Mixing in New Colors: Using a Train-the-Trainer Model to Build an Information Literacy Program

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What We Are Covering Today

- Project background
- TTT model for BIO 155
- Implementation
- Assessment
- Evolution
- What We Learned
Train-the-trainer

• Training others to teach a given subject
• Staple in Education, Military, Healthcare, Agriculture

Underutilized tool in libraries...
Train-the-trainer

• Training others to teach a given subject

• Staple in Education, Military, Healthcare, Agriculture

Have any of you used this model before?
Background
Our Initial Information Literacy Team
Current Participants
Why Biology?

- Unique opportunity
- No IL program
- Cultural shift
Why BIO 155?
(Intro Lab for Biology Majors)

- Familiarity with course structure
- Reach students *early*
- Reach *lots* of students
- Point of need
- Interactive environment
Interactive Environment: Lab 1
Interactive Environment: Lab 2
Our Goals

• Students will view librarians as resources
• Make students aware of subject-specific resources
• Build search skills
How do we create a sustainable program?
Train-the-trainer Model
Faculty Buy-in: General

- Pick the right course
- Establish individual relationships
  - *What do your students need to know to succeed in this course and beyond?*
- Align with course goals
Faculty Buy-in: Train-the-Trainer

• Important because it takes away from
  – Class time
  – TA training time

• What helped
  – Came in with clear set of objectives
  – Showed we understood needs of the class

• Compromise/Collaborate
  – Adapted set of research tools
## BIO 155 Students Reached

<table>
<thead>
<tr>
<th>Semester</th>
<th>Number of Sections</th>
<th>Students per Section</th>
<th>Total Sessions</th>
<th>Approximate Total per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 2013</td>
<td>17</td>
<td>20-30</td>
<td>34</td>
<td>500</td>
</tr>
<tr>
<td>Fall 2013</td>
<td>22</td>
<td>25-30</td>
<td>44</td>
<td>630</td>
</tr>
<tr>
<td>Spring 2014</td>
<td>17</td>
<td>25-30</td>
<td>34</td>
<td>500</td>
</tr>
</tbody>
</table>

*Session One: 1 hour 15 minutes
Session Two: 45 minutes*

*All first class sessions held in one week
*All second class sessions held in a different week
Personnel

- BIO 155 Course Coordinator
- BIO 155 Teaching Assistants
- Library personnel
- SLIS Graduate Students

*This is just one possibility*
Train-the-Trainer Model

Introduce the content

Model 1st section

Assist 2nd session
Advantages

• Students are familiar with TA

• TA will continue to be a resource for the students

• TAs learn too
Observations

• Each TA has their own individual teaching style and comfort level with new material

• Train-the-Trainer model is a great way to get feedback from TAs

• Flexibility is key to teaching in a laboratory
Implementation
Welcome BIO 155 Students!

This guide will help you with lab reports and provide a basic understanding of how to find and use information effectively. Here you will find links to the following:

- Databases covered in class
- Ways to find background information
- Research tips
- Appropriate citation format for your lab reports
- Plagiarism policies and tutorials

Please feel free to contact me or any other personnel at the Agricultural Information Center or Young Library if you have any questions. Good luck this semester!

Databases Used in Class

- Web of Science
  Web of Science is the main database you will use when searching for articles in this class. It contains links to >12 million journals and >46 million records.

- InfoKat (UK Libraries' Catalog)
  Provides access to the UK Libraries' catalog of books, journals (by title, NOT by article), and other resources.

- PsycINFO (EBSCOhost)
  Use this database to find the article on territoriality in field crickets by Alexander that you will need for class.

Other Science Resources

- BIOSIS Previews and Biological Abstracts/RRM
- Google Scholar (UK)
- PubMed (University of Kentucky)

Essential Links

- Agricultural Information Center
- UK Libraries
- Department of Biology

Director of Branch Libraries, Agriculture Liaison, Biology Liaison

Valerie Perry

Contact Info
Agricultural Information Center
N-24 Agricultural Science Center North Campus 0091
(859) 257-2750
(859) 323-4719 (fax)

Subject Specialties: life sciences, agriculture, biology, IACUC, animal welfare/alternatives

Send Email

Links:
- Website / Blog
- Profile & Guides
Active Learning

• Follow along on computers
• Brainstorm
• Live search demonstrations
• In-class exercises
  – Formative assessment
  – Made students turn something in for a grade
In-Class Brainstorming

How does climate change affect bird behavior?
How does climate change affect bird behavior?

