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STEM in teaching Qual Res

Graham R Gibbs

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COUNT project, funded by the HEA

Re a l title

- **Count: Developing STEM Skills in qualitative research methods teaching and learning**
- Two stages
 - Survey of teachers of qual res
 - Interviews with selected practitioners and teachers

The age of big data

Recent Horizon programme



Medical data, marketing data, cosmology, Large Hadron Collider.

Big data for the Social Sciences too

- ❑ Web pages, web sites
- ❑ Facebook
- ❑ Twitter
- ❑ Support groups e.g. in health
- ❑ Fan groups e.g. music
- ❑ Hobby groups
- ❑ Gaming etc.
- ❑ YouTube
- ❑ Printed media
- ❑ Radio and TV

All big data but also all
textual, visual, aural

Therefore need
qualitative analysis

How to collect and analyse the se data

- CAQDAS to the rescue
- = **C**omputer **A**ssisted **Q**ualitative **D**ata **A**nalysis
- Now includes tools for **text analysis, data mining** and digital resource acquisition
- Widely used at the research level
- But what about undergrad level?
- → Survey of teachers of qualitative research methods.

Survey

- Using Bristol Online Survey, April 15th to May 12th.
- N=115
- Of which 90% British, 4% o the r EU.
- 2 fro m USA

Disciplines represented

Discipline	%
Business	11
Education	15
Health	16
Management	9
Psychology	13
Sociology	17

BUT N.B. 19 sociologists across approx. 160 institutions must mean about 6% response rate (assuming 2 qualitative sociology teachers per institution).

Methods taught

- Over 42 different methods mentioned. Most mentioned several
- Over 2/3 mentioned: Interviews and Case Studies
- Over half mentioned: **Mixed Methods**/ Participant Observation/ Grounded Theory/ Ethnography
- Substantial minority mentioned:
 - Narrative/ Action Research/ Thematic Analysis/ Discourse Analysis/ Document use/ Comparative Analysis/ Life History/ Biographical/ Participatory/ Phenomenology/ Feminist/ Video/ Conversation Analysis
- **Qual Res very diverse. No dominant method.**

Teaching to undergraduates

	Qualitative Research % per yr.	CAQDAS %
Year 1	22	3
Year 2 (and Yr. 3 in Scotland)	72	13
Final Year	48	12
Undergrad dissertation	42	
Other	13	
Not taught to undergrads		60

N.B. some non-responses in CAQDAS.

CAQDAS/Text analysis s/w used

	Program	n
Undergrad use	NVivo	21
	Atlas.ti	2
	HyperResearch	1
Postgrad use	NVivo	46
	Atlas.ti	9
	MAXQDA	2
	WordSmith	1
	EndNote	1
	HyperResearch	1
	SPSS??	3
Site licence	NVivo	63
	Atlas.ti	7
	MAXQDA	2
	WordSmith	1

Only **11%** said they were thinking of expanding undergraduate provision of CAQDAS

Reasons s/w not used

Percentage of the 67 respondents not teaching at undergraduate level

Big Reasons	%
No time to use software	49
Would take too long to teach	52
No teaching expertise in using software	40
No access to software	34
Data sets used are too small to warrant software use	34

Reasons s/w not used cont.

Percentage of the 67 respondents not teaching at undergraduate level

BUTN.B.	%
No local support for software use	25
Software does not support methodologies / theoretical approach used	10
Software not relevant or not needed for the methodologies / theoretical approach used	19
I was not aware such software existed	10

- ?? Biased sample
- One respondent said “Teaching labs not adequately set up to support teaching”

Main Barriers to CAQDAS/text analysis in institution

Percentage of all respondents

Reason	%
Lack of space in the timetable:	50
Too much additional learning for undergraduates:	50
Lack of qualified teachers:	42
Lack of experienced tutors to support students:	40
Lack of sufficient PC labs with the software:	38
Also N.B.	%
Lack of good learning resources:	18
Insufficient good data sets available:	9

Main Barriers to CAQDAS/text analysis in general

□ **Time** (mentioned by 21)

Hardly any time to spend on qual in syllabus as it is, so core teaching focuses on qual fundamentals.

