

Assessing discovery: User discovery pathways



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Agenda

- What does the environment look like?
- Background: Talk aloud study
 - User discovery pathways previous analysis
- Data results – how did we tabulate and organize
- Data and patterns
- Results analysis discussion
- Conclusions
- Next steps

A few moments of confusion

- How to find a book
 - <http://youtu.be/WXIXDnBnUTk>
- Advice for searching
 - <http://youtu.be/cBH2tp7QWF8>
- Vs
- The Classroom
 - <http://youtu.be/HbVKPhVCRFI>

Talk aloud survey

- Part of a larger set of activities focused on usability
- Includes members from Systems, Public Services, Metadata
 - Reiterative design
 - User profiles and understanding
 - Advisory to Discovery Systems unit

Study

- Recruited 8 volunteers, offered \$25 gift card
- Outline 3 search tasks
 - Questions One: Find resources on a topic
 - Question Two: Find a journal article (known item search)
 - Question Three: Find a book chapter (known item search)
- Process
 - “As you work through each task talk about what you are doing, why and what you are thinking.”
 - Students were observed, prompted to answer questions such as ‘what would you normally do?’ but not told what is the “correct” way
- Demographics
 - 8 students: 2 grad and 6 undergrad (7 science/engineering and 1 social science)

USI: Single Search Box

The screenshot displays the University of Calgary Library website. At the top, a dark blue header contains the word "Library" in white. Below this is a light blue navigation bar with links for HOME, SEARCH COLLECTIONS, SERVICES, HOURS & LOCATIONS, ABOUT US, GET HELP, and CHAT NOW (with a chat icon). The main content area features a white search box with a "SEARCH" button and a magnifying glass icon. Below the search box are three columns of links: "Study" (Book a Workroom, Quiet Study Spaces, TeamSpot, Workroom Features), "Technology" (My Library Account, Computer Availability, Digital Media / Gaming, Software & Technology), and "Research" (Research Guides, Consult with a Librarian, Research Tutorials, Check a Citation). To the right is a "Assignment Tracker!" graphic with a chalkboard background, the University of Calgary logo, and a list of checkboxes: Next, Tomorrow, Later, and NOW (which is checked). Navigation arrows are visible at the bottom of the graphic.

Library

HOME SEARCH COLLECTIONS SERVICES HOURS & LOCATIONS ABOUT US GET HELP CHAT NOW

Start your research here!

SEARCH

Study

- Book a Workroom
- Quiet Study Spaces
- TeamSpot
- Workroom Features

Technology

- My Library Account
- Computer Availability
- Digital Media / Gaming
- Software & Technology

Research

- Research Guides
- Consult with a Librarian
- Research Tutorials
- Check a Citation

Assignment Tracker!

- Next
- Tomorrow
- Later
- NOW

UNIVERSITY OF CALGARY

USI: Bento Box Layout before study

Search All

Journal Articles

[Usability test results for a discovery tool in an academic library](#)
Paulo, Jonathan RNelson, Carl SMandernach, MerisSaunders, GroverFagan, Jody Condit
Information Technology and Libraries Mar/2012, Volume 31, Issue 1, pp. 83
Journal Article: [Full Text Online](#)

[Evaluating and comparing discovery tools: how close are we towards next generation catalog?](#)
Sharon Q. YangKurt Wagner
Library Hi Tech 2010, Volume 28, Issue 4, pp. 690 - 709
Trade Publication ArticleJournal Article: [Full Text Online](#)

[The Impact of Web-scale Discovery on the Use of a Library Collection](#)
Way, Doug
Serials Review 2010, Volume 36, Issue 4, pp. 214 - 220
Journal Article: [Full Text Online](#)

[Discovering discovery tools](#)
Balas, Janet L
Computers in Libraries Mar/2012, Volume 32, Issue 2, pp. 32
Trade Publication ArticleJournal Article: [Full Text Online](#)

↳ [See all 313,759 articles from Summon](#)
[See all articles for Library & Information Science](#)
[See all articles for Engineering](#)
[See all articles for Education](#)

Databases

Library & Information Studies
Library and Information Science Abstracts (LISA)
Library Literature & Information Science Full Text
Choice Reviews Online
[View More Results...](#)

Books & Media

[The special educator's tool kit](#)
Barratt, Sarah J
LC3965 .B36 2008 [Nearby Items](#)
Book: Calgary Learning Centre Library

[Licensing in libraries: practical and ethical aspects](#)
Rupp-Serrano, Karen
Z678 .A1 J67 V.42 NO.3/4 [Nearby Items](#)
Book: Taylor - General Collection

[Project management tools and techniques for success](#)
Tayntor, Christine B
T58.5 INTERNET [Nearby Items](#)
eBook: [Full Text Online](#)

[SOA modeling patterns for service-oriented discovery and analysis](#)
Michael Bell
TK5105.88813 [Nearby Items](#)
eBook: [Full Text Online](#)

↳ [See all 294,018 results from Summon](#)
[See all 294,002 Book / eBooks](#)
[See all 15 Government Documents](#)
↳ [Search the catalogue for books & media](#)

Journal/eJournals

[Weekly Amusement, or Universal Magazine](#)
Journal: [Full Text Online](#)


[Spirit of the Public Journals for 1801](#)
Journal: [Full Text Online](#)

[Spirit of the Public Journals for 1813](#)
Journal: [Full Text Online](#)

[Spirit of the Public Journals for 1810](#)
Journal: [Full Text Online](#)

↳ [See all 19 journals from Summon](#)

