Project...

**Teaching Geographic Visualisation**
Evaluating student understandings of visualising geographic knowledge.

Report to...

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Aims.

The project set out to “evaluate students’ understanding of visualisation techniques and the usefulness of different teaching approaches to help students understand the complex issues involved in visual representation.”

In summary, this report covers the first two of the following three aims:
1 – to evaluate students’ understanding of visualisation techniques
2 – to evaluate the usefulness of different teaching approaches
3 – to assess the construction of assessment criteria for the visualisation assignment

To achieve the objectives, Peanut were commissioned to evaluate “the delivery of a visualisation assignment on a second year undergraduate module about globalisation”, using participatory techniques and approaches.

Participatory research methods combine a collection of activities (or ‘tools’) and a set of principles (or ‘attitudes and behaviours’). They are used to involve people and encourage them to explore and communicate their perceptions, opinions, experience and knowledge. Participation alters the balance of power that usually exists between the research subject and researcher. Participants own and retain the expert knowledge about the topic, while the researcher’s expertise is in the participatory approaches and finding the best way for people to express themselves, not necessarily the subject being studied.

Participatory research is a qualitative approach. Participants are brought together in groups to explore a topic together and taken through a process involving different activities. The activities and process will often vary as participation lends itself to a range of different results. Analysis is through the drawing out of themes from conversations recorded as non-numerical, often text data. The ‘tools’ act to encourage conversation and as a visual record which can include photography, video, drawing, maps, matrices and diagrams. Notes taken by researchers provide additional depth.
Method.

Peanut prefer to work with an optimum group size of either sixteen or twenty, as four to five groups of four individual participants. As part of the project, we planned to involve around sixty students in the group work. The sixty students were split into three groups of around twenty. Each group was allocated a two hour session both as part of the benchmarking exercise at the early stages of the assignment, and the evaluation, towards its end.

The following plans (‘Benchmarking’ and ‘Evaluation’) are included as an outline of the method used to achieve the aims set out (See Aims) above.

Benchmarking Plan.

Photographs and notes will be taken throughout. Peanut will evaluate the activities following each of the three sessions. The following activities will be repeated at the end of the course to assess change.

Lines of preference.

Activity Outline.

Participants are asked to stand at either one or other ends of an imaginary line depending on their perception, preferences or opinion about a subject. Neutral space is at the middle of the line and can be either prefer ‘both’ or ‘neither’. Questions to be considered by the participants...

- Working/Studying in... ‘Groups’ or ‘Individually’
- Expressing yourself in... ‘Pictures’ or ‘Words’
- Learning style... ‘Listening’ or ‘Doing’

Following each...

- Do head count and note numbers.
- Ask participants why they’ve chosen to stand where they have, and note comments.
- Give them a final opportunity to change their minds (presumably having learnt something new from the comments from the previous stage).
- Ask those that have moved why.

Activity Rational and Outcomes.

- A bit of fun to put participants at their ease.
- Get a rough head-count of preferred learning styles and ‘qualitative’ commentary to support participant’s positions.
- Forces participants to make a choice, helps to clearly visualise where participants (as a group of individuals) stand on an topic or subject.

Split into two groups.
Following the last ‘preference’ keep participants in their two groups (of preference), splitting people in the middle among the two groups for the next exercise.

**Graffiti walls (words, individually)**

**Activity Outline.**
Two graffiti walls (on two different walls), asking...
- ‘What do you understand by the term... ‘visualisation’
- ‘What are your expectations of... the module/assignment (prompting to think about... what bits are you’re looking forward to? Fears you might have? What you think the challenges might be? Will it be more easy or difficult than other modules or assignments?)

The two groups swap questions half way through the exercise, so that both groups answer both questions.

**Activity Rational and Outcomes.**
- To get a feel for participant’s understanding of the term visualisation and what it entails.
- Also learn from participants about their perception about, and feelings for, the visualisation task.
- Observe how the participants work in a larger group, in comparison with the later tasks when they will work in smaller groups and individually.

**Comparison Chart**

**Activity Outline.**
To make an initial assessment of which teaching approaches and methods students feel (or perceive) both ‘Help them to learn’ and ‘Which they prefer’.
- Individually think of all the teaching methods and approaches that they’ve experienced during their degree so far (no leading or explanations, interpretation is important).
- Write on post-it notes.
- Hand out ‘Comparison Chart’ sheets for the students to place the post-it notes where they feel they best fit.
## Comparison Chart.