time constraints do not allow attention to statistical analyses

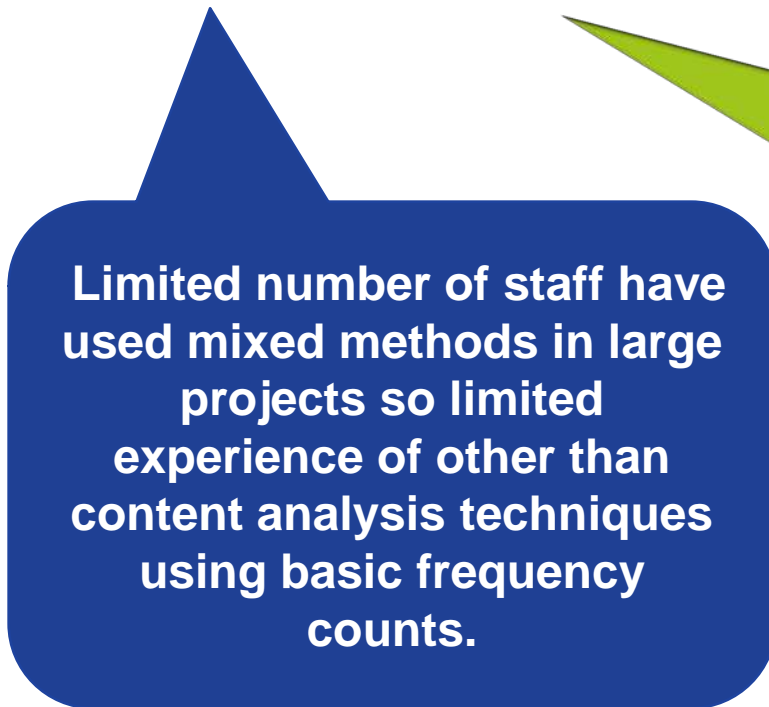
Too little time to cover qualitative methods in general - there is a 5 week lab and that's it.

Main Barriers to CAQDAS/text analysis in general

□ **Teachers lack expertise** (mentioned by 15)



**Lack of staff
expertise and
confidence.**



**Limited number of staff have
used mixed methods in large
projects so limited
experience of other than
content analysis techniques
using basic frequency
counts.**



**A lack of
experienced
tutors to
support the
teaching**

Main Barriers to CAQDAS/text analysis in general

▣ **Philosophical divide** (mentioned by 8)

I see these as significantly different methods. I want my undergrads to understand the ontological differences, before we support them in considering mixed methods.

Some people object to quantizing qualitative data

Main Barriers to CAQDAS/text analysis in general

▣ **Quants dominate** (mentioned by 4)

They already get three years of quantitative! The qualitative is usually crammed into one or two lectures, so they need to be dedicated purely to qualitative.

▣ **Student Fear of Numbers** (mentioned by 6)

Generally speaking students don't like language of numbers :-)

Staff use

- **69%** had used quantitative approaches to assist with the qualitative analysis of data or with reporting its results in their own work

Basic frequency counts of code use:	44
Word frequency counts:	35
Keyword in context:	23
Co-occurrence analysis:	7
Producing scales or typologies from qualitative data:	14
Mixed methods approaches:	32

Materials/media used in teaching

Material/media	%
PowerPoint slides:	100
Recommended texts:	98
Reading lists:	86
Prepared lecture notes:	85
Required reading:	73
Film/video/animation:	72
Case studies/role plays:	64
Tutorial/problem sheets:	63
Worked examples sheets:	48
In-class Quizzes/Tests:	45
Artifacts (as products, models, drawings/designs):	23
Computer-aided learning software / learning technology:	21
Task specific software:	12
Other ICT	11



Where third party resources have come from

Resource	%
YouTube:	50
Your Librarians' digital resources (such as e-Books):	44
Other courses on your Institution's VLE (such as Blackboard):	32
Professional body website:	24
HEA website:	19
Discipline specific website (such as Online QDA.hud.ac.uk):	16
Corporate website:	14
Another Institution's website / VLE:	11
National educational repository (such as JORUM):	8
Open access repository (such as OpenLearn):	8
iTunesU:	8
Box of Broadcasts:	8
Flickr:	4
Other (incl. own developed resources):	3
BUFVC:	1
MOOC / open courseware (such as edShare):	0

Lots of use of available digital resources

Conclusions

STEM skills and software in qual research teaching?

Pro

- Many use techniques and software
- Software site licence common

Cons

- Diverse methods and lack of expertise
- Time/space
- Student objections/challenging

Resources needed – video and data sets

Next stage

- Interviews
- Examination of resources etc. respondents have indicated they are willing to share.