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Evaluating Library Spaces while Developing a 'Culture Of Assessment'

Gulcin CRIBB
Singapore Management University, cribb.gulcin@gmail.com

Tamera HANKEN
Singapore Management University, tamerahanken@smu.edu.sg

Swapna GOTTIPATI
Singapore Management University, SWAPNAG@smu.edu.sg

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EVALUATING LIBRARY SPACES WHILE DEVELOPING A 'CULTURE OF ASSESSMENT'

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Gulcin Cribb, University Librarian

Tamera Hanken, Head, Information Access & Resources

Swapna Gottipati, Assistant Professor, School of Information Systems

Our Passion, Our Commitment, Your Advantage

Agenda

- SMU & SMU Libraries
- Background
  - Culture of Assessment Initiative
  - Learning Spaces Initiative
- Purpose, Design & Methodology
- Findings & Outcomes
- Discussion & Going Forward

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Singapore Management University (SMU)

- A young university – opened in 2000
- 6 Schools – Business, Economics, Accounting, Information Systems, Law, Social Sciences and many research centres
- City Campus - 7 buildings at the heart of Singapore
- 9000 students (8000 ug and 1000 pg), 350 faculty
- Broad based education, small classes, project based learning, blended learning

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SMU Libraries

**Li Ka Shing Library
(Opened in 2005)**

**Kwa Geok Choo Library
(Opening in 2017)**

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SMU Libraries

- Li Ka Shing Library
  - 8,000 sqm, 1,800+ seats
  - 39 staff – 22 professional librarians
  - 300,000 books (250,000 e-books); 80,000 e-journals
  - 1 million visitors annually since 2012
  - Renovations to learning spaces completed in 2014

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Our 'Drivers of Change'

Drivers

- Changing role of librarians
- Strategic emphasis on blended learning, project based learning, student-centered learning
- Evolving relationship between pedagogy and use of learning spaces

Assumptions

Heterogeneous student population; space use preferences differ widely amongst students depending on:

- *Personal learning styles*
- *Pedagogy*
- *Courses (project based or not)*
- *Phase or stage of the academic term*
- *Perceptions of the 'good student'*

To every thing there is a season, and a time to every purpose under the heaven…

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Culture of Assessment @ SMU Libraries

- Campus Operational Excellence Initiative
  - Office of Business Improvement established in 2012
  - Lean Six Sigma Green Belt Training
- Libraries' involvement with Lean Six Sigma began in 2013
  - Learning outcomes:
    - Alignment of improvement efforts with strategic goals
    - Strengthen management competencies
    - Continuous assessment & improvement
      - User focused services
      - Evidenced based decision making
      - Identifying and demonstrating value

Space planning

- Master planning exercise began in 2012
- Funding for staged renovation approved in 2013
- Opportunity to reinforce and practice methods & principles as learned in the Lean Six Sigma Green Belt training

Master Planning 101 – HASSELL
(An introduction to space planning & applied research)

How will you use the library in the future through arranging the relevant activities according to the degree of importance and frequency…

Master Planning 101 – HASSELL
(An introduction to space planning & applied research)

- Voice of the Customer
  - Activity mapping
    - Importance/Frequency matrix
  - Space characteristics
    - Interactive, Creative, Reflective
  - Future planning
  - Observational studies
  - Focus Groups
  - Interviews
  - Surveys (LibQual, SMUSA)

2012 Student Association Survey

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Library renovations completed, 2014

- Investment Centre
- Two Learning Labs
- Additional Graduate Suite
- **24/7 Learning Commons**
  - Individual carrels, group study tables, café style seating
  - Two sharable technology enabled project rooms
  - Two 'phone booths'
  - The 'Hive'- a flexible learning space to accommodate collaborative, project based learning

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Plan, Do, Check, Act

- All objectives met (increased seating, flexible spaces, 24/7 with separate AC, shareable technology, teaching & learning spaces) ✓

- With a focus on the **Learning Commons**:
  - How do the new learning spaces affect students' academic success?
  - Do the new learning spaces support project based learning?
    - Is this how the new spaces are being used?
  - What is the impact on student and faculty engagement?
  - Did we effectively respond to the needs of our customers (students and faculty)?

