



DOCTORAL CAPSTONE PROJECT

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ACADEMICS

Improving OT Student Learning Experience by Integrating Learning Style and Teaching Strategy into Creighton University's Doctor of Occupational Therapy Kinesiology Course

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INTRODUCTION

- Current occupational therapy (OT) higher education is undergoing transformation that maps to trends in which education is increasingly decentralized.¹
- Expectations for distance education, hybrid/blended learning, increased class sizes, and faculty extenders creates challenges in developing mentoring relationships, creating positive student attitudes, and actively engaging with students.
- Determining **most effective teaching methods** and **how students prefer to learn** is essential as we move toward this type of education. Schaber (2014) found three signature pedagogies consistent overtime that are effective for OT education:
 - Relational learning
 - Affective learning
 - Highly contextualized, active engagement
- Matching teaching style to student learning styles (LS) significantly improves student attitudes/behavior, academic achievement, and makes learning experiences more meaningful and enjoyable.²

INTRODUCTION

Most research done on LS has been in disciplines such as English courses, nursing, and medical students.^{3,4,5} Research on occupational therapy student (OTS) LS in the United States is sparse.



Such limitations provide a gap in OT literature, therefore, there is a need to conduct research on OT student learning preferences to improve the quality of teaching and learning process.



The purpose of this doctoral capstone experience (DCE) was to explore the learning style preference (LSP) of Creighton first-year doctoral OTS, incorporate the LSPs into the Kinesiology course, and then analyze their perceptions and satisfaction of the course.

INTRODUCTION

- It all starts with education and academics!!
- **AOTA Pillars of 2025 Vision**
 - *Effective* – Occupational therapy (OT) is evidence-based
 - *Leaders* – OT is influential in changing policies, environments, and complex systems
 - *Collaborative* - OT excels in working within systems to produce effective outcomes
 - *Accessible* - OT provides culturally responsive and customized services
 - *Equity, Inclusion, Diversity* - OT is intentionally inclusive, equitable, embraces diversity

VISION 2025
<https://www.aota.org/AboutAOTA/vision-2025.aspx>

METHODS

Target Audience

- Class of 2022 Doctor of Occupational Therapy students completing the Kinesiology course
- First-year OT students from all pathways

Participants

- 104/116, ~90% response rate
- 98 females; 6 males

Tools

- Index of Learning Styles (ILS) questionnaire by Richard M. Felder and Barbara A. Soloman

METHODS



<https://medium.com/anth374s18/interdisciplinary-efforts-and-innovation-2db0da1b6959>

- Process
 - Students completed the Index of Learning Styles Questionnaire (ILS) to determine their individual preferred learning styles.
 - Participants reported their results which included the top four preferred learning styles of each student.
 - Categories of learning styles were *active/reflective, visual/verbal, sensing/intuitive, global/sequential*.
 - Professors and student teachers then modified course material, lectures, labs, and style of teaching based on results of students' learning styles.
 - Compared test/practicum scores from previous years to determine effects of modifying course material
 - Students also completed a course survey to determine their satisfaction of the modified course material and lectures.

Index of Learning Styles Questionnaire

Barbara A. Solomon
Richard M. Felder

North Carolina State University

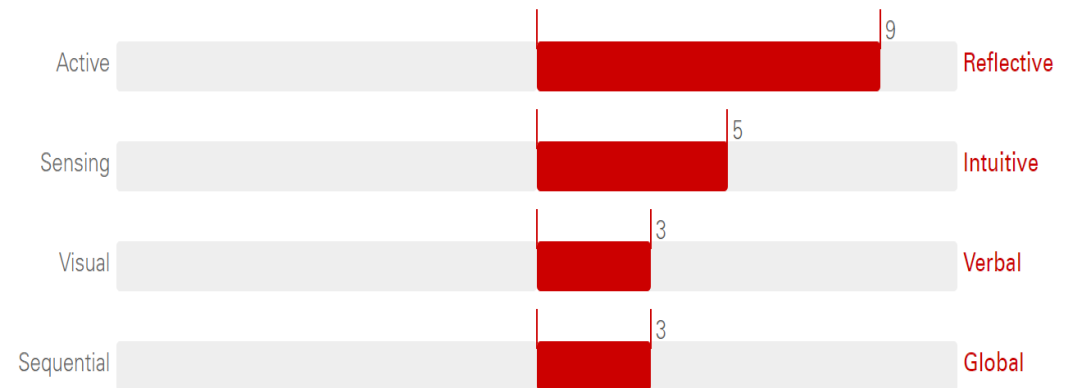
Directions

Please provide us with your full name. Your name will be printed on the information that is returned to you.