Research Help

 [Contact us for in-depth research information](#) | [Ask a Librarian email | phone | in-person](#)

Visit Us

[Doucette Education Library](#) | [hours | contact](#)
[Health Sciences Library](#) | [hours | contact](#)
[Taylor Family Digital Library](#) | [hours | contact](#)
↳ [See all Branches and Service Points](#)

Research Guides

Engineering
[Engineering](#)
[View more results...](#)

Education
[EDUC201 - Introduction to Educational Studies](#)
[View more results...](#)

Communication Studies
[Communication Studies](#)
[View more results...](#)

Health
[AEBM MDCN 440](#)
[View more results...](#)

More Options

[Search documents by U of C researchers](#)
[Search Google Scholar](#)
[Search U of C digitized history content](#)

•Primary layout is by format

•Right side presents service and help information

•Links to more results are sensitive to topic and format

Bento box layout after study (current)

leadership

Articles & Book Chapters

[Leadership: The Teacher's Imperative](#)
Stein, Les
Journal of Leadership Education Apr/2014, Volume 13, Issue 2, pp. 162 - 168
Journal Article

[Leadership](#)
Macauley, Karen
Journal of trauma nursing : the official journal of the Society of Trauma Nurses Oct/2013, Volume 20, Issue 4, pp. 171
Journal Article

[Leadership](#)
O'Keefe, Daniel F
Current opinion in obstetrics & gynecology Dec/2012, Volume 24, Issue 6, pp. 436
Journal Article

↳ See all articles / chapters
See all articles / chapters for Education
See all articles / chapters for Business
See all articles / chapters for History & Archaeology
See all articles / chapters for Economics
See all articles / chapters for Political Science

Journals

[Leadership](#)
eJournal: Full Text Online

[Leadership](#)
Journal: Print

[Leadership: a publication of Christianity Today, Inc](#)
eJournal: Full Text Online

↳ See all journals

Books & Media

[Leadership: a critical introduction](#)
Zehndorfer, Eles
2014
BF637 .L4 INTERNET
eBook: Full Text Online

[Leadership: a communication perspective](#)
Hackman, Michael Z
2013 6th ed.
HM1261 .H33 2013
Book: TFDL - General Collection 5th Floor

[Leadership: theory and practice](#)
Northouse, Peter Guy
2013 6th ed.
HM1261 .N67 2013
Book: on loan, due: January 15, 2015

↳ See all results
See all Book / eBooks
See all Dissertations
See all Reports

↳ Available online

Background Information

No Reference material was found in initial search

Click to continue searching

Search Summon
Search Google Scholar
Search the Classic Catalogue

Recommended Databases

Education - General
Education Research Complete
ERIC (EBSCO)
Research Starters - Education

Business - General
ABI Inform Complete
Business Source Complete
CBCA Complete (Canadian Business & Current Affairs)

History
America: History and Life
Anthropology Plus
Historical Abstracts

Economics
Business Source Complete
EconLit
OECD iLibrary (former title: SourceOECD)

Political science
International Political Science Abstracts
PAIS International - Public Affairs Information Service
Political Science Complete

Find a Database

Library Web Pages

Education Unit Review - University of Calgary Libraries
Material for MacKimmie is based on theoretical research, policy issues, school and district organization, leadership

- Removed right column, and added link to summon, google scholar and classic catalogue
- Moved databases Added link to Library web pages
- Moved link to Journals
- Changed header to include articles and book chapters

Other changes

- Research Databases switched to a Top 3 – as selected by a specific group of librarians
- Libguide module removed now in Background Information module
- Specific floor number for all TFDL located books
- Call number link is to Virtual Browse Shelf
- “Available online” - in the Books & Media module will take patrons to an “only electronic” list (a nice convenience)

Analysis process: taking the data to another level

- First phase 2012-2013
 - Gather data – “talk aloud method” using Open Hallway
 - Review video and map actions into predetermined categories (common tabulation sheet)
 - Tabulate and sort data according to action, place, purpose, comments
 - Further tabulate purpose / place to determine how discovery interfaces and tools are used
- Second phase 2014
 - Map the steps taken for each question, by assigning a place and purpose to each step
 - Map the path taken by each student for each question, analyze by question and by student - were there commonalities in paths taken by types of question? Were there commonalities by student regardless of the question?

Observations from previous presentation

- **Students do not think like us**
 - Searching is exploratory and reiterative
 - confident of their skills and generally persistent in searching
 - Limited “tools” to work with
- **Design does work, but**
 - Users do not necessarily distinguish USI modules based on task
 - Surprising use of SFX, albeit comments lead us to believe that most do not understand it
- Looking at uses of purpose/modules gives us some guidance on understanding how users approach discovery but there is more research to be done

Tasks

Exercise One: You're researching the cause of type 2 diabetes for your Health and Society course. You have to write a 10 page paper on this topic. Look for items that would be suitable for this assignment. Go as far as you can, i.e., get the full text or identify the location of the item if it is print only.

Exercise Two: Barker, G. 2005 The archaeology of foraging and farming at Niah Cave, Sarawak. In G. Barker, T. Reynolds and D. Gilbertson (eds), *The Human Use of Caves in Peninsular and Island Southeast Asia*, pp.90-106. *Asian Perspectives* 44(1). Honolulu: University of Hawai'i Press.

Exercise Three: Birdsell, J.B. 1977 The recalibration of a paradigm for the first peopling of greater Australia. In J. Allen, J. Golson and R. Jones (eds), *Sunda and Sahul: Prehistoric Studies in Southeast Asia, Melanesia and Australia*, pp.113-167. London: Academic Press.