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Assessment methodology

- **People Counters**
- **Location analytics**
- **Surveys**

Textual Analysis
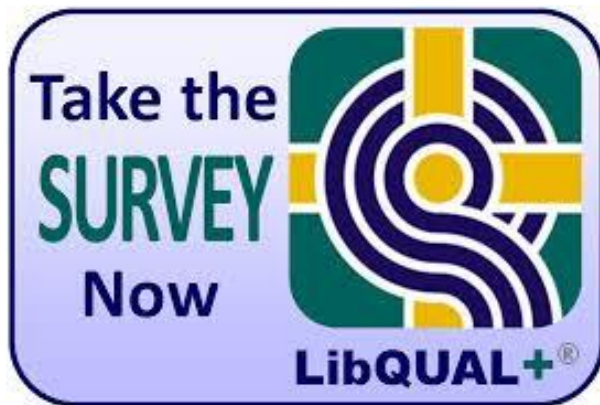
People Counters

24/7 Learning Commons from 12:00 am to 8:00 am, April 6-19

Library Operating Hours	
Mon - Fri	12am - 8am
Sat	12am - 10am
Sun	12am - 1pm

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Living Analytics Research Centre (LARC)

Occupancy Heat Map

Occupancy on 2014-11-19

Transition Chord Chart

Transitions between 18:00 to 19:00 hours on 2014-11-20

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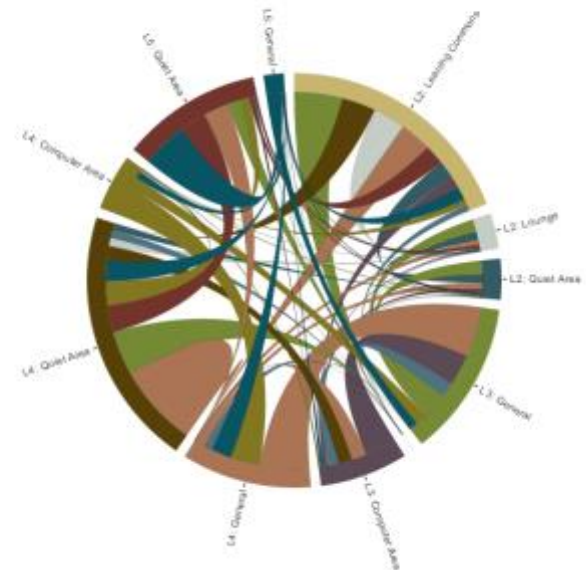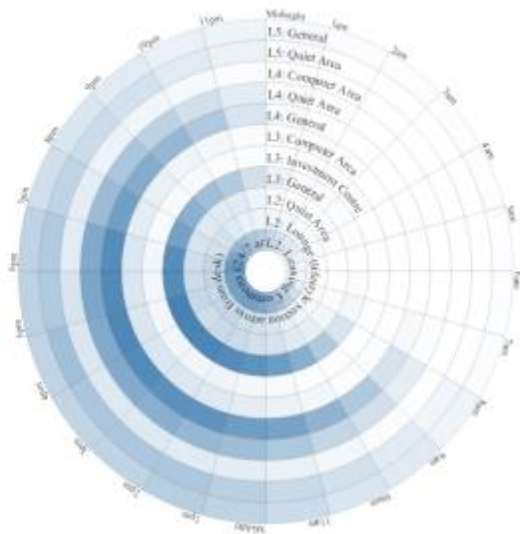
LibQual 2013 and 2015
A benchmarking exercise:

Library as Place

ID	Question Text	Change	2015 Perceived Mean	2013 Perceived Mean
LP-1	Library space that inspires study and learning	+0.48	7.15	6.67
LP-2	Quiet space for individual activities	+0.29	7.01	6.72
LP-3	A comfortable and inviting location	+0.55	7.38	6.83
LP-4	A getaway for study, learning, or research	+0.27	7.29	7.02
LP-5	Community space for group learning and group study	+0.31	7.20	6.89
Add	A place for reflection and creativity	+0.37	6.43	6.06
	Library as Place Overall SMU (ARL = 6.94)	↑	7.20	6.83

Academic Pursuits

ID	Question Text	2015 Superiority Mean	2013 Superiority Mean	Change
LP1	Library space that inspires study and learning	-0.80	-1.36	+0.56
LP2	Quiet space for individual activities	-0.93	-1.28	+0.35
LP3	A comfortable and inviting location	-0.52	-1.01	+0.49
LP4	A getaway for study, learning, or research	-0.51	-0.80	+0.29
LP5	Community space for group learning and group study	-0.50	-0.80	+0.30

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LibQual 2015 comments (space)

- Could be more quiet and the seat hogging is really unpleasant

- Could be quieter

- I love the windows overlooking the field

- Collaborative areas can be contained in a restricted area rather than open place to keep library quiet and conducive for studying

- I think the library is very conducive but I think it would be nicer if there were more seats

- It is just not quiet enough even in quiet area. And, sometimes I feel very cold due to the excess use of air conditioners

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LibQual 2015 textual analysis

