

Purpose

Primary Driver: STEM students feel connected to STEM research, understand STEM career options and feel competent enough to pursue them.

Secondary Driver: Administrators and faculty coordinate to increase participation in research experience for First2 students.

Background

Undergraduate research experiences are known to:

- Increase student **engagement**
- Improve **retention** in undergraduate programs
- Encourage **persistence** through problem solving
- Foster mentorship **relationships** between students and faculty

WVU's Undergraduate Research:

- Offers **opportunities** to motivated undergraduate students to **get involved in research**
- Connects students across disciplines with **faculty members and programs**

Research Apprenticeship Program (RAP):

- Two-semester experience open to **any undergraduate students** interested research
- Allows students to **earn course credit** or **federal work study** while working with a **faculty mentor**

Objectives

- **Identify** reoccurring patterns in reflective biweekly reports that preceded exit from an interdisciplinary undergraduate research program
- **Compare** reoccurring patterns between cohorts over a five-year period
- **Examine** retrospective explanations of students' decision to withdraw from an interdisciplinary undergraduate research program compared to identified patterns found in biweekly reports

Population

RAP students, primary first and second-year undergraduates (ages 17-22), reflecting the university's broader demographic makeup

Methodology

Thematic Analysis: qualitative research method used to identify, analyze, and report patterns within data

Inductive Approach: allows data to determine themes

1. Familiarization

Researchers read through the data and generate memos

2. Coding

Highlighting sections of the data to create "codes" that describe their content

3. Creating Themes

Identify themes that are broader than codes and may combine several

4. Refinement

Ensuring that generated codes and themes are reflective of the data

Thematic Analysis

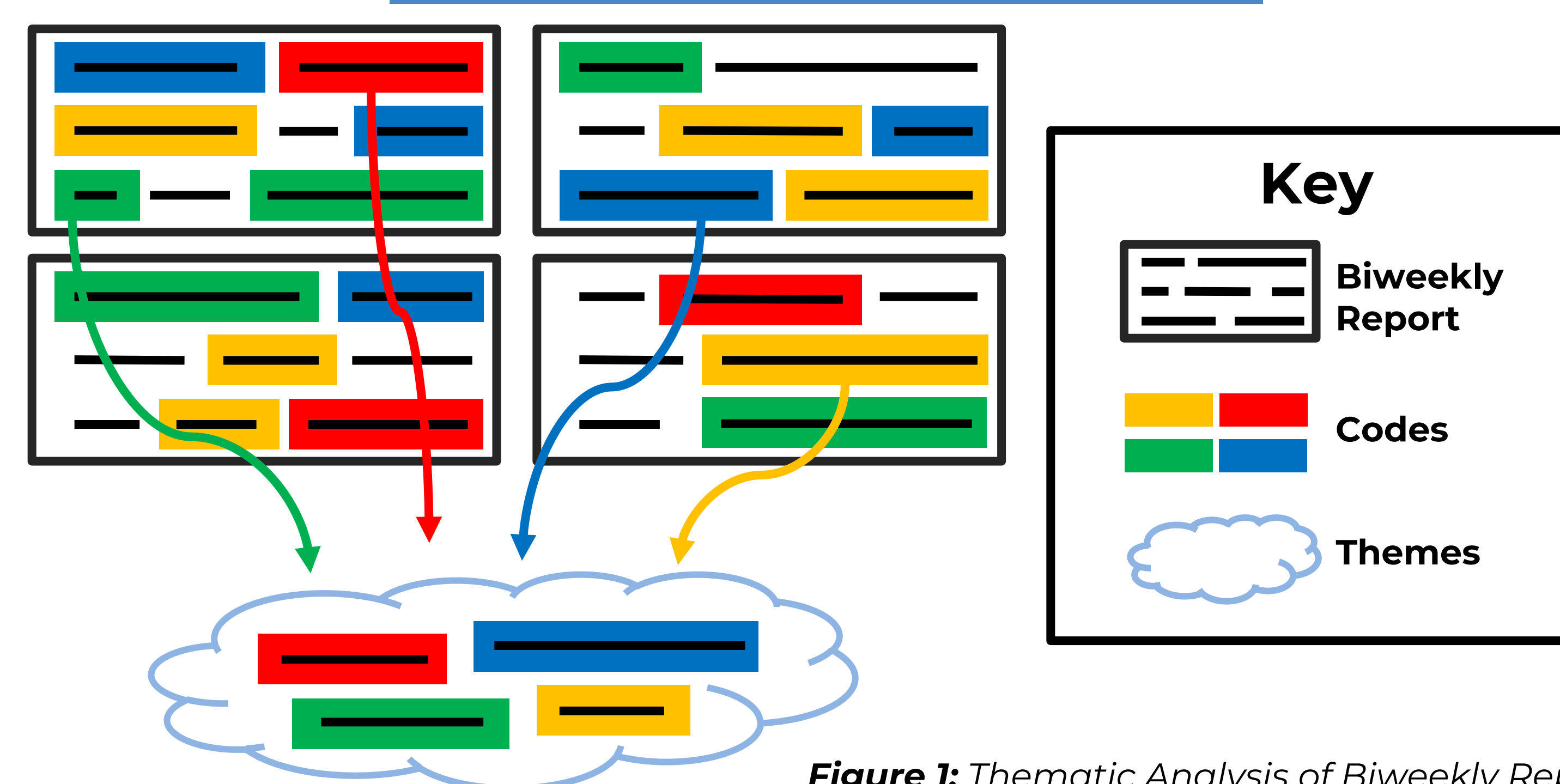


Figure 1: Thematic Analysis of Biweekly Reports

Negotiated Agreement Reliability Strategy: Multiple researchers code the data, discuss differences until a consensus is reached., and apply the agreed-upon interpretation across the dataset.

Artificial Intelligence (AI) Use in Thematic Analysis:

Large language models (LLMs), such as OpenAI ChatGPT or Microsoft CoPilot, can support thematic analysis by assisting with familiarization, initial coding, organization, and interpretation of qualitative data.

Expected Results

Potential themes may include mentor-mentee relationships, imposter syndrome, funding limitations, and challenges in the complimentary course. Identifying these patterns can **inform improvements** to RAP and provide insight to other universities with undergraduate research experiences.