Purpose/place

- Purpose terminology – used set terms
 - Sources:
 - Ellis's (1989) model of scholarly information seeking behaviour
 - Meho and Tibbo (2003) update for electronic information sources

Purpose Term Definitions

- **1. Starting** – activities surrounding the initial search for information
- **2. Browsing** – semi-directed searching
- **3. Differentiating** – filtering material, looking closely
- **4. Accessing** – locating and retrieving information
- **5. Verifying** – affirming correctness of information
- **6. Managing** – organizing information for later retrieval
- **7. Fulfillment (print)**- final selection
- **8. Fulfillment (electronic)** – final selection
- **9. Extracting** – Working through sources systematically

Locations

Our location codes were specific to our environment, these needed to reflect the various resources but also the students' paths within them.

Example: The Bento Box page (results page) has multiple locations

Bento Box – the search box on the result page

Bento / Journals – the journal article results

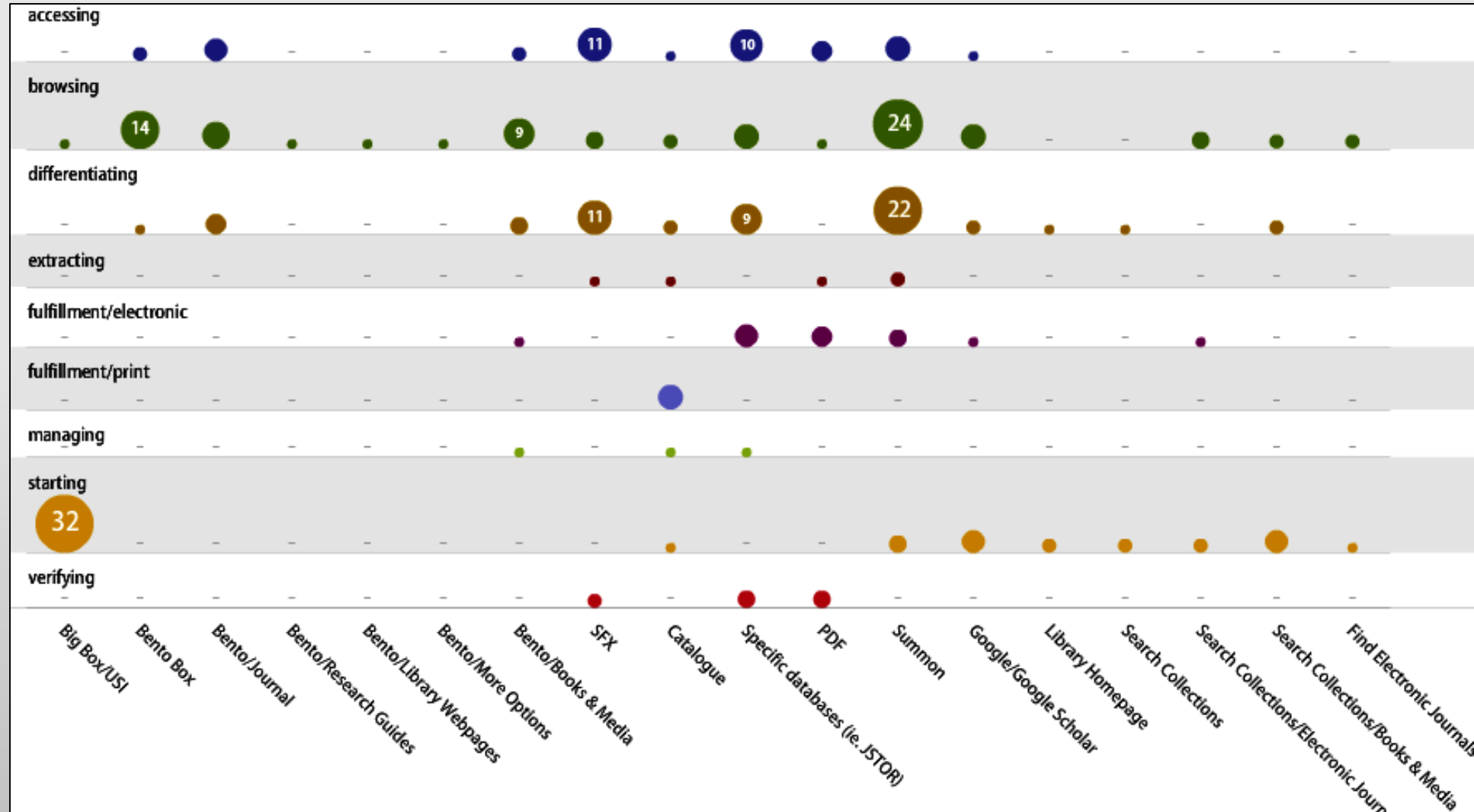
Bento / Library Webpages

Bento / Books & Media

Bento / Research Guides (explicitly Libguides)

Bento / More Options (IR, Google Scholar)