Full Name

For each of the 44 questions below select either "a" or "b" to indicate your answer. Please choose only one answer for each question. If both "a" and "b" seem to apply to you, choose the one that applies more frequently. When you are finished selecting answers to each question please select the submit button at the end of the form.

1. I understand something better after I
 - (a) try it out.
 - (b) think it through.
2. I would rather be considered
 - (a) realistic.
 - (b) innovative.
3. When I think about what I did yesterday, I am most likely to get
 - (a) a picture.
 - (b) words.
4. I tend to
 - (a) understand details of a subject but may be fuzzy about its overall structure.
 - (b) understand the overall structure but may be fuzzy about details.
5. When I am learning something new, it helps me to
 - (a) talk about it.
 - (b) think about it.
6. If I were a teacher, I would rather teach a course
 - (a) that deals with facts and real life situations.
 - (b) that deals with ideas and theories.
7. I prefer to get new information in



METHODS

Data Analysis

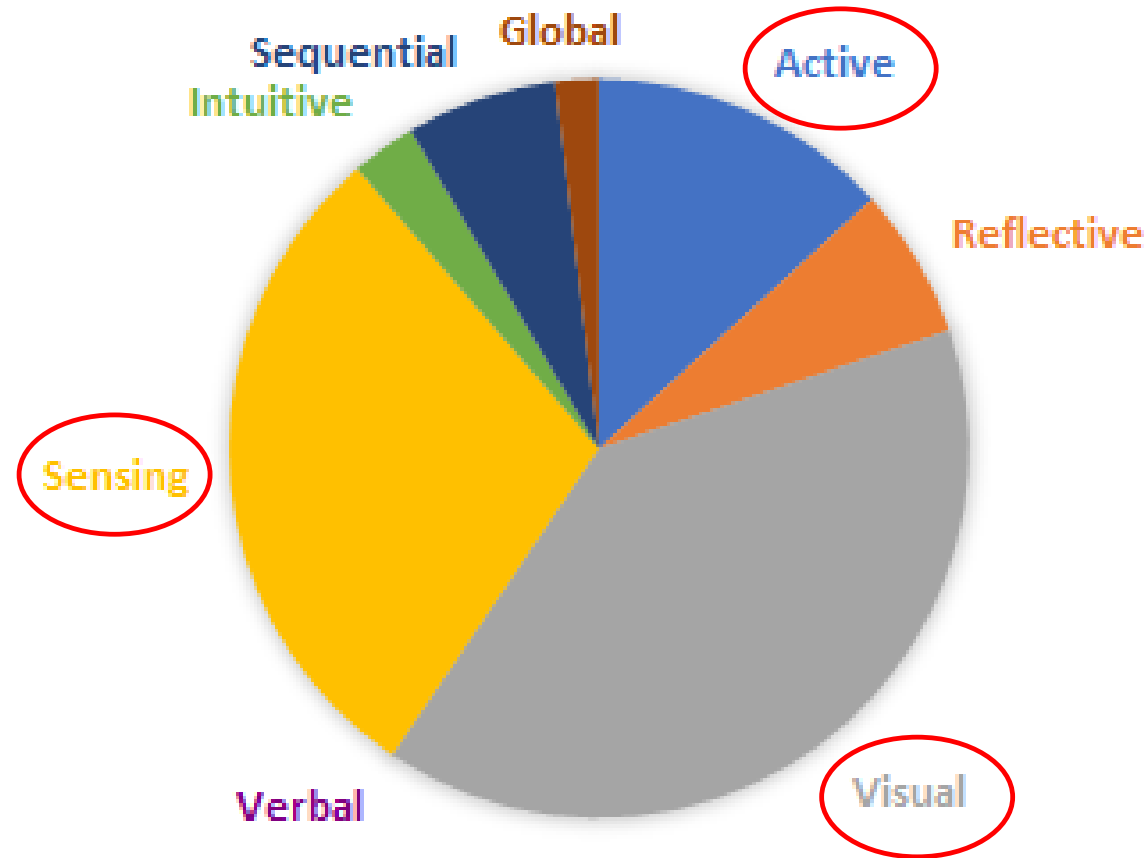
Data generated from students' results were analyzed in various ways to determine the most preferred learning style among the participants.