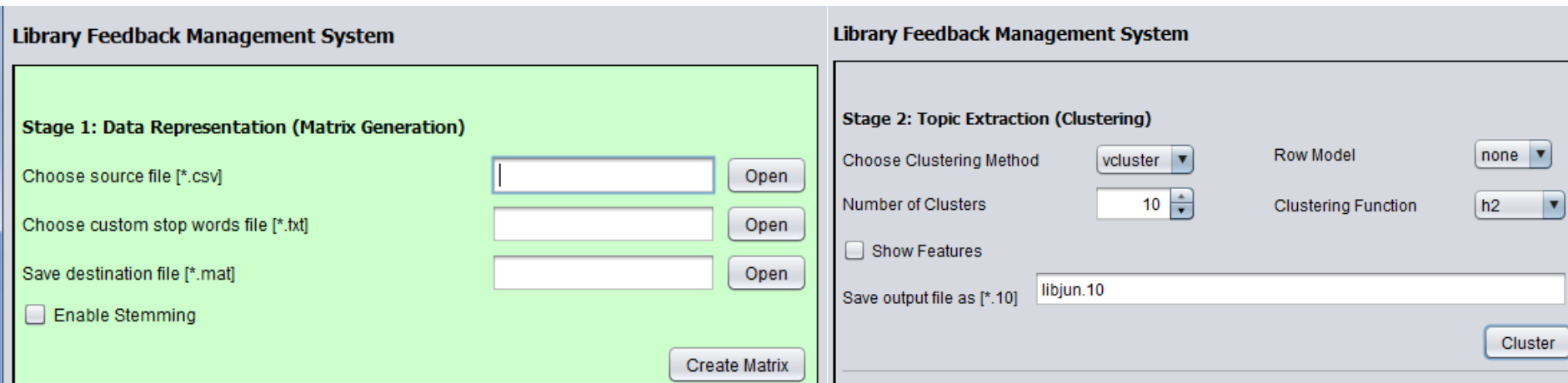**Categorization of comments (all)**

Red= Negative
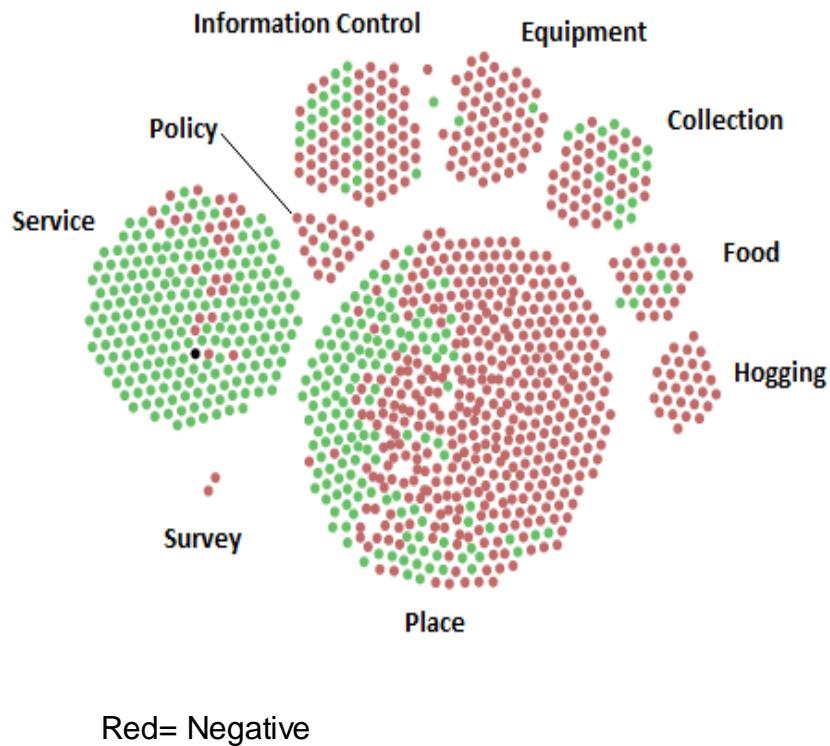
Further breakdown of comments regarding space
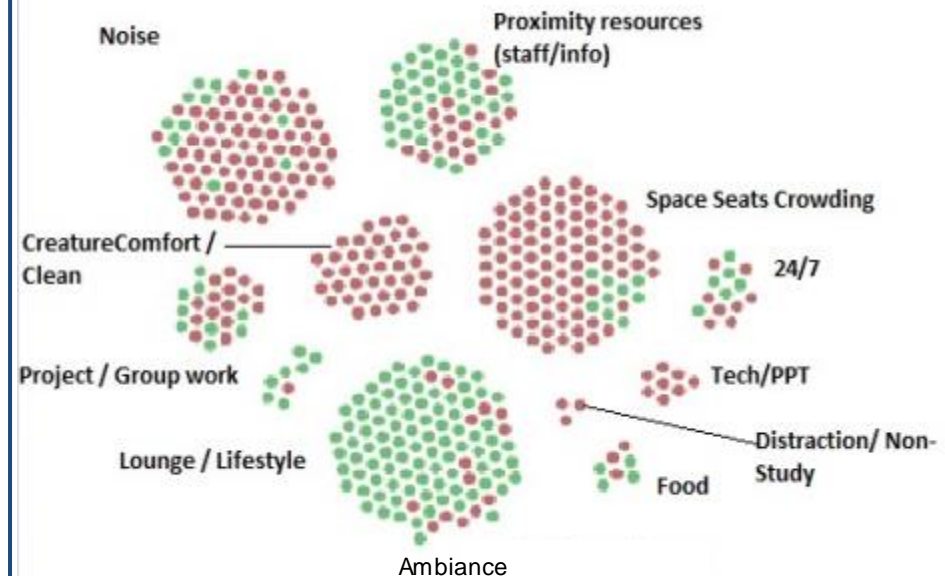
Text analytics on User Feedback

