '**population**' of jobs
- If you could only survey one department, you would only have a '**sample**' (would it be a 'random' sample?)
- What sort of data would be obtained? **Primary; semi-quantitative**
- How could we record these data? **quantitative**

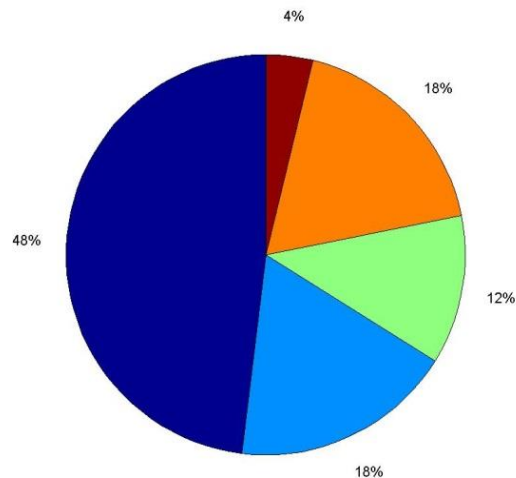


Recording data: Frequency tables

Job	Frequency	Cumulative Frequency
admin	546	546
engineer	647	1193
production	269	1462
manager	135	1597

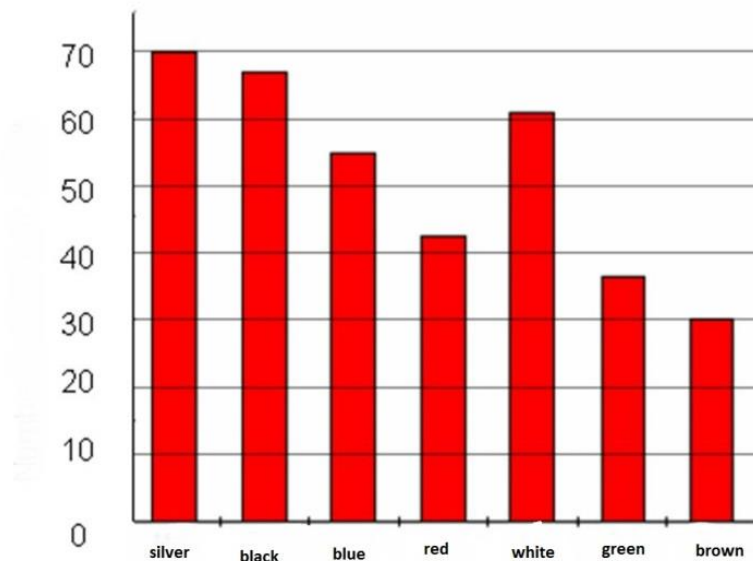
These are '**semi-quantitative**' data because one **variable** is *quantitative* (frequency), and the other (jobs) is *qualitative* (this can also be described as '**nominal**' or '**categorical**')

Representing semi-quantitative data



This is a **pie-chart**. Data is organised into categories (eg. different jobs: qualitative), with each assigned a 'piece of pie' whose size is proportional to its frequency. The whole pie (1, or 100%) corresponds to the total frequency (1597 in the previous example)

Representing semi-quantitative data (2)



- This is a vertical **bar-chart**, with *qualitative* information on the **horizontal (x) axis**, and *quantitative* information on the **vertical (y) axis**

Recording quantitative data

- Suppose you wished to investigate how the colour intensity (say on a scale of 0-10) of a plastic product depended on the processing time
- How could this data be represented?

Results Table

Time (min)	Colour intensity (0-10 scale)			
	Trial 1	Trial 2	Trial 3	Average
5	1	0	1	
10	3	3	2	
15	4	5	6	
20	7	8	8	
25	8	8	8	