<table>
<thead>
<tr>
<th>Preference</th>
<th>Most/Dislike (3)</th>
<th>A Bit/Dislike (2)</th>
<th>Least/Dislike (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dislike</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Bothered</td>
<td>Most/Not Bothered (5)</td>
<td>A Bit/Not Bothered (4)</td>
<td>Least/Not Bothered (2)</td>
</tr>
<tr>
<td>Like</td>
<td>Most/Like (6)</td>
<td>A Bit/Like (5)</td>
<td>Least/Like (3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Most</td>
<td>A Bit</td>
<td>Least</td>
</tr>
</tbody>
</table>

Helps To Learn

Scores will be summed to give a rough guide to which approaches are most ‘preferred’ and which ‘help to learn’ the most.

### Activity Rational and Outcomes.
- To provide some subjective understanding about student views of teaching methods.
- To assess students appreciation of the range and type of methods used to teach and assess.

### Split into three groups using ‘Root Veg’.

### Carousel

#### Activity Outline.
Three pieces of flip-chart asking three different questions...
- What information could we visualise?
- Why would we visualise information?
- How could we visualise information?

#### Activity Rational and Outcomes.
• To get a more in depth assessment of participants understanding of the topic.
• To allow the participants a chance to discuss their thoughts.
• Observe how the three groups work in a larger sized group when compared to individual working.

Split into groups of five.

H-Form.
In smaller groups consider...

• ‘positive’
• ‘negative’
• ‘changes/improvements’

... to the way we are taught.

• Demonstrate the use of a H-Form.
• In groups of five, use the activity to think through the three questions.

Activity Rational and Outcomes.
• To add detail to the ‘Comparison Chart’ activity.
• Get an understanding as to how participants think they would prefer to be taught, such as those things that might be more visual in style.
• To observe how participants work in smaller groups.
Tick List.

Activity Outline.
Provide participants with a qualitative questionnaire (See following page) to be completed before leaving.

Activity Rational and Outcomes.
- Add to findings about how comfortable participants are to work in smaller groups, larger groups and individually.
Tick List (Cont.)

Thinking about the activities we’ve just done please tell us what you thought.

Which did you prefer?

- Working on my own
- Working in a small group
- Working in a large group

Why?

When you worked in groups, how was it? (tick all that apply)

- I had something to say and had a chance to say it
- I had something to say but couldn’t get a word in
- I said something and people listened
- I said something and no one took any notice
- I had nothing to say
- Everyone took part
- We worked well as a group
- We didn’t really work as a group

*Why do you think this was?
Evaluation Plan.

Photographs and notes will be taken throughout. Peanut will evaluate the activities following each of the three sessions. The following activities build on three previous benchmarking sessions, comparison with responses from those will reflect change.

Split into two groups.
Split participants attending into two groups, it doesn’t matter how.

Graffiti walls (words, individually)

Activity Outline.
Two graffiti walls (on two different walls), asking...

- (Thinking back to your expectations before starting the project), “How did it go?”
- Jog participant’s memories with some of the types of things they said during the benchmarking session. Things like... pictures/drawing, group work, something a bit different, excited but also trepidation/worry, not sure what it’s going to be like.

N.B There is no second Graffiti Wall as there was during the benchmarking session. What participants have learnt and understand about visualisation should come out, specifically, during the following exercises.

Activity Rational and Outcomes.

- To get responses that can be used to draw a comparison with participants expectations from the previous benchmarking sessions.
- Also learn from participants about how the visualisation task went.
- Observe how the participants work in a larger group, in comparison with the later tasks when they will work in smaller groups and individually.

Timeline
This task is to be done by all participants, individually. Take a sheet of flip chart, stick your group (from the task) name on it. Draw a timeline of your project. Start at the beginning (the last benchmarking session)and use your timeline to tell us “What you did?”, “When?”, “Why?”, “How?”, Etc.
• Ensure that participants leave things they don’t want to share off the timeline.
• Allow 15 minutes to do the timelines.
• Check we understand anything that might be unclear.
• Ask the participant’s to take some post-it notes and mark on their three highs, and three lows.
• Thank participants and gather in the timelines.