Start this poll to accept responses

"warming, bird behavior, climate change, migration patterns, bird flight patterns, bird nesting, global warming"
3 months ago

"birds, global warming, migration"
3 months ago

"climate change birds behavior"
3 months ago

"bird, behavior, activity, climate, seasons, weather, global warming"
3 months ago

"birds, climate, weather, changes, behavior, actions, climate change, migration, global warming"
3 months ago

"reproduction, feeding, food sources, environment, weather, migrating, appearance change, evolution"
3 months ago
Keywords: how does climate change affect bird behavior?

You may respond at PollEv.com when the presenter pushes this poll.

Total Results: 40
Brainstorm and develop a list of keywords

How does climate change affect bird behavior?

Climate, environment, bird behavior, migration, flight, nutrition, reproduction

Climate change
Bird behavior
feeding habits
bird habits
bird growth and development

bird
environment
behavior
climate

climate and bird and behavior
Migration
North
After Birth

Migration
Reproduction
Survival
Birds and climate
Bird feeding
Brain function in birds
Birds going south
Seasons affect birds

Climate change
bird behavior
migration
flight patterns
reproduction
habitat

birds
habitat
behaviors
migration
regions

Enviroment
migration
fly in groups
seasons
effects
cold
warm
participation

bird
climate
behavior
migration
feeding habits
weather
reproduction
movement
flight patterns
life cycle
nesting

Climate Change
Bird Behavior
Reproduction Effects
Migration Patterns
Food Sources

Weather change
environment differences
bird behavior
climate
migration

Climate
bird
behavior
nest making
reproduction
migration
feeding

Climate change
effect on bird behavior
bird flight pattern
migration changes in birds
changes in bird reproductive behaviors
changes in bird feeding behaviors
Live Search Demonstrations
In-class Exercise

Searching in Web of Science

Imagine you want to review scientific literature in order to better understand the residency effects on aggression in the house cricket. In this exercise, you will use Web of Science to search for articles on this topic.

Part 1: Starting your search

Brainstorm for at least 5 keywords or phrases related to the topic described above. If you need some inspiration, try one of the websites listed under Background Information on the Starting Research page of the BIO 155 Course Guide (libguides.uky.edu/BIO155) – these are not primary sources or peer-reviewed articles, but they can help you generate ideas. Your textbook is also a good place to look.

From the list above, which three words or phrases do you think best describe your topic?
Student Feedback

“I learned how to use web of science and how to broaden and narrow my search”

“I learned how to effectively use keywords when looking for relevant articles”

“I learned that Web of Sciences exists, and can definitely see it helping in the future when I need a scientific, peer-reviewed, accredited source”
Assessment
UK Information Literacy Learning Outcomes

1. Students will be able to define an information need in order to construct an effective research strategy.

2. *Students will be able to construct an effective research strategy in order to identify a variety of relevant information sources.*

3. Students will be able to identify and select relevant information sources in order to analyze and interpret the information.

4. Students will be able to analyze and interpret information in order to evaluate, synthesize, and draw conclusions.

http://libguides.uky.edu/infolit
Think about your cricket lab and the Alexander article you read for class. Your literature search question for today is:

What are the causes of cricket fighting?

Use this question to complete the survey below.

What are the major concepts or ideas of the literature search question above?*

Please list at least 5 additional related keywords that could be used to locate information on your literature search question.*
These keywords could be synonyms or related concepts.

Create search combinations of keywords that could be entered into a library database, such as Web of Science.*
Consider using search techniques such as ANDs, ORs, and wildcards (truncation) to improve your combinations.
# Scoring Rubric

**Learning Outcome 2.1: Constructs Effective Research Strategy / Constructs Search Terms and Phrases**

<table>
<thead>
<tr>
<th>2 Constructs effective research strategy</th>
<th>0 Emerging</th>
<th>1 Developing</th>
<th>2 Proficient</th>
<th>3 Distinguished</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Constructs search terms and phrases</td>
<td>Uses everyday language to describe key concepts. Lists synonyms to expand key concepts.</td>
<td>Uses everyday language to describe key concepts.</td>
<td>Uses everyday language and synonyms to describe key concepts. Translates everyday language and synonyms into appropriate subject terms for key concepts.</td>
<td>Uses everyday language and synonyms into formulate a search strategy.</td>
</tr>
</tbody>
</table>