averages, or 'central' tendency

This means a measure of middle/average values

Mean: sum of all values divided by frequency

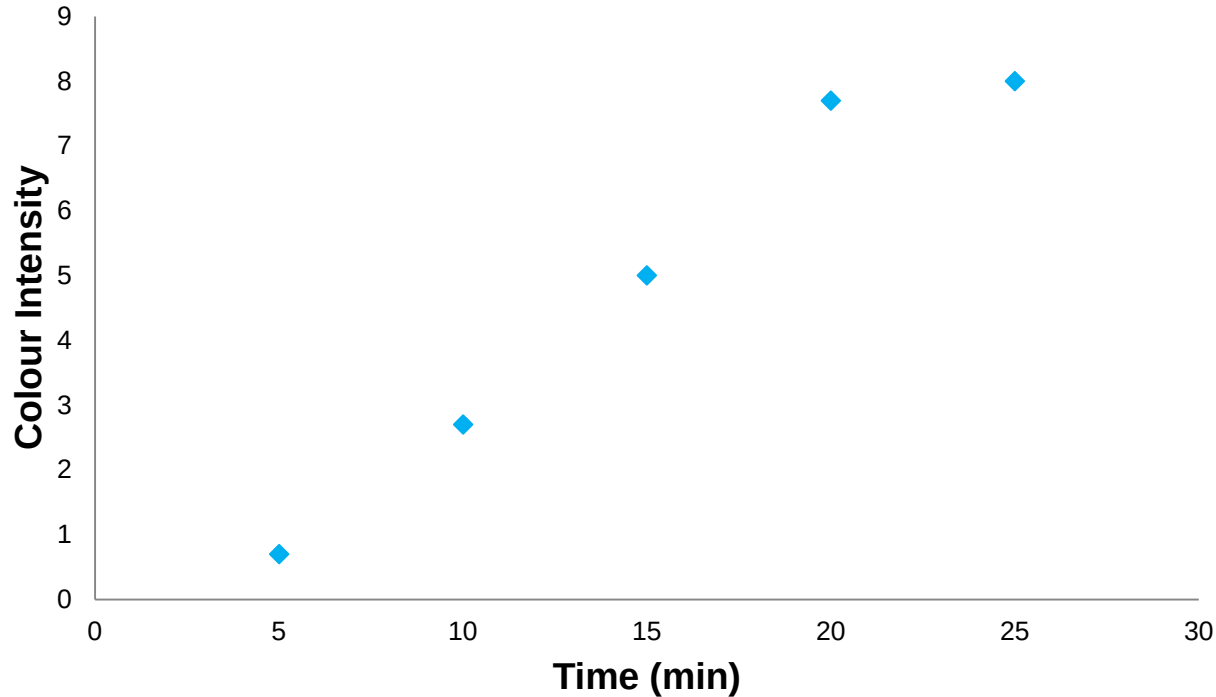
Mode: most common value

Median: value at the 50% frequency point

Table to show Summary of Results

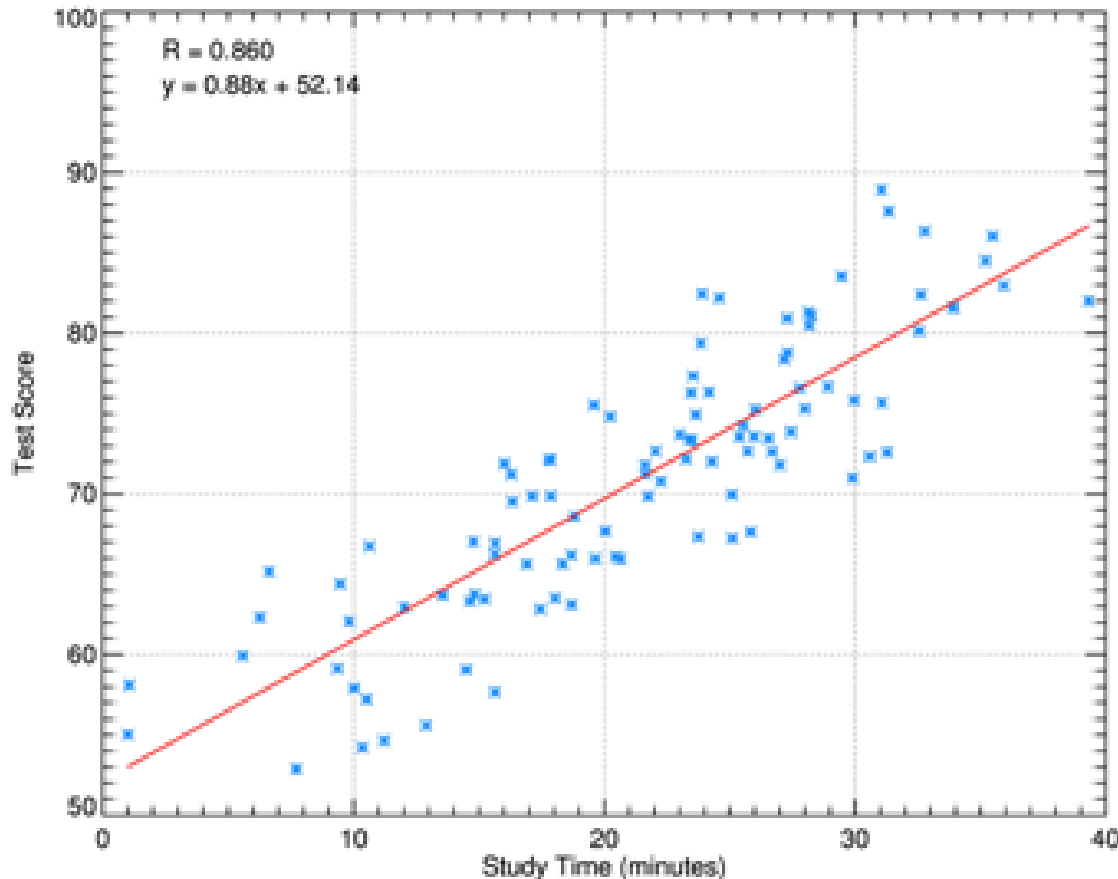
Time (min)	Mean Colour intensity (0-10 scale)
5	0.7
10	2.7
15	5.0
20	7.7
25	8.0

Scatter Plot to show relationship between process time and colour intensity



- The scatter plot shows the relationship between two quantitative variables
- Time is the **'independent' variable**; colour intensity is the **'dependent' variable**

Another example of a scatter plot



- This plot also shows a 'line of best fit' which shows the relationship more clearly
- This diagram indicates a **positive association** between the variables

Back to assessment: what next?

ASSESSMENT

- **Portfolio – L7:** 4000 words or equivalent
- **Portfolio – L6:** 3500 words or equivalent
- **Assessment Component 1:** Short report to explain how research could be personally and professionally relevant (20%; 700/800 words)
- **Assessment Component 2:** Critical evaluation of potential methodological approaches, research strategies, domains and techniques to work-based research. (80%; 2800/3200 words)

Assessment Component 2

- A **critical evaluation** of potential **methodological approaches** research strategies, domains and **techniques** relevant to work-based research.
(80%; 3200 words)