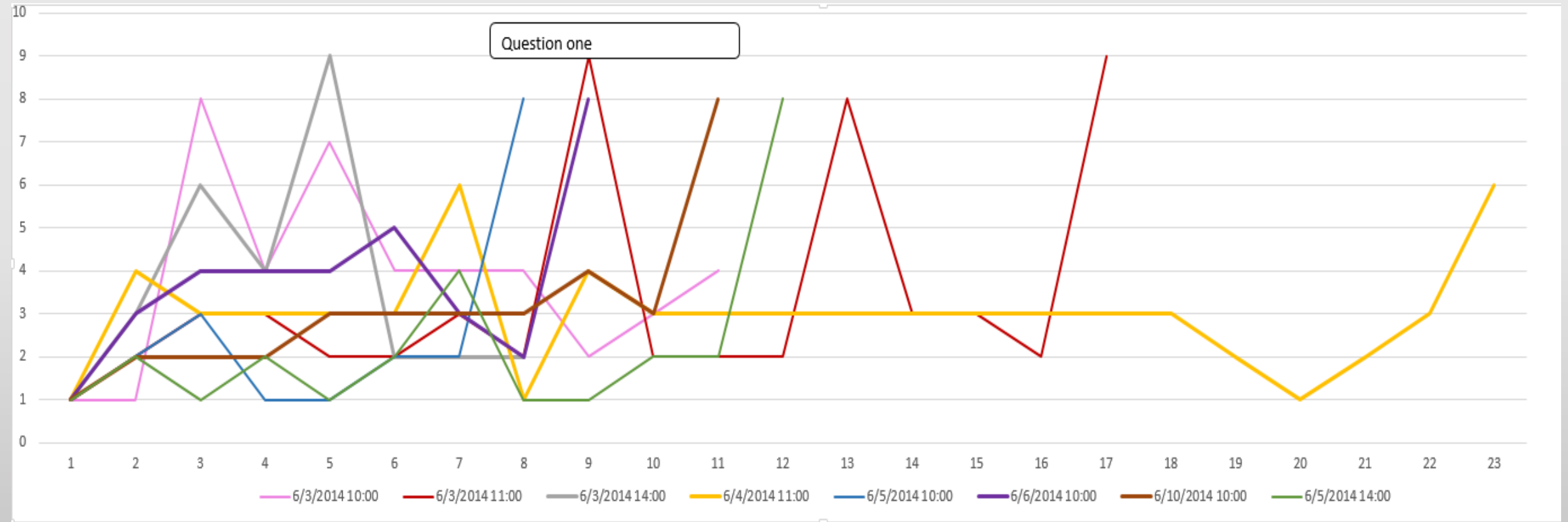
Frequency and Distribution of Place/Purpose



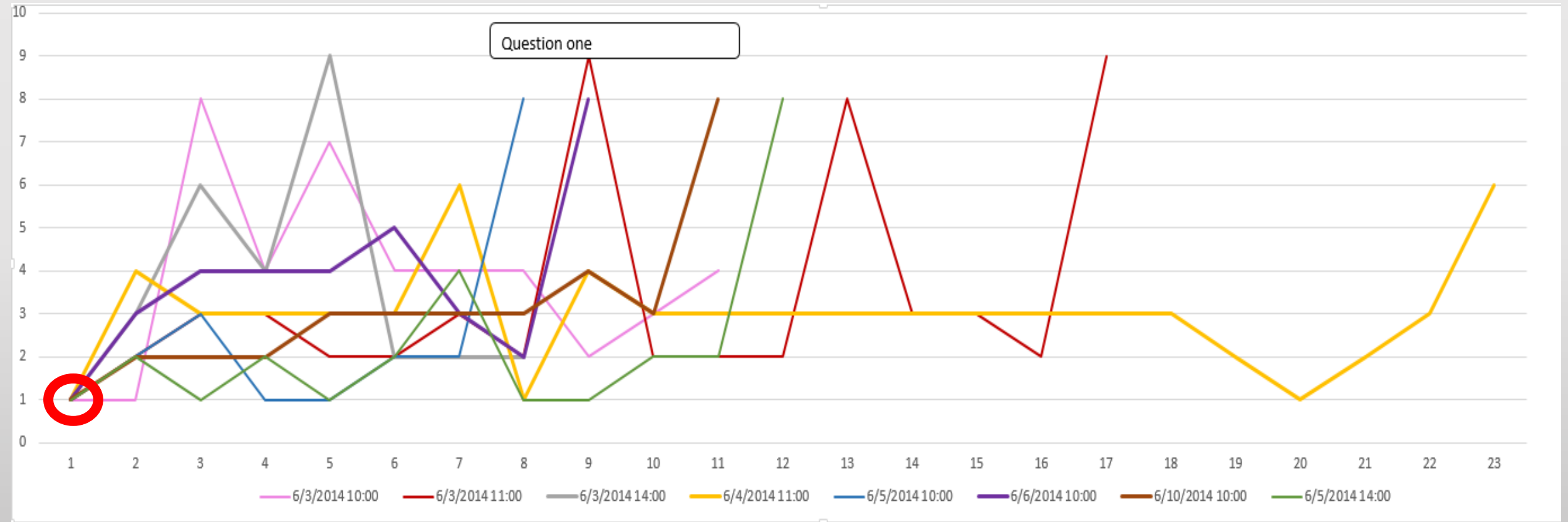
Introduction to analysis

- We are going to review (one – to three graphs on the discovery paths taken by all 8 student)
- We are going to show you how pathways vary and therefore how discovery is personal