## Scoring Sheet Example

<table>
<thead>
<tr>
<th>What is your year in school?</th>
<th>What are the major concepts or ideas of the research question above?</th>
<th>Create search combinations of keywords that could be entered into a library database, such as Web of Science.</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior (60 - 89 hours)</td>
<td>The major concept was to determine why crickets fight. The idea was to experimentally create a scenario where the crickets might be expected to fight.</td>
<td>Crickets and fighting Fighting or attacking Crickets and attacking</td>
<td>0</td>
</tr>
<tr>
<td>Freshman (1-29 hours)</td>
<td>For crickets that fight there can be multiple reasons for fighting. It can be for dominance in a territory, or for the competition for a mate.</td>
<td>Fighting and crickets Territory or female</td>
<td>1</td>
</tr>
<tr>
<td>Freshman (1-29 hours)</td>
<td>Cricket aggression is being addressed directly by this question, but the larger topics being addressed here are aggression in animals in general, interactions between member of the same species (and sex) in animals, and the effects of territoriality on behavior.</td>
<td>(Aggress* OR Territor* OR Compet* OR Intrude*) AND Insect*</td>
<td>2</td>
</tr>
<tr>
<td>Freshman (1-29 hours)</td>
<td>The major concepts or ideas of the research question above include the causes or &quot;instigators&quot; for crickets, aggressive behavior, and cricket fighting behavior. Furthermore, the research question is attempting to investigate what triggers - if any - make crickets demonstrate aggressive behavior.</td>
<td>Field Cricket AND behavior Field Cricket AND aggress* Aggressive behavior in crickets Male OR triggers AND cricket Fight* AND behavior of crickets</td>
<td>3</td>
</tr>
<tr>
<td>Freshman (1-29 hours)</td>
<td>In the research question above, the major concept is determining why crickets fight. This is a broad question so it can be directed in numerous ways in order to find an answer. According to the Alexander article, aggressive behavior in male crickets is a behavioral strategy and when the male crickets fought, there was a clear winner. Considering these aspects from the Alexander article and research question</td>
<td>Causes (Cause*) AND Cricket Fighting Crickets AND Aggressive Behavior (Behav*) Fighting Behavior AND Female Crickets Fighting Behavior AND Male Crickets Fighting Tactics OR Fighting Techniques AND Crickets Motivating Factors AND Crickets AND Fighting (Fight*) Crickets AND Fighting (Fight*) AND Strategies (Strateg*) AND Behavior</td>
<td></td>
</tr>
</tbody>
</table>
Scoring Results

BIO 155 Fall 2013 Scores

- 0 – Emerging: 2%
- 1 – Developing: 13%
- 2 – Proficient: 52%
- 3 – Distinguished: 33%
EVOLUTION
Train-the-Trainer: Round Two

Active Learning for TAs

Assist in both sections

Skip the in class modeling step
Advantages of 2\textsuperscript{nd} Method

• TA help cover more courses/sections with limited personnel
• TAs reflect on information literacy in their own work
• TAs become library advocates and better users
• TAs more engaged from beginning
Other Changes

• Simplified all materials for ease of use by TAs
• Requested inclusion in syllabus
• Removed PubMed from session content
• Gathered feedback from TAs through survey
What We Learned
What We Learned

• Reach lots of students
  – 1,650 students over 3 semesters!

• Reduce library personnel workload

• Scheduling challenges
  – Covered 34-44 sessions in two weeks each semester

• Consistency is important

• Be open to compromise!
What We Learned

• Lab environment +
• Great way for LIS students to gain experience
• Effective way to broaden our audience
• Overall positive experience
What we learned: TTT

• Effective train-the-trainer method
• Backup time investment
• TAs reflect more deeply on info lit in their own work
What we learned: TTT

• Effective train-the-trainer method
• Backup time investment
• TAs reflect more deeply on info lit in their own work

Recruit new advocates!
Adaptations

• Other librarians
  – *even non-instruction librarians

• Backup TAs

• No backup

• Lab settings
Future directions

• Pre-assessment of undergrads
• Pre- and post-assessment of TAs
• Share model with other UK librarians
  – Mentioned in SACS report
  – Expand to Auburn University

“Paint the Future,” Andrew Judd
How have you or might you apply the train-the-trainer model? Please share with us!

Send a text to 37607 and type 395186 and your response
OR
Submit 395186 and your response to pollev.com

Feel free to contact us for more information:

- Patricia Hartman  patricia.hartman@auburn.edu
- Valerie Perry  v Perry@uky.edu
- Renae Newhouse  renae.newhouse@uky.edu