N.B usually there would be a detailed feedback session but there won’t be time to do this and things written could be contentious and so should remain anonymous.

Activity Rational and Outcomes.
• Get participant views about the project, how it went for them and some idea about the process they used.
• Will be used to compare with the graffiti wall, asking about visualisation, during the previous session.

People Map.
Use holidays, something you would take with you, something you would bring back.
• Energiser and split into three groups.

Carousel

Activity Outline.
Three pieces of flip-chart asking three different questions...
• What information could we visualise ?
• Why would we visualise information?
• How could we visualise information?

Activity Rational and Outcomes.
• To get a more in depth assessment of participants understanding of the topic.
• To allow the participants a chance to discuss their thoughts.
• Observe how the three groups work in a larger sized group when compared to individual working.
• Draw a comparison with the responses from the previous session.

Split into smaller groups of five.

H-Form.
In smaller groups consider...
• ‘positive’
• ‘negative’
• ‘changes/improvements’

... to the teaching methods as part of the project.

• Demonstrate the use of a H-Form.
• In groups of five, use the activity to think through the three questions.

Activity Rational and Outcomes.
• Get participant’s views about the type of methods used during the assignment and how well they think they were used.
• To observe how participants work in smaller groups.

Tick List.

Activity Outline.
Provide participants with a qualitative questionnaire to be completed before leaving.

Activity Rational and Outcomes.
Fill the tick list for comparison with the previous benchmarking sessions.

(See ‘Tick List’ above)
Findings.

Attendance.
Over half, thirty five, of the sixty students invited to attend the first set of sessions actually attended. The figure dropped to eleven for the evaluation sessions.

Table 1 Student Attendance

<table>
<thead>
<tr>
<th>Session</th>
<th>Benchmark</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>17</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>35</td>
<td>11</td>
</tr>
</tbody>
</table>

Tick List Responses.
The tick list was included to gain some understanding of participating student’s perceptions of group work. The same list was filled at the end of the benchmarking and evaluation sessions. It may provide some insight into changed perception as a result of the group work project.

Table 2 Tick List Responses

<table>
<thead>
<tr>
<th>Question 1, Responses</th>
<th>Benchmark</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question: ‘Prefer…’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A Working on my own?</td>
<td>4 11</td>
<td>1 9</td>
</tr>
<tr>
<td>B Working in a small group?</td>
<td>15 43</td>
<td>9 82</td>
</tr>
<tr>
<td>C Working in a large group?</td>
<td>0 0</td>
<td>1 9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 2, Responses</th>
<th>Benchmark</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question: ‘Group Work…’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A I had something to say and had a chance to say it?</td>
<td>17 49</td>
<td>11 100</td>
</tr>
<tr>
<td>B I had something to say but couldn’t get a word in?</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>C I said something and people listened?</td>
<td>16 46</td>
<td>10 91</td>
</tr>
<tr>
<td>D I said something and no one took any notice?</td>
<td>0 0</td>
<td>1 9</td>
</tr>
<tr>
<td>E I had nothing to say?</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>F Everyone took part?</td>
<td>16 46</td>
<td>9 82</td>
</tr>
<tr>
<td>G We worked well as a group?</td>
<td>17 49</td>
<td>9 82</td>
</tr>
<tr>
<td>H We didn’t really work as a group?</td>
<td>1 3</td>
<td>0 0</td>
</tr>
</tbody>
</table>
**Evaluation, H-Form Scores**

During the evaluation session participants were asked to use a H-Form to tell us about the assignment... the things they felt positively about, negatively about and changes or improvements they thought could be made. Participants were also asked to rate their experience using a mark on a line, in the event students also provided numerical scores between zero and ten. The following images show the scores.
Did not fully understand fully what we had to do in the primary stages.

Changes/Improvements

6/10

1

0

Changes/Improvements

Could provide workshop/handout on how to use specific software

8/8

Jons lectures were as background to VTS.

Other lectures

10
**Word Clouds.**

Word clouds are a visual representation of a word’s relative frequency as it appears in a piece of text. In this case, words that occur more frequently are formatted to appear more prominently. In the first example below for example ‘easier’, ‘learning’, ‘things’ and ‘different’ occur more frequently than the other words in the original text.