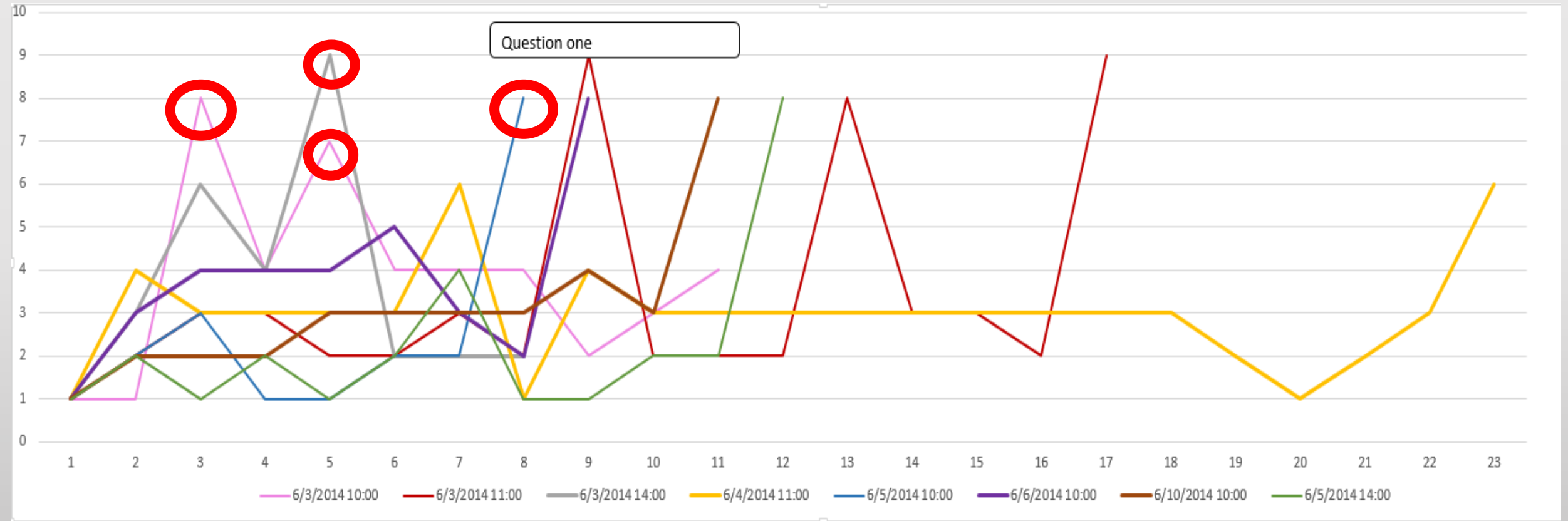
Question One



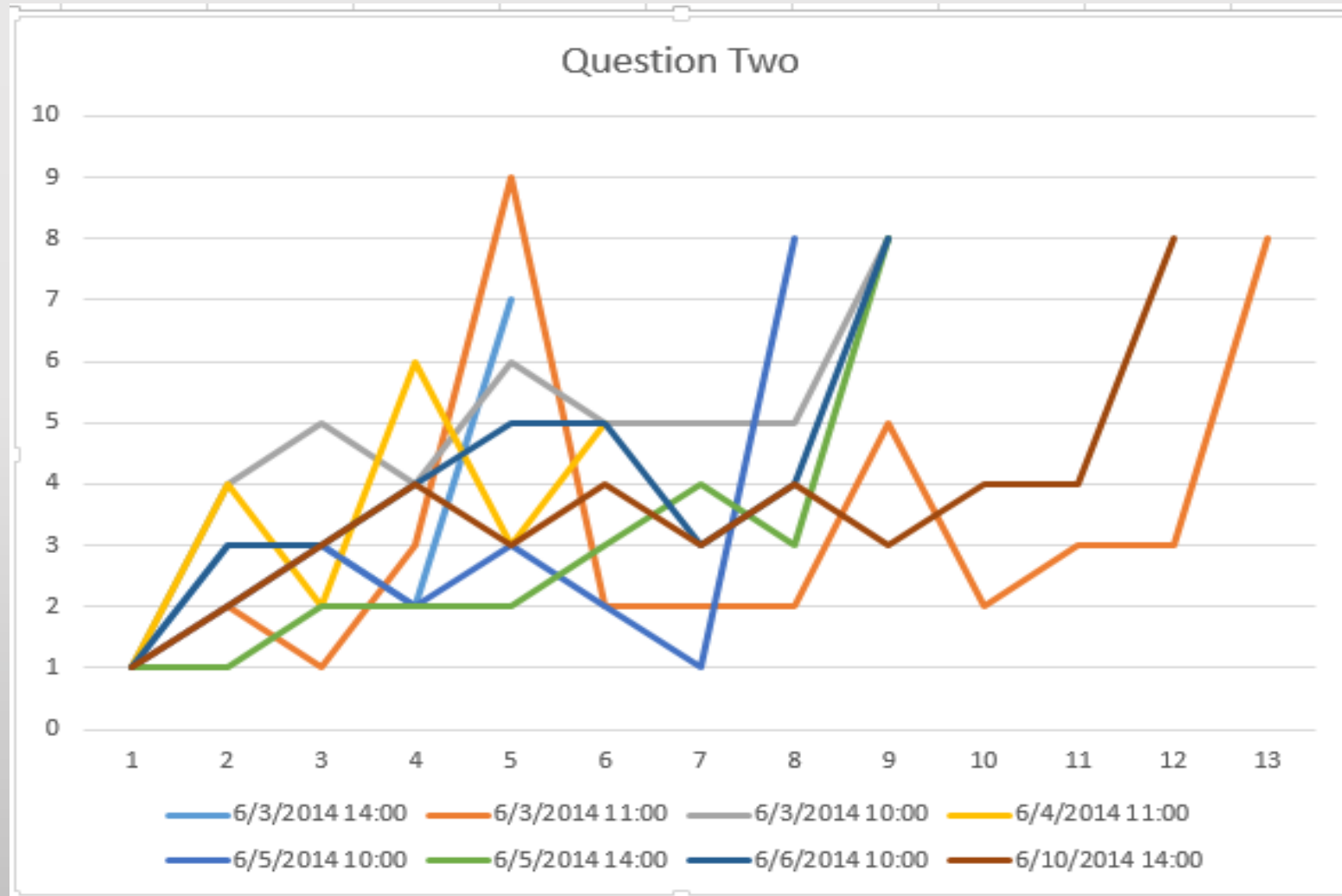
Question One



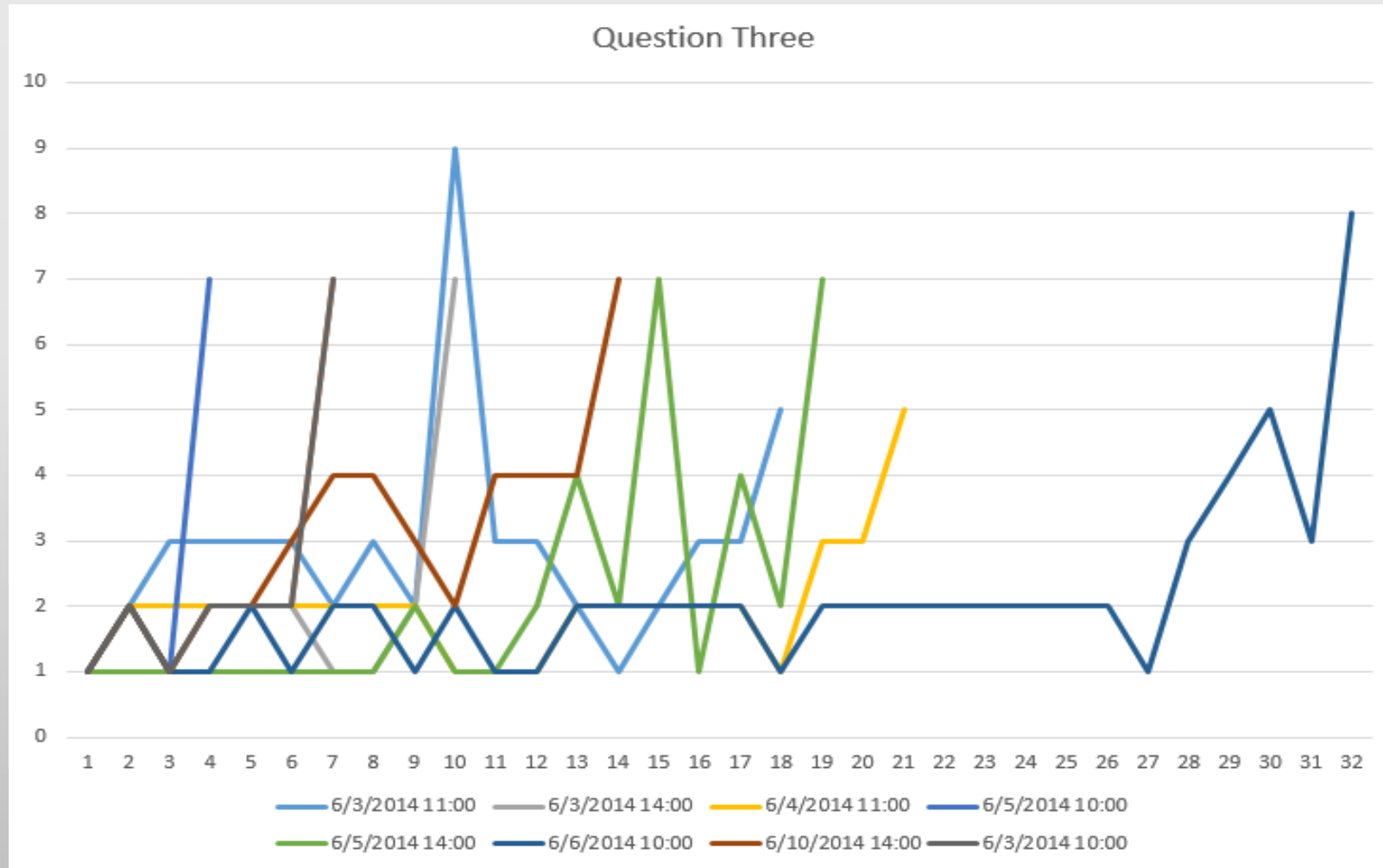
Question One



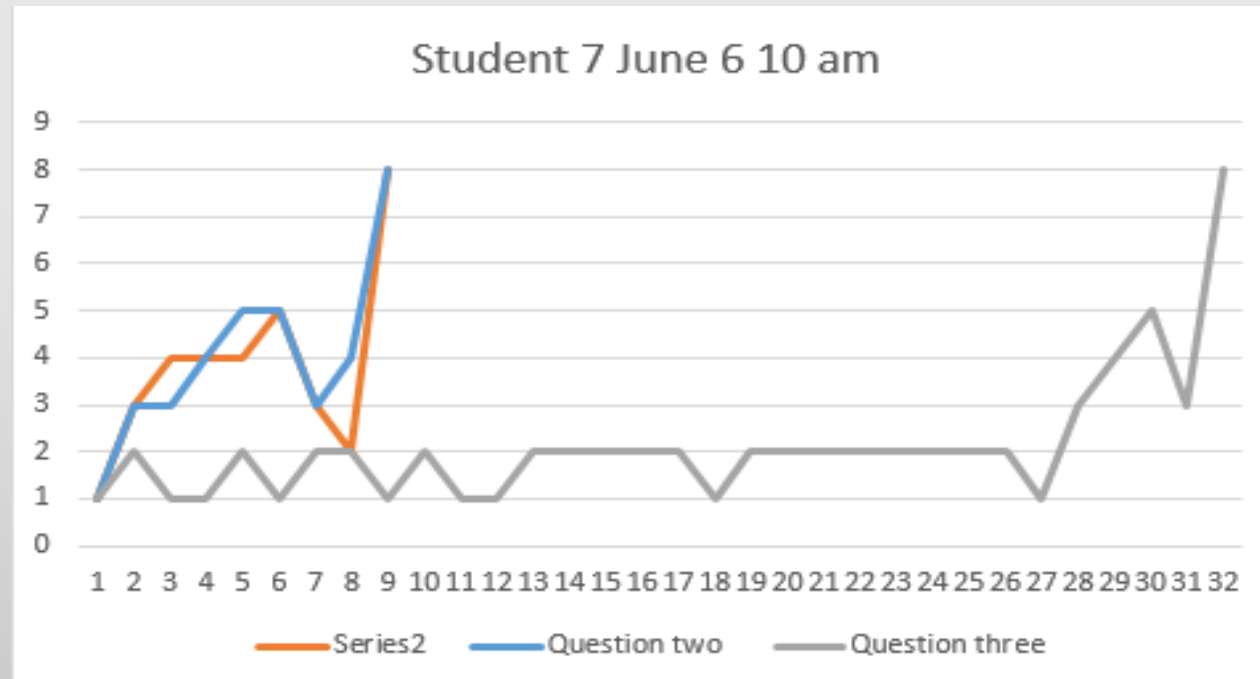
Question Two



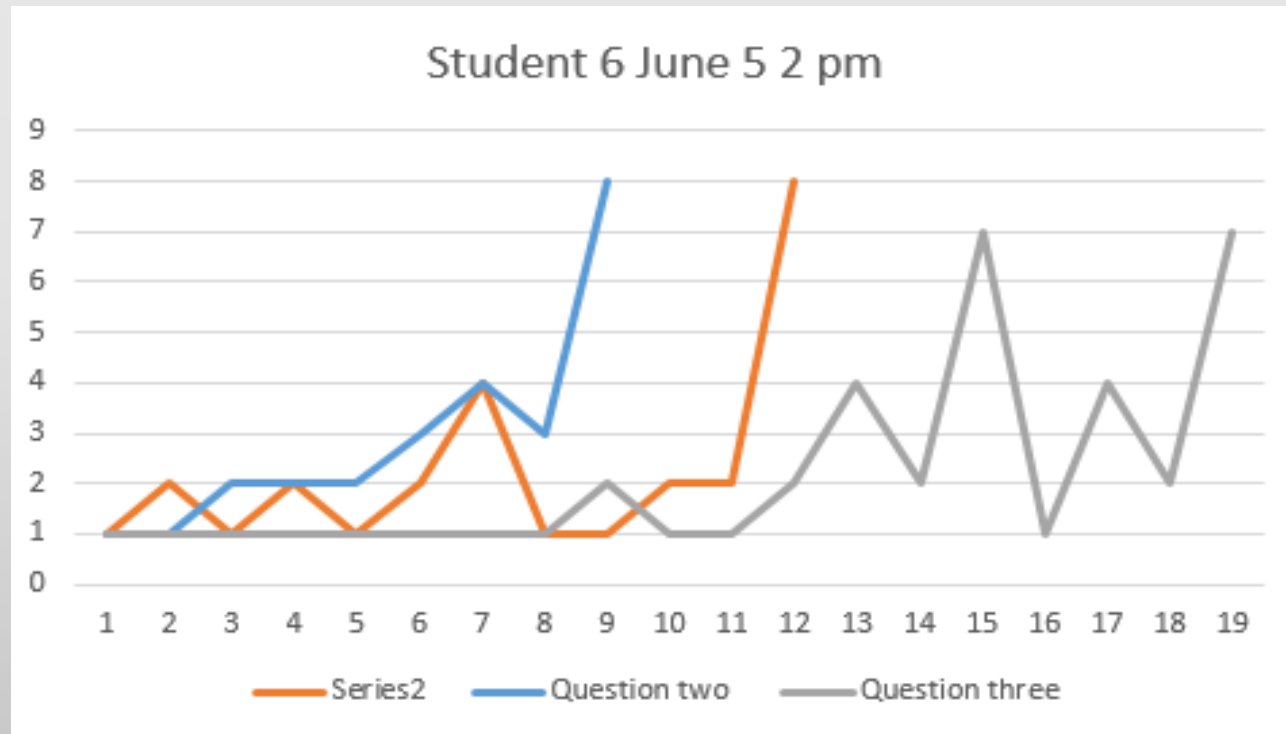
Question Three



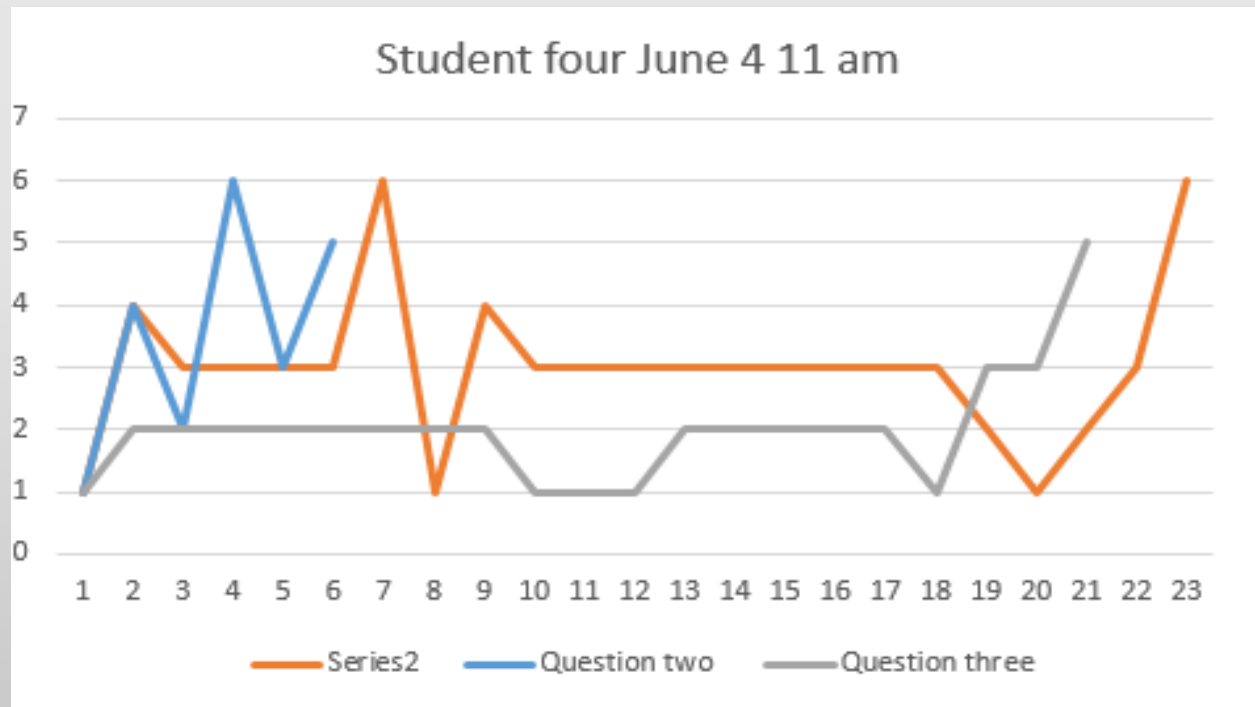
Students of interest



Students of interest



Students of interest



Observation summary tasks and students

- Is there a pattern? Should we design for a pattern?
- Perseverance? Psychology of students?
- Does the background of the student matter?
- Flat lining pattern: how can we avoid this?
- What defines success?

What to think about all this from the web designer point of view

- Conversation with our web designer
- Looked at number of steps and pathways
- Thought that number of steps should be no more than double the lowest number,, eg. For question one, no more than 14-16 steps.
- If there are too many options then the student can go off in too many ways, not effective, not efficient