One method to determine the most preferred learning style across the whole class was to count the number of times each category fell into the top two preferred learning styles of each student.

Another method was determining each student's number one category and then calculating the total number of times that category fell into the number one preferred style. This was also done for determining the second preferred learning style.

Data was calculated using a tally system, then counting and entering totals for each category into tables in Microsoft Word. The data was then transferred to Microsoft Excel where the graphs were generated.

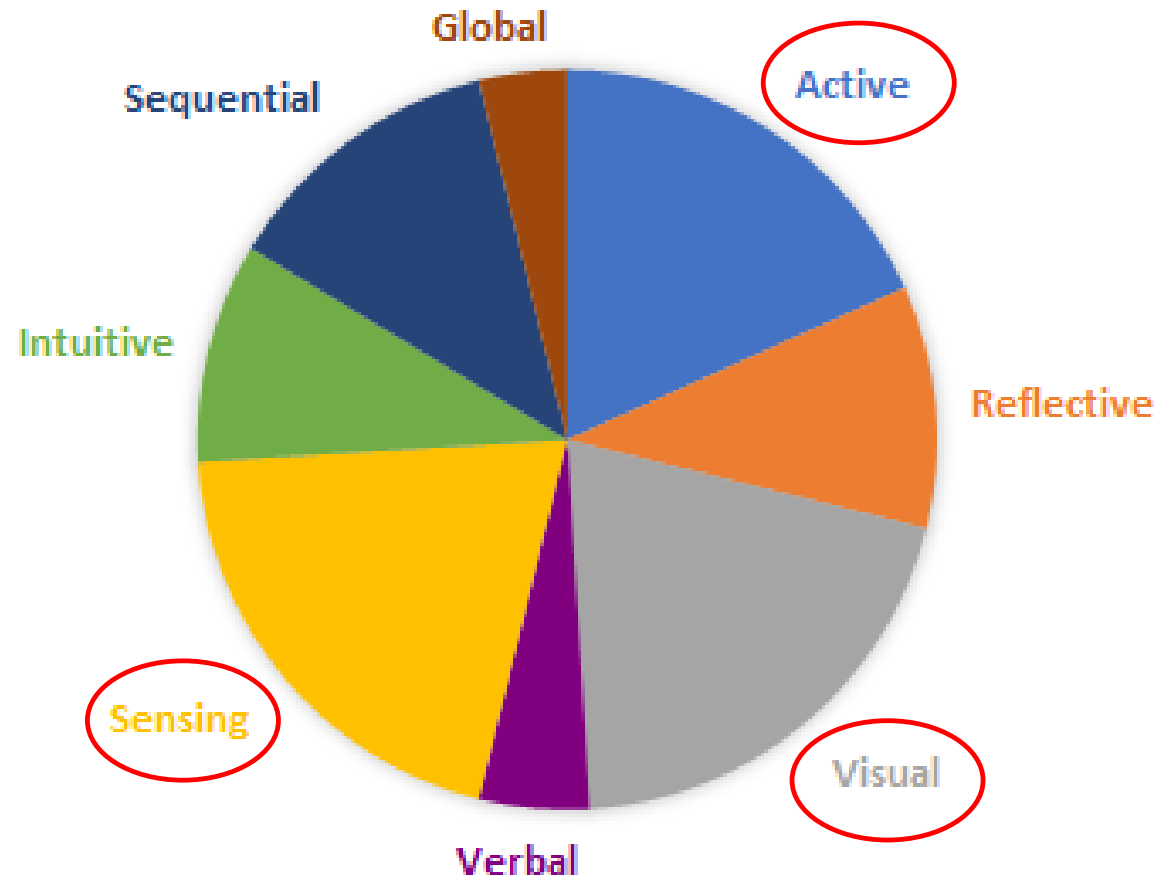
1ST PREFERRED LEARNING STYLE FOR OT CLASS OF 2022