Caution should be exercised when using word frequencies as a way of analysing text data. ‘Greater frequency’ should not be assumed to indicate or reflect ‘greater importance’. Words are also isolated from the original context, possibly leading to meaning being obscured or lost altogether. Finally, a word’s frequency in a piece of text is only relative to the words in that piece of text. A difference in the number of words in different pieces of text, for example, are not accounted for.

Word clouds can be useful to make comparisons and as a summary of text data. In this case, between text included as answers to the same question asked in both the benchmarking and evaluation sessions. For example, answers to the first question ‘Visualisation, Why?’ (see the pair of word clouds on the following page) during the benchmarking session included ‘easier’ and ‘different’ as two of the most frequently repeated words. While ‘different’ retains a relatively high frequency compared with most other words during the evaluation session, ‘easier’ is repeated, relatively, less often. This might indicate that having completed the assignment, students found the piece of work less easy than they originally thought it would be.
Benchmark – ‘Visualisation, Why?’

Evaluation – ‘Visualisation, Why?’
Benchmark – ‘Visualisation, What?’

Evaluation – ‘Visualisation, What?’
Timelines.
A timeline is an event mapped pictorially (or otherwise) in chronological order. It will often start in the past and can end at any time after. This could be a later time in the past, at the present or into the future to represent a prediction, ideal or hope. The timeline is often also used to help participants think through things that ‘went well’ and ‘went less well’. This is useful for evaluation work and to compare the same chronology from different participants perspectives.

Comparison can only be made between the individual participants of the ‘Arms R Us’ group. They were the only group that attended the evaluation session in sufficient numbers. However, more general comparisons can be made between the members of different groups. The comments from all timelines have also been grouped into themes as one of the maps in the ‘Data Themes’ section below.

Subject – Arms Selling
Subject – Arms Selling

Arms 'R' Us!

Came up with our design of global arms dealers and made our "Arms" and name of "Arms R Us!"

- Worked on presentation
  - Projected slides, gave a presentation, and decided on which idea we liked.

- Vaulting visual aids
  - Visualisation techniques used to assess some good ideas,ims for design ideas and how to change them.

- Brand identity
  - Local culture used to create final visual.

- Database on 3D webs |
  - Having to request for data.

3 things high:
- Working in a group to get final presentation
- Making charts:
  - Collaboration of data!
  - Excerpts and opinions of arms globally

3 things low:
- Having to design our final presentation board.
  - Changing our slides on the board to a running board on internet.

Subject – Arms Selling

ARMS 'R' US

Came up with an idea of global arms dealers and made our "Arms" and name of "Arms R Us!"

- Worked on presentation
  - Projected slides, gave a presentation, and decided on which idea we liked.

- Vaulting visual aids
  - Visualisation techniques used to assess some good ideas,ims for design ideas and how to change them.

- Brand identity
  - Local culture used to create final visual.

- Database on 3D webs |
  - Having to request for data.

3 things high:
- Seeing the project come together
- Uniting as a team (real team)

3 things low:
- Having to design our final presentation board.
  - Changing our slides on the board to a running board on internet.
Subject – Arms Selling

Subject – Starbucks Coffee
Subject – Northumberland Street Store Profits

Subject – International Students at Northumbria University
Data Themes.
Responses from each of the two sessions and for every exercise was recorded either as digital photographic images or as text comments. The comments are presented as ‘mapped’ themes as follows:

Benchmark...
- Graffiti Wall: Expectations. Finding out student’s expectations of the assignment.
- Graffiti Wall: Visualisation. How students interpret the word visualisation.
- Carousel: Visualisation, Why? Why students think visualisation is used.
- Carousel: Visualisation, What? What sort of things can be visualised.
- Carousel: Visualisation, How? What ways can things be visualised.
- Impact Rank: Teaching Methods, Most. Teaching methods that students prefer most, and how useful for learning.
- Impact Rank: Teaching Methods, A Bit. Teaching methods that students prefer a bit, and how useful for learning.
- Impact Rank: Teaching Methods, Least. Teaching methods that students prefer least, and how useful for learning.
- Tick List: Comments. Comments supplementing the questionnaire.

Evaluation...
- Graffiti Wall: Assignment. Asking students for any general comments about the assignment.
- H-Form: Assignment. Asking students for more specific comments about the positive and negative aspects of, and changes to, the assignment.
- Timeline: Assignment. Individual project timelines supplemented with comments about ‘ups’ and ‘downs’.
- Carousel: Visualisation. Revisiting the ‘benchmark’ carousel asking about visualisation ‘why?’, ‘what?’ and ‘how?’.
- Tick List: Comments. Comments supporting the quantitative questionnaire scores.

