Learning Styles of College Instructors and Their Students

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June 17, 2015
Problem Statement

“Why are my students not able to grasp the material?"

“I just don’t get it.”

Question:
Do teaching methods and learning styles match?
Project Questions

- What are learning styles of instructors?
- What are learning styles of students?
- Do learning styles of instructors and their students match?
Previous Research on LS

- Educators familiar with LS?
- Mostly on students
- No connections made with instructors
- Models: Felder & Silverman, VAK, VARK, Gregorc, Honey Mumford, Kolb, Dunn & Dunn
Sampling

- Population of all instructors teaching animal science courses at University of Illinois, ~50 (N=20)
- Undergraduate students in courses taught by participating instructors, ~500 (N=447)
Methods

- IRB approval
- Consent forms
- Instructor consent
- Instructor permission
- Students consent
- Online assessment
Instrument

- Index of Learning Styles (ILS) by Richard Felder & Barbara Soloman-NCSU (1991)
- Online assessment, 44 questions
- Four dimensions
- Automatic evaluation generated
Example

- file:///Users/callen/Desktop/Index%20of%20Learning%20Styles%20Questionnaire.html

- file:///Users/callen/Desktop/Learning%20Styles%20Scales.html
4 Dimensions of ILS

- **Active/Reflective**: How do you prefer to process information?
- **Sensing/Intuitive**: How do you prefer to take in information?
- **Visual/Verbal**: How do you prefer information to be presented?
- **Sequential/Global**: How do you prefer to organize information?
Active vs Reflective

- **Active**-prefers to process information through physical activity, enjoys trying things and working with others

- **Reflective**-prefers to process information by thinking or contemplating quietly, enjoys working alone
Sensing vs Intuitive

- **Sensing**- prefers sights, sounds, physical sensations, concrete, practical, likes facts and procedures

- **Intuitive**- prefers insights and thoughts, conceptual, innovative, likes theories and meanings
Visual vs Verbal

- **Visual** - prefers to receive information by graphs, charts, diagrams, pictures
- **Verbal** - prefers to receive information by spoken or written explanation
Sequential vs Global

- **Sequential** - prefers to progress in logical steps, linear, orderly, learns in small increments
- **Global** - prefers to see the “big picture”, holistic, systems, learns in large leaps
## Learning Styles of Instructors

The chart shows the distribution of learning styles among instructors, with a sample size of 20. The learning styles are categorized into seven types: **ACTIVE (11-9)**, **REFLECTIVE (7-5)**, **SENSING (11-9)**, **INTUITIVE (7-5)**, **VISUAL (3-1)+(1-3)**, **VERBAL (9-11)**, and **SEQUENTIAL (9-11)**.

- **ACTIVE**: 11 instructors showed a strong preference, and 2 showed a moderate preference.
- **REFLECTIVE**: 5 instructors had a moderate preference, and 2 had a strong preference.
- **SENSING**: 8 instructors preferred a well-balanced learning style, and 3 preferred a strong preference.
- **INTUITIVE**: 5 instructors chose a moderate preference, while 3 preferred a strong preference.
- **VISUAL**: 7 instructors had a moderate preference, and 4 showed a strong preference.
- **VERBAL**: 7 instructors preferred a well-balanced style, while 2 showed a strong preference.
- **SEQUENTIAL**: 6 instructors had a moderate preference, and 2 showed a strong preference.

The chart also includes the number of instructors for each type of learning style, with a total of 20 instructors in the sample.
ACTIVE/REFLECTIVE

ACTIVE VS REFLECTIVE

PERCENT

LEARNING STYLES

ACTIVE

- strong preference (11-9)
- moderate preference (7-5)
- well balanced (3-1)+(1-3)

REFLECTIVE

- strong preference (9-11)
- moderate preference (5-7)

INSTRUCTORS

STUDENTS

strong preference (11-9) 3
moderate preference (7-5) 23
well balanced (3-1)+(1-3) 55
moderate preference (5-7) 13
strong preference (9-11) 10

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SENSING vs INTUITIVE

LEARNING STYLES

- **SENSING**
  - Strong preference (11-9): 15%
  - Moderate preference (7-5): 40%
  - Well balanced (3-1)(1-3): 25%

- **INTUITIVE**
  - Moderate preference (5-7): 15%
  - Strong preference (9-11): 5%

**Preferential Strengths**:
- Strong preference: (9-11)
- Moderate preference: (5-7)
- Well balanced: (3-1)(1-3)
- Moderate preference: (7-5)
- Strong preference: (11-9)
VISUAL/VERBAL

VISUAL VS VERBAL

<table>
<thead>
<tr>
<th>LEARNING STYLES</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>VISUAL</td>
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<tr>
<td>strong preference (11-9)</td>
<td>35</td>
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<tr>
<td>moderate preference (7-5)</td>
<td>33</td>
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<tr>
<td>well balanced (3-1)+(1-3)</td>
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<tr>
<td>VERBAL</td>
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<td>moderate preference (5-7)</td>
<td>10</td>
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<tr>
<td>strong preference (9-11)</td>
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</tbody>
</table>

Strong preference: (9-11)
Moderate preference: (5-7)
Well balanced: (3-1)+(1-3)
Moderate preference: (7-5)
Strong preference: (11-9)
Visual/Verbal

![Bar chart showing the comparison between Visual and Verbal for instructors and students. The chart indicates a decrease in the number of instructors and students for visual and verbal tasks.]
SEQUENTIAL/GLOBAL

SEQUENTIAL VS GLOBAL

PERCENT

LEARNING STYLES

- strong preference (11-9)
- moderate preference (7-5)
- well balanced (3-1)(1-3)
- moderate preference (5-7)
- strong preference (9-11)

INSTRUCTORS

STUDENTS

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Conclusions

- **Active/Reflective** - >50% both well balanced, instructors more reflective, students more active
- **Sensing/Intuitive** - both instructors, students higher sensing
- **Visual/Verbal** - both higher visual than verbal or well balanced
- **Sequential/Global** - both well balanced, instructors higher global, students higher sequential
Take-Home Message

- Students depend upon steps (seq)
- Emphasizes students benefit from engaging teaching methods and interactive environments (active)
What can instructors do?

- Know own LS
- Be aware of students’ LS
- Vary teaching methods
- Review courses often
- Alter courses to address LS
What Now?

- Assess students’ LS
- Assess instructors’ LS
- Offer information on LS
- Address LS in courses
- Be trained in varied teaching methods
- Alter courses to address LS
Questions or Comments?