RESULTS

(GRAPH I)

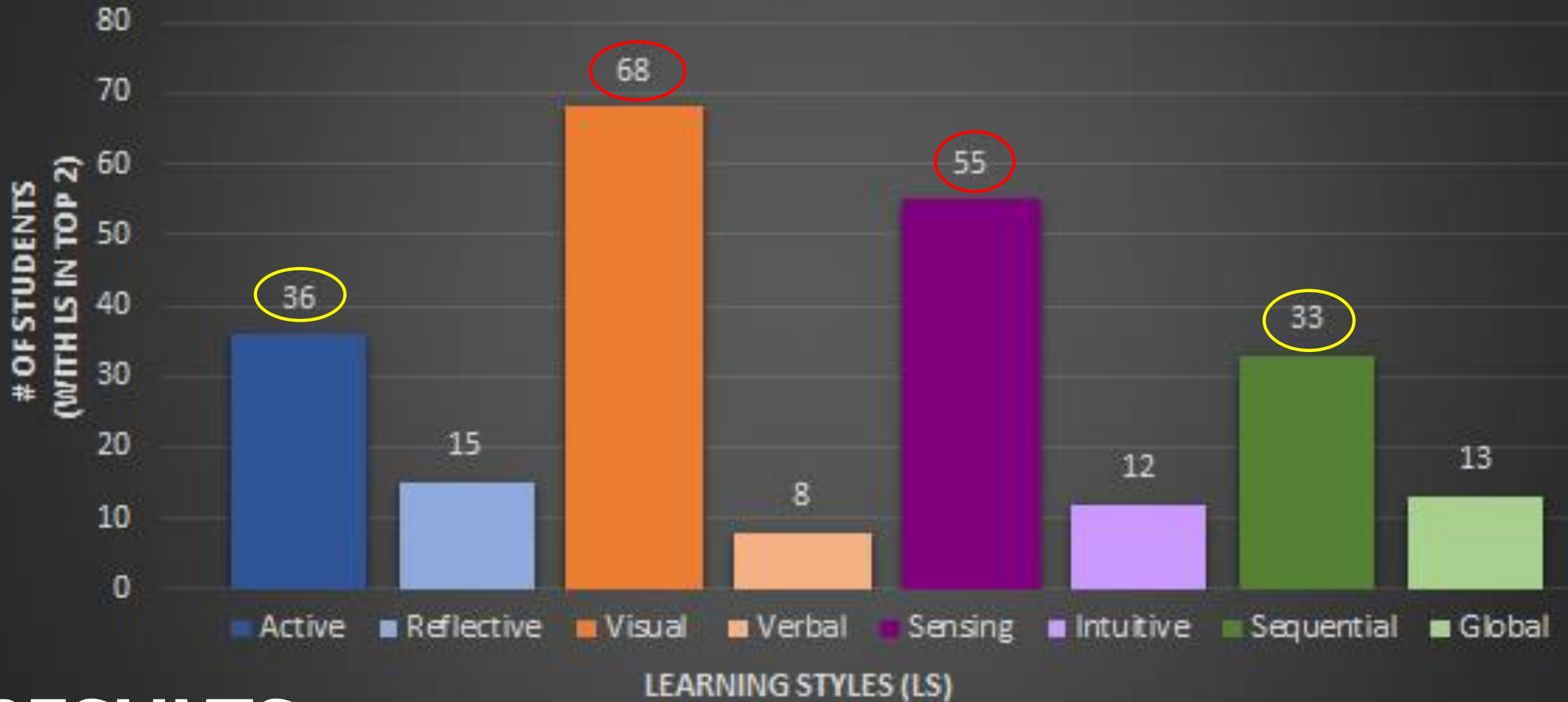
2ND PREFERRED LEARNING STYLE FOR OT CLASS OF 2022