The comments appearing at the end of each ‘leg’ of the theme maps are participant’s verbatim responses. Working back towards the centre of each map are the data ‘themes’ which group similar responses and provide a way of structuring responses for analysis, drawing out meaning and facilitating reading. In some cases there are different theme levels, moving from less specific groupings through to more specific groups of responses. The themes were chosen by the researchers to represent the data, not by the participants.
Benchmark - Graffiti Wall Expectations

Creative
- Opportunity to express inner creativity
- Easier to use pictures to help explain things
- Draw/Pictures
- Do we have to draw?
- What colours/colour scheme to use
- Too arty.

Different
- Something different
- Something different
- Something a bit different

Essay
- Quicker than an essay
- Easier than an essay
- Looking forward to no essay
- Not looking forward to it, prefer an essay

Groups
- Working as team
- Like working in groups
- Social
- Is it group work
- Don't know how work is going to be divided in group
- Group work - positive and negative - out of lecture work - motivation of others choose groups
- Depends on whether it involves group work - if it does than I am scared

Learning
- Different techniques for learning
- Chance to learn new skills
- I learn through visual things

Emotions
- Mind-blowing
- Excited
- Nerve wrecking
- Ready to start
- Looking forward to it
- Stress

Comment
- A presentation
- Poster
- Get your point across

How? and Why?
- I like the geographical visuals I have seen so far
- Geography perfect for visual interpretation

Difficult... Or Not
- Presenting: hard to present visualising
- Sounds difficult
- Less straightforward
- Difficult but a good challenge
- Visualisation of what - pictures involved - more creative - find something different and unique will be hard
- Hard to keep it neat. Poor handwriting.
- I think I will be good at it
- Or Not
- More fun
- Interest

Unsure
- Do we have to interpret something in our own way
- Does it involve presentations
- Unsure till I know what the project is
- How will it be marked
- Don't know
- I don't know
Benchmark - Graffiti Wall Visualisation

Why?
- Learning and Creativity
- More creative way of learning
- Creativity and imagination
- Imagine
- Observation and examining
- Analysing - summing up
- Contrasts [easier to show when exhibiting contrast]
- Variation
- Different perspectives
- Something that stands out
- Participation - student input
- Might be difficult for others to understand
- Nice to look at
- Looking at stuff
- Understand
- Simplify
- Representation
- Representation

How?
- Practical
- Words
- Words and pictures put together
- Not words
- Video
- Videos
- Maps
- Maps
- Charts and Diagrams
- Diagrams easier to explain
- Posters and diagrams
- Spider diagram - colour coordinated
- Graphs
- Pie charts and graphs
- Charts
- Colour
- Colours
- Art
- Artistic things are not always someone's strong point

Comments
- Might not get idea across to others
- Not as easy to interpret
- Less accepted?
Peanut 2011
Independent thought, though groups your opinion can be silent
Think for yourself, don't get influenced
Prefer working on own but like the change
Other contributions
Different from norm.
Large group can be too much, unorganised
Experience what you may miss
Able to talk, share ideas.
Allows you to get other people's ideas
Get other ideas more intimate
More ideas, with not too many people talking. More detail to answers.
Ideas from others
Variety of opinions
More interesting than individual work, more inputs - not stuck of thinking of answer on your own.
Met new people on the course
Gives other inputs to produce better ideas and broader outcomes
Prefer working on own but like the change
You get different inputs and encourages everyone to contribute
Interaction
Talked more, everyone had a chance to say things
Not too many people trying to give inputs at once
Enjoy working with people
Prefer to have everyone's input
Can have a reasonable discussion without any hectic noise
Everyone gets a good chance to give input
Easier to interact and have a say
More personal level everyone listens
Easier to interact, good to share ideas and thoughts
Less intimidating
Confidence
Allows you to feel more confident speaking out and contributing ideas
Large groups - can be difficult to get points across and fear of saying something
Good to get into habit and feeling relaxed in group work

Small groups so no one was talking over each other
Using visualisation
Because the task just involved coming up with your own ideas
For this session the people that turned up are the ones wanting to work and participate in

Benchmarks - Ticklist
Comments

Group-work, Preference?
Small Group

Group-work, Why?