- Three click rule still applies. (at least to the point of identifying the item,, then we might have to deal with other clicks, eg SFX, database click through to article.
- Many changes can be accomplished that are simple to apply, not necessary to reinvent the wheel.

What can you change/improve?

- Keep in mind that student does not read,, so options/elements have to be obvious, use color, reduce words no “click Here”
- Give suggestions as to what might come next , so that student can make better choice
- Might be good info below the line, but students do not go there
- So minimalist, clear and informative
- Here is an example of possible improvements to our bento box, (first set of results)

A quick review and sample Bento box revision-suggestions only

leadership

Search Results: [Articles & Book Chapters \(56\)](#) | [Books & Media \(23\)](#) | [Journals \(17\)](#)

Articles & Book Chapters

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Leadership
O'Keeffe, Daniel F
Current opinion in obstetrics & gynecology Dec/2012, Volume 24, Issue 6, pp. 436
Journal Article

↳ More Results
Education (5)
Business (3)
History & Archaeology (6)
Economics (3)
Political Science (9)

Books & Media

Leadership: a critical introduction
Zehndorfer, Elesia
2014
BF637 .L4 INTERNET
eBook: Full Text Online

Leadership: a communication perspective
Hackman, Michael Z
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Leadership: theory and practice
Northouse, Peter Guy
2013 6th ed.
HM1261 .N67 2013
Book: on loan, due: January 15, 2015

↳ More Results
Books / eBooks (14)
Dissertations (8)
Reports (3)

Search Summon
Search Google Scholar
Search the Classic Catalogue

Recommended Databases

Education - General

- Education Research Complete
- ERIC (EBSCO)
- Research Starters - Education

Business - General

- ABI Inform Complete
- Business Source Complete
- CBCA Complete (Canadian Business & Current Affairs)

History

- America: History and Life
- Anthropology Plus
- Historical Abstracts

Economics

- Business Source Complete
- EconLit
- OECD iLibrary (former title: SourceOECD)

Observations? Social talk time for all

- One box doesn't fit all
- How do we reconcile this?
- Where do we go from here?- do we create for individuals or the mob?

Next steps

- Back to the discovery group for discussion – expanding to include Web designer
- Review quick suggestions from Web designer
- Possible further studies would relate to revision
- Unlikely to have new ILS so will need to continue to update
- Summon 2.0 is coming
- Analytic review e.g. Available online

References

- Ellis, D.A. (1989) *A behavioral approach to information retrieval system design*. *Journal of Documentation*, 45, 171-212.
- Meho, L. I. and H. R. Tibbo. (2003) *Modelling the information seeking behavior of Social Scientists: Ellis's study revisited*. *Journal of the American Society for Information Science and Technology*, 54 (6), 570-587.

Thanks all!

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