Introduction and Research Questions

Basic Concepts

- **Synchronous online learning:** also refers to live instruction, where instruction and learning occur at the same time [Warden et al., 2013]
- **Text chat room:** one of the popularly used communication tools in synchronous online learning [Oztok et al., 2013]
- **MBTI personality:** inherently influences peoples’ attitudes, tastes, and decision process [Myers et al., 1998]
- **Sense of community:** a feeling of belonging to a community in a course-based context [Rovai, 2002]

Research Questions

- **RQ1:** Would students’ sense of community be significantly correlated with their perceived learning outcomes (satisfaction with learning process, interest growth and knowledge growth)?
- **RQ2:** Would active chatting students possess significantly higher level of sense of community than inactive students?
- **RQ3:** Would students’ personality significantly affect both their chat frequency and chat content?

Approach: User Survey

**Materials and Participants**

Participants: 489 Chinese college students

**Measurement**

- **Students’ Myers-Briggs Type Indicator (MBTI) Personality**
- **Sense of Community**
  - Rovai’s Classroom Community Scale
  - Two dimensions: 1. Connectedness 2. Learning
- **Perceived Learning Outcomes**
  - Satisfaction with learning process
  - Interest growth
  - Knowledge growth

Chat Frequency and Sense of Community

- **Active chat group** and **Inactive chat group**
  - Based on average number of messages posted per lesson and show ratio
  - $K$-Means clustering ($K=2$)
  - Comparison results (via t-Test):
    - Students who behave more actively in chat room are likely to feel higher sense of community

Personality and Chat Behavior

- **Major Findings** (via hierarchical multiple regressions)
  - Students’ personality values, especially in terms of $E-I$, $S-N$, and $T-F$, significantly affect their chat behavior
  - **Example:** Impact of MBTI personality and control variables on students’ average number of chat messages posted per lesson

Results

**Sense of Community and Perceived Learning Outcomes**

<table>
<thead>
<tr>
<th></th>
<th>Satisfaction with learning process</th>
<th>Interest growth</th>
<th>Knowledge growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>0.203**</td>
<td>0.140**</td>
<td>0.121**</td>
</tr>
<tr>
<td>Connectedness</td>
<td>0.307**</td>
<td>0.148**</td>
<td>0.112**</td>
</tr>
<tr>
<td>Learning</td>
<td>0.267**</td>
<td>0.112**</td>
<td>0.114**</td>
</tr>
</tbody>
</table>

Students who feel **stronger sense of community** are likely:
- to be more satisfied with their learning process
- to be more interested in the studied course
- to accumulate more knowledge after taking the course