- Manual analysis is painstaking and tedious process.
- There is a need for automated techniques to analyse the feedback.
- We developed a system that employs clustering and sentiment mining techniques on the data for analysis.

Library Feedback Management System

Stage 1: Data Representation (Matrix Generation)

Choose source file [*.csv]   [ ] Open

Choose custom stop words file [*.txt]   [ ] Open

Save destination file [*.mat]   [ ] Open

☐ Enable Stemming

Create Matrix

Library Feedback Management System

Stage 2: Topic Extraction (Clustering)

Choose Clustering Method   [vcluster ▼]   Row Model   [none ▼]

Number of Clusters   [10 ⇕]   Clustering Function   [h2 ▼]

☐ Show Features

Save output file as [*.10]   [libjun.10]

Cluster

Text mining exercise
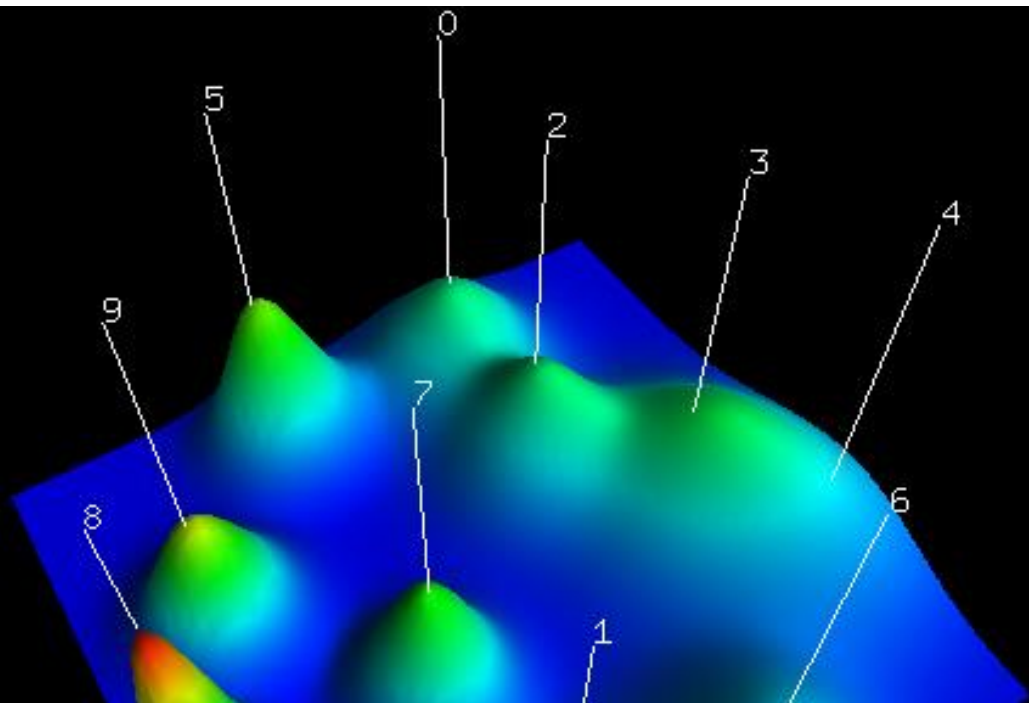
- Mountain visualization of clusters of comments.
- The clusters represent topics of interest
- The clusters are coherent and equally distributed.
- Collection, space, noise etc., are some topics of interest.