**Evaluation - Graffiti Wall Assignment**

- **Enjoyable**
  - Swimmingly
  - Successful
  - Fantastic
  - Enjoyed
  - Enjoyable
  - Fun assignment
  - Good fun, better than expected - challenge, change - nice, arty
  - It should be in an art gallery
  - Better than a presentation as not in front of large group of people but a few at a time

- **Challenging**
  - More difficult than 1st thought (poster)
  - hard to work out how to make [the idea work]
  - Harder than expected but enjoyed it.
  - It was challenging but fun to do something other than an essay or exam

- **Groups**
  - Enjoyed working as a group
  - Good group - all worked well together
  - Good group, easy to work with
  - Easier to manage the group.
  - Well organised
  - Better than expected, group worked well sometimes
  - Better participation from the group than expected
  - Good that we picked groups - better than other modules.

- **Skills**
  - Learnt a new skill
  - Would have been useful to get help on computer programmes
  - Could see a quick development of a project
  - Developing ideas

- **Interesting**
  - More interesting than exam/essay
  - Interesting and different from the norm
  - Thought provoking
  - Thoughtfulness
  - Used brain differently

- **Evaluation keywords**
  - Enjoyable but also Challenging
Evaluation - HForm Assignment

Positive

Getting to choose own groups
- Ideas, never would have thought - due group work (it was group work that generated the ideas)
- Good that we got to pick own topic (and Jon always there to give feedback)

Groups
- Choose who [to] work with

Critical feedback
- Crit useful. Help with improvements. Liked seeing others work

Crit
- Having the critique with everyone helped to improve work
- The critical review and draft review really helped with developing the visualisation.
- Had to have things done for each seminar so people had to do work.

Teaching
- Good that in seminars we peer marked each others work and getting feedback.
- Tutors were enthusiastic about our choices
- Good feedback when we did see the tutors
- [Good that we got to pick own topic] and Jon always there to give feedback.

Tutors
- Really in-depth handbook

Skills

Voluntary sessions on using computer programmes people may want to use - Maybe later on in project so doesn't influence people's choice of visualisation.
- Train - data sources
- Train us to use photoshop
- Could provide workshops and handouts on how to use specific software
- Could have been more data on my work about the project.
- Worried we weren't at the same standard as other groups

Skills

More information about final expectations
- Show previous work from students
- Show us more previous examples
- More staff help if needed esp for the computer programmes.
- Make some lectures skilled based.
- Could have had a workshop about editing
- Voluntary sessions on using computer programmes people may want to use - Maybe later on in project so doesn't influence people's choice of visualisation.
- Train - data sources
- Train us to use photoshop
- Could provide workshops and handouts on how to use specific software
- Could have been more data on my work about the project.
- Worried we weren't at the same standard as other groups

More information about final expectations

Negative

Trying to get an idea is hard initially
- Little/no help with software
- No training in editing suites
- Wanted to use software but unable to with no experience
- Little guidance on how to use editing tools
- No help with actual ways of doing visualisations e.g. illustrator, GIS
- Not much face time with the lecturers
- Harder to design when staff are sometimes not available.
- Seminars a bit wishy washy
- Not enough seminars
- Only one lecture on actual visualisation
- Not sure how the lectures fit in with the assignment (global change lectures)
- Did not fully understand fully what we had to do in the primary stages
- Didn't really get taught anything
- No real help - data

Negative

Staff

Teaching

Lectures, Seminars

Exercises

Changes/Improvement
Getting initial idea, something to work on
- Became excited as our idea sounded like good fun
- When we came up with the idea
- General idea, hopping over the 1st hurdle (coming up with concept)
- Getting an idea. As then we know what we are doing and getting ideas
- Box/shop front Northumberland street idea decided: Plan action, knowing what to do
- Found some good articles that prompted development of our visualisation
- Agreed on the design and we had taken a while to get there.
- Designing the outline as we thought we wouldn’t be able to do it.
- Coming up with how to display the data
- Finished collecting the data. It was a lot of tedious work.
- Maps looked good and started to understand how to use illustrator
- Seeing the project coming together
- Showing work to others (Prototype exhibition)
- Draft critical review—helped with ideas, showed us where we were going wrong and what was good
-crit
- Critical review helps us develop final idea—small mistakes can be changed and improvements
- Created coffee bean map
- Project finishing
- Seeing the final project
- Seeing final design put together
- Thought our visualisation was (better) than expected.
- Final product better than expected, looked well presented
- Good feedback, sense of accomplishment
- Good improvements suggested. Very useful.
- Working in a group: great fun
- Fun spending time as group/creative
- Spending time with people on my course that I don’t spend a lot of time with.
- Feeling that the group accomplished something that some people may not have done.
- Good group, everyone chipped in, easy to work with
- Being inventive
- Not writing a lot
- I have always been an art person, so I was doing something I liked.