RESULTS
(GRAPH 2)

OT Class of 2022 Preferred Learning Styles

From Index of Learning Styles Questionnaire



RESULTS (GRAPH 3)

Felder-Soloman Index of Learning Styles

| | |
|-----------------------------------------------------------------------------------|----------------------------------------------|
| ACTIVE | REFLECTIVE |
| Doing something active with it. Discussing, applying, or explaining it to others. | Thinking about it quietly first. |
| SENSING | INTUITIVE |
| Learning facts. | Discovering possibilities and relationships. |
| VISUAL | VERBAL |
| See-- pictures, diagrams, flow charts, time lines, films, and demonstrations. | Words-- written and spoken explanations |
| SEQUENTIAL | GLOBAL |
| Gain understanding in linear steps | Learn in large jumps, suddenly "getting it." |

SURVEY RESULTS

https://www.surveymonkey.com/analyze/PglVDkPWwY98swjgkz_zcYV0mLRm5IQWSF68OW0vf3w8_3D

Q1

Save as ▼

Rank order your top 4 learning styles from the ILS survey taken at the beginning of the Kinesiology course semester.

Answered: 40 Skipped: 0

| ANSWER CHOICES | | RESPONSES | |
|----------------|-----------|-----------|----|
| Active | Responses | 72.50% | 29 |
| Reflective | Responses | 42.50% | 17 |
| Sensing | Responses | 62.50% | 25 |
| Intuitive | Responses | 27.50% | 11 |
| Verbal | Responses | 40.00% | 16 |
| Visual | Responses | 85.00% | 34 |
| Sequential | Responses | 57.50% | 23 |
| Global | Responses | 32.50% | 13 |



INTERVIEW RESULTS

**2020
KINESIOLOGY COURSE
FEEDBACK FROM
CREIGHTON UNIVERSITY
OTI STUDENTS**

DISCUSSION (*LEARNING STYLES*)

- Results from Creighton OTI student survey match previous research that found the most preferred learning styles among first-year OT students using ILS were *visual, sensing, active, and sequential*.^{2,6}
- Rudman, de Beer, & Olorundju (2015) suggested that **teaching OTS should follow a logical order (sequential) building knowledge from basic to more complex, concrete (sensing) examples should be used in a visual, active manner to establish a good basis for ground level knowledge.**
- It is also beneficial to stimulate the development of less-dominant learning style by employing diverse sources of information (articles, class notes, textbooks, etc.).^{6,7}

DISCUSSION (CO-TEACHING)

Can be beneficial when...⁸

- Lecturers are prepared and make useful time with classes
- Able to clear up points of confusion by gaining different insights
- Showing interest in helping students learn, inspiring interest in course material, and stimulating student participation
- Lecturers give more time to students and provide useful, constructive feedback on student performance

Can be harmful when...⁹

- Poor planning and organization
 - Planning and time required for co-teaching is extensive
- Difficulties related to power imbalances
 - Between instructors, instructors-student, etc.
- Poor communication

DISCUSSION (*CO-TEACHING*)

- Co-teaching can improve graduate student training while also enhancing teacher experience and the learning experience of students in higher education.⁸
 - Suggests co-teachers attend each class session
 - Lead discussion and lectures alternating weeks
 - Weekly co-teacher meetings
 - Discuss discrepancies with lecture material or grading
 - Challenge each other with constructive feedback



DISCUSSION (CLASS SIZE)



The best student outcomes and experiences in higher education come in smaller class size or smaller teacher/student ratios.^{10,11,12,13}



Both class size and student load negatively impact student assessment of courses and instructors.^{11,13}



Students report class size has a negative effect on amount of critical and analytical thinking required in the course, the clarity of presentations, effectiveness of teaching methods, the daily preparedness of the instructor, the effectiveness in stimulating student interest, instructor's availability outside of class, timeliness on feedback, etc.¹⁰



Students in higher education reported the most dissatisfaction with courses that involved large class sizes along with one-time and first-time teachers compared to smaller class size and more experienced teachers.¹⁴

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