Cluster 1

10-way clustering: [833 of 833]

Cluster	Size	ISim	ISdev	ESim	ESdev
1	77	0.050	0.019	0.013	0.008

Descriptive & Discriminating Features

Cluster 1   Size: 77   ISim: 0.050   ESim: 0.013

Descriptive:	databases	11.9%	pretty	8.7%	facilities	8.0%	improved	7.6%	resources	4.1%
Discriminating:	databases	8.6%	pretty	7.1%	facilities	5.7%	improved	4.7%	staff	2.8%

Sentiment Analysis

Sentiment Analysis of Accountancy against Topics
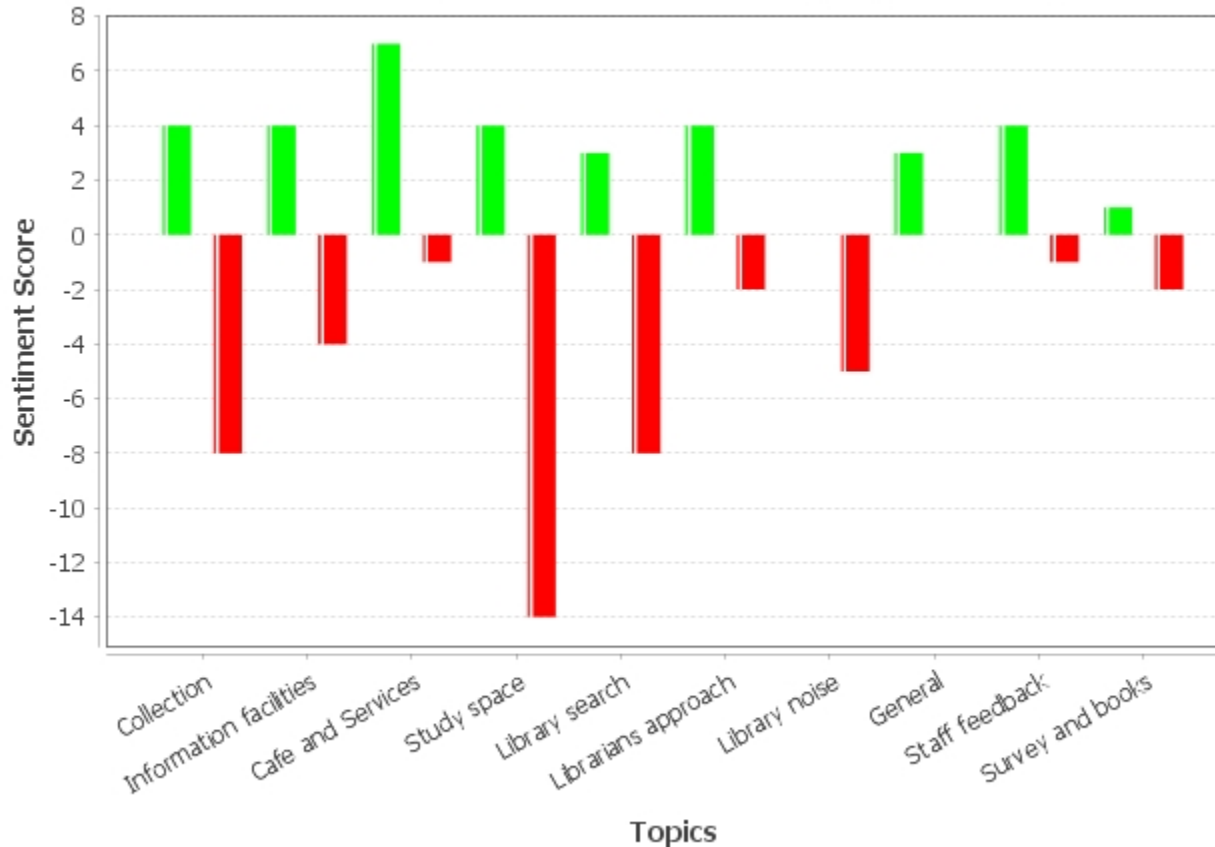
- Positive and negative sentiments on the topics of interest.
- The sentiments are also categorized by the schools.

Focus Group results

What does 'learning success' mean to you? How would you define…

- To retain, to remember things you learnt, take with you after class ends. Sometimes you will need to study for an exam, and after the exam you will forget everything– this is not learning success.

- The most effective and **successful students** have consistent habits. They **are likely to be 'seat-hoggers'** as they come in early, choose a spot that works for them and establish their routine.