In this component, you need to focus on the range of **methodologies** and **methods** that are potentially available for work-place research, and provide a critical evaluation of them. Your evaluation will probably relate primarily to your own role and work-place, though you may wish to comment on other aspects or examples of work-place research. You should aim to make reference to key factors that could influence your evaluation such as research **perspectives/paradigms**, and you should aim to cover the main features of the 'Indicative Content' of the Module, as outlined in the Module descriptor document

Sources to inform your critical essay

Use the online catalogue of UWTSD Carmarthen's Library to find books/articles describing research in the work-place. For each item you read, think about the following:

- What sort of methodologies and methods were used, and why?
- Why were some approaches not used?

- See hand-out on structuring a critical essay

Reminder: referencing

- Use the **Harvard** system
- Example:
- Costley, C., Elliott, G., and Gibbs, P. (2010) *Work Based Research*. London: Sage.

Timetable: tbc

To do	Date
Day 2 session	Today!
Submit 1 st draft of assignment for feedback	29.7.16
Feedback	12.8.16
Final submission deadline	2.9.16

The work-based learning project

- Module DSAW6/7008/9/10
- Next Induction day 15.9.16
- See hand-out

Summary of Day

- A review of key points about research methods relating to work-based learning
- A focus on action research
- Discussion of assessment component 1
- A quick look at data analysis
- Assessment component 2: the critical essay

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