Hard to decide what data to use
- Having to wait for data
- Finding data-reliable sources
- Took ages to collect data—very boring
- Collecting the data, unsure on what I was doing with it
- Hard because of different art levels in the group
- Doing all the work
- Compromising on ideas was hard. Would have preferred for it to be an individual project.
- Finding time to meet up with group, with all of other group work going on
- Hard to contact group in primary stages
- My group was disorganised in time keeping
- Not having an idea
- No idea what to do
- Too many ideas, hard to think what would work time spent daunting
- Such a wide range of topics—had a few ideas but difficult to decide
- When we realised some of our ideas wouldn’t work for our design, so had to change them.
- When we did have an idea, not knowing how to visualise it
- Finding it difficult to think of things to relate to topic and how to visualise.
- Can’t get the scripts to run our data properly. Very frustrating.
- Using microsoft paint.
- Too much development over design. Not moving anywhere.
- Became worried we wouldn’t get it finished as we wouldn’t meet for a while.
- Worry, stress: wasn’t sure if we would get lego which shows the actual geography.
- Beginning the product on the board and presenting it on the board
- Feedback was quite negative, we thought we had a great idea presented well, but other groups thought it would be better a lot different
- Bad at art—finding other parts of project I can do

Evaluation - Timeline Assignment

Ideas
- Project
- Getting there
- Highs
- Lows?

Groups
- Project
- Finishing
- Feedback
- Time
- Technology
- Others
Evaluation - Carousel Visualisation

Why?
- Interesting
- More interesting
- Easy to read/Understand
- Easier to understand
- For clarification
- Communicate ideas
- Show a lot of information over smaller space
- Useful as a summary
- A lot more fun than presentations/essays
- Group work (different ideas)
- Because you can
- People learn in different ways / info
- Can be less scary - i.e. emergency procedures on aeroplane

What?
- Pictures
- Photographs
- Images
- Video
- Videos
- Art
- Dance
- Song
- Maps
- Models
- Charts
- Diagrams
- Games
- Use of a famous boardgame to help present data

How?
- Data
- Facts
- Global scale
- What? and Why?
- Video and Images
- Performance and Art
- Maps and Models
- Charts and Diagrams
- Games
- Animation
- Anyway
- Colour
- Figures
- Proportional
- Proportionate Symbols
- Shapes
- Using Imagination

How?
- Photographs
- Maps
- Comparisons
- Change over time
- Similarities
- Global Trends
- Processes
- Places
- Brands
- Sports
- Impacts
- Feelings
- Consequences
- Figures
- Data
- Information
- Facts
- Stuff that can't be described in words
- Empirical data that would be too hard to describe

Everything
- Everything
- Everything
- Theory
- Concepts
- Ideas
Evaluation - Ticklist Comments

Group-work, Preference?

- Small Group
  - Ideas
    - Bounce ideas, not too many people to annoy you
    - Was good that we could discuss in small group. Everyone able to contribute and share ideas. Prompted good discussion. No-one felt uncomfortable speaking.
  - Collaboration
    - Allows responsibility to the individual but allows collaboration. Work gets done.
    - If you can choose your group, relaxed working atmosphere
    - In a small group people don't fight for control as much
    - Everyone gets involved and has an input
  - Large Group
    - As there was less work, however everybody could help develop the project in some way whether being software or writing skills

Group-work, Why?

- On Own
  - Because I am responsible for my grade and I know how much effort I need to put into it
  - Get to work with others, but group is small enough so nobody gets left out. You can all express your ideas

- Ideas
  - Make ideas heard-more discussion

Picked our own group with friends, don't want to let others down

As I did this was useful
Got along
Friends previously so good communication