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Focus Group results

Space attributes that contribute to learning success

- Access to electrical outlets
- Space for personal belongings
- Temperature
- Space for individual study (exam time)
- Space for collaboration (term time)
- Learning Commons not my first choice (noisy)
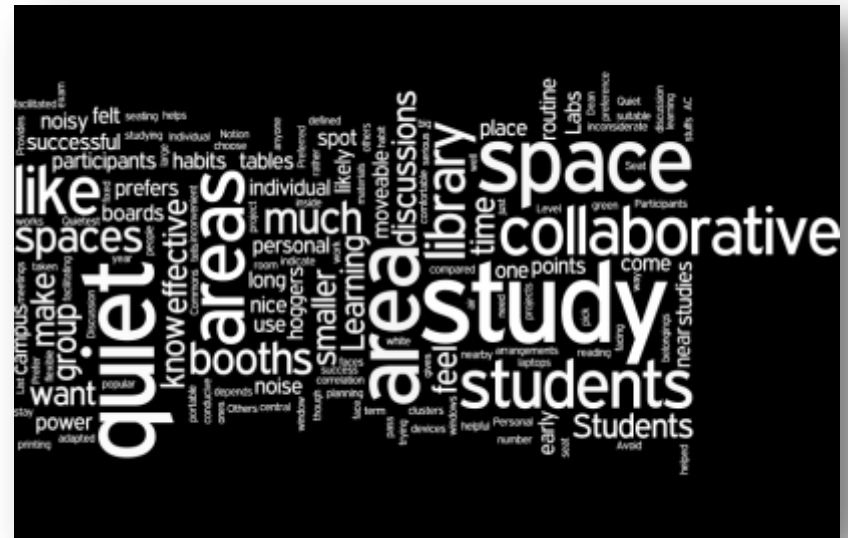
The library provides an area to study, a quiet place, not so much for discussion. Collaborative discussions can be taken out of the library; prefer quiet. Notion of a library is that it is a quiet area... collaborative areas are not helpful for those that want to study.

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Focus Group results

How do you decide where to sit?

- I use the long tables for group discussion
- I prefer to sit near friends
- I use the project rooms with LCD screens
- Proximity to librarians
- Individual carrels for quiet study
- Sit near friends to manage space
- Facing the Campus Green
- Comfortable chair, AC

Depends on the objective– if I'm studying something I don't really understand, then I will want to be near someone that I can ask questions of. But, if it's something requiring serious study, I'll have strangers all around me so that I don't get distracted.

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Faculty interviews

Do the spaces contribute to student learning?

- A room with moveable furniture, not bound by structure allows for a more relaxed atmosphere.
- Students can sit close together, group together… it creates a more friendly environment.
- The no food policy is a problem. Class is at noon, students tend to be multi-taskers and prefer to eat and study at the same time.

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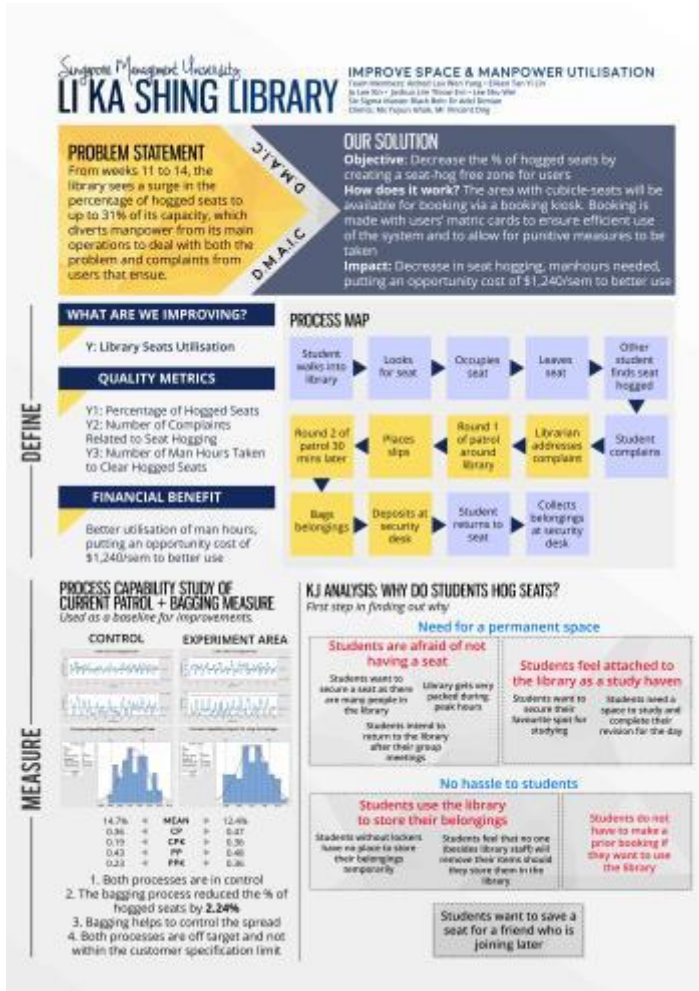SINGAPORE MANAGEMENT UNIVERSITY

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Seat-hogging as space management
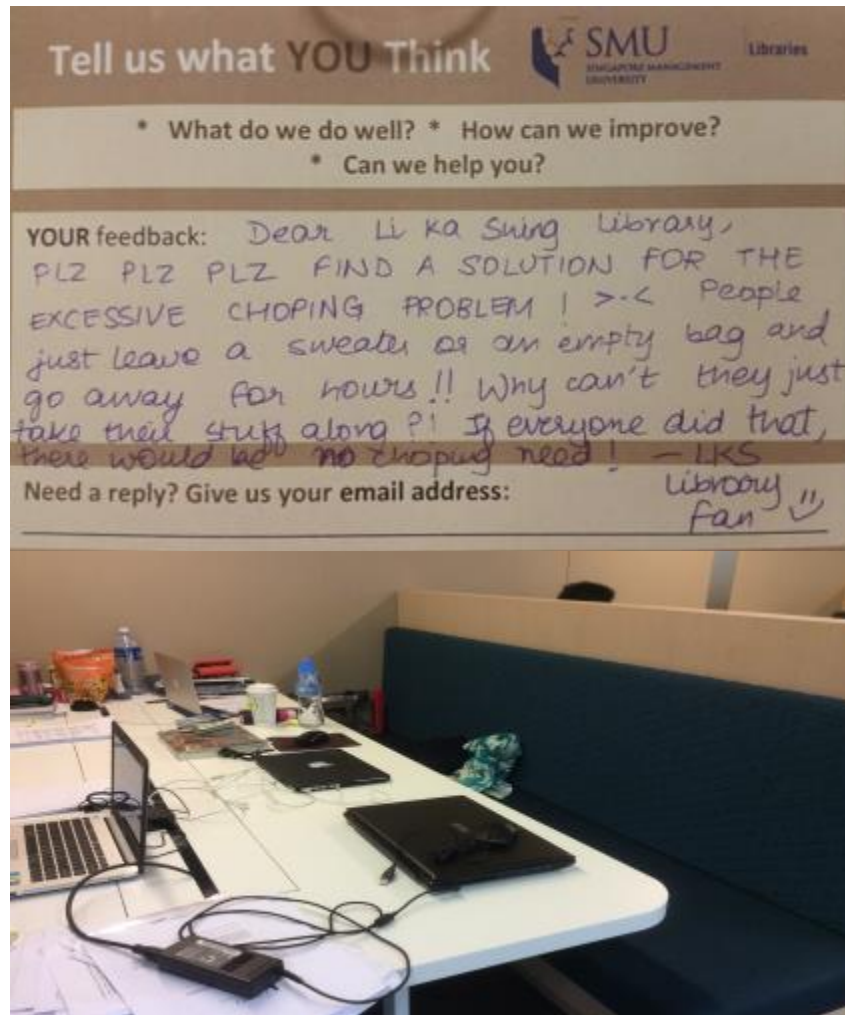
Per the focus groups, seat-hogging is a method of 'managing space', preserving a routine or habit that is attributed to the more 'successful' student…

Seat-hogging
(Lean Six Sigma student project)

Multi-Vari Analysis

A survey was conducted with 56 SMU students. In the survey, students were asked to indicate whether they hog seats, and to rate how well the 6 key factors (Xs) identified in our above analysis explain their motivation behind seat hogging.

How likely do the following statements explain why you seat hog? (TOP 3)

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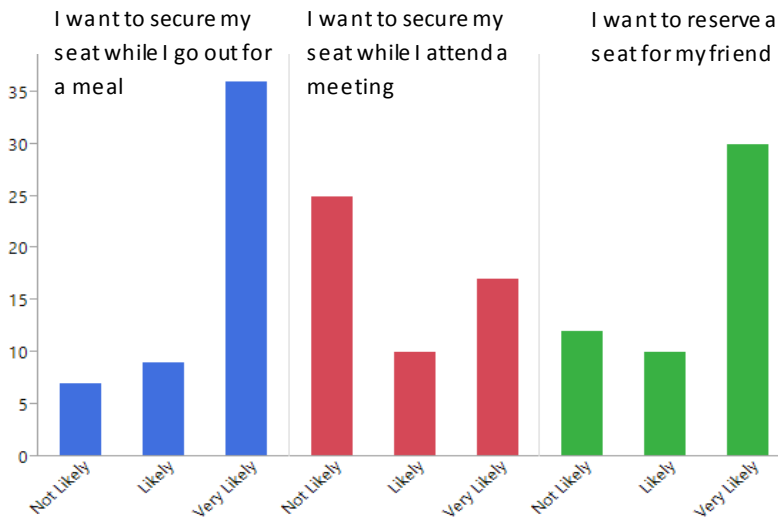
Literature review

What Matters for Students' Use of Physical Library Space?

- At Eindhoven University in the Netherlands: Space, noise, crowdedness, comfortable furniture, cleanliness
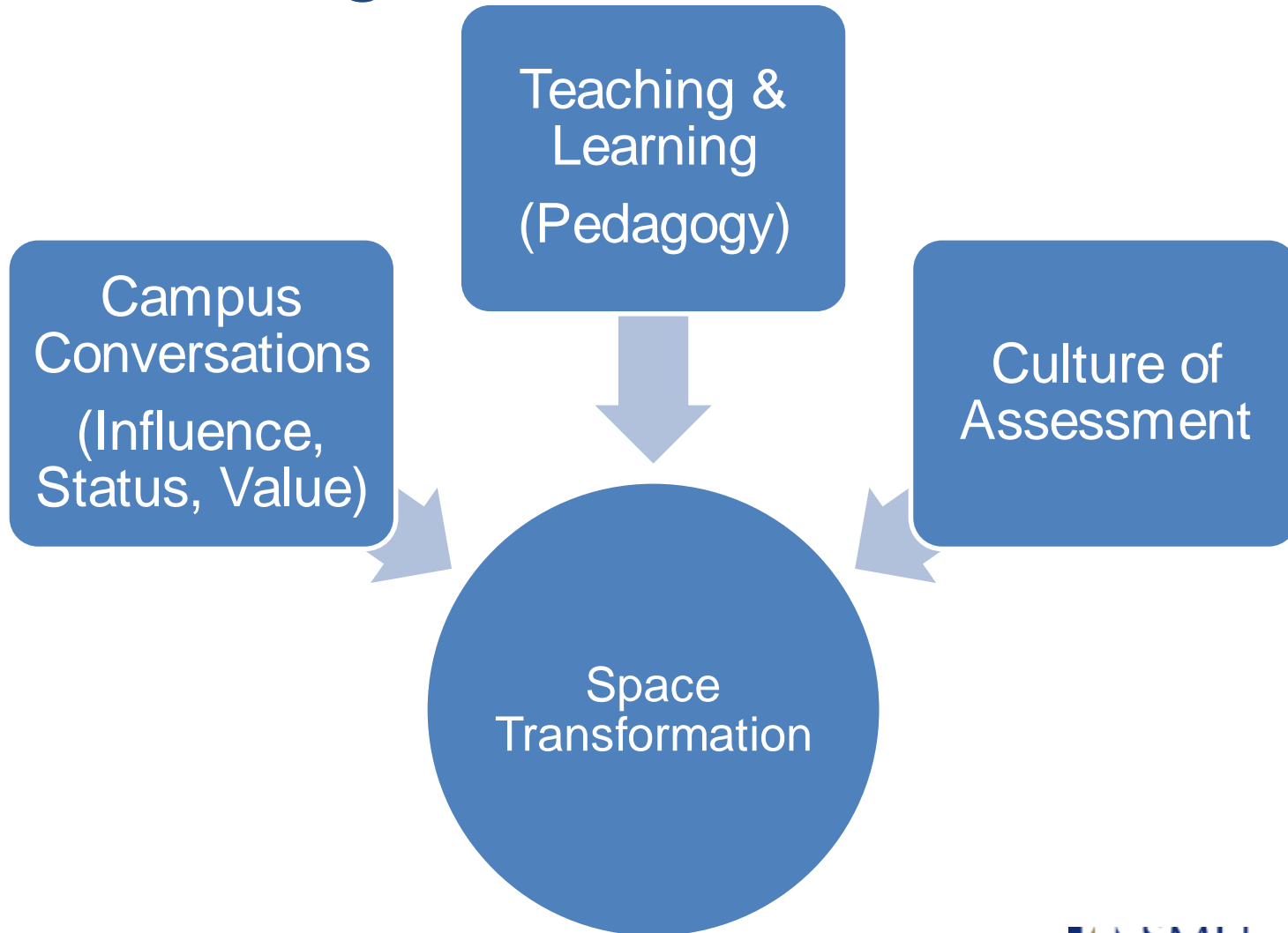
Ambience in Social Learning: Student Engagement with New Designs for Learning Spaces

- Within spaces designed for student collaboration, the solitary study continues… but the 'social' environment is important
  - Provided a taxonomy describing the observed collaborations
- "Practice of students 'reserving' scarce space with left belongings"

Strategic Development of University Library Space: Widening the Influence

- Opportunity to extend the Library's influence regarding the development of learning space campus-wide

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Our Findings – Our Outcomes

Teaching & Learning (Pedagogy)

Campus Conversations (Influence, Status, Value)

Culture of Assessment

Space Transformation

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Discussion

Going Forward

- Collaboration with Centre for Teaching Excellence on Next Generation Learning Spaces event
  - *Next Generation Learning Summit Asia*

- Collaboration with School of Information Science

- Practicing Culture of Assessment
  - Learning Space assessment informing new Law Library

- **Partner with teaching faculty**
  - **To define and measure student success**

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Thank You

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