



EMPOWERING GRADUATE WRITERS through AI-Driven Support and Cross-Institutional Partnerships

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Learning Objectives

- Understand the role of AI in transforming writing in graduate education
 - Introduce a key technology to support disciplinary awareness through the academic writing processes
 - Examine technology implementation models from two R1 institutions and lessons learned.
 - Discuss how AI can transform graduate education through innovative partnerships and critical engagement.
-



AI in Our Everyday Lives: Where Do We Stand?

- Has anyone NOT heard or thought about AI in the past year?
- How many people have used a Large Language Model (LLM) in the past few months?
- How many people are currently using it on a regular basis?



AI in Higher Education: Where Do We Stand?



<https://www.menti.com/alf7fhf7uwfi>



AI in Graduate Education: Evaluating Assumptions

Assumptions

- Students who have completed an undergraduate degree are:
 - motivated and knowledgeable
 - more likely to have established foundations for academic success

Reality

- Students often **lack the AI literacy skills** to reduce initial learning friction and heighten the impact of AI on efficiency and production
-



AI Literacy in Graduate Education

Ethical

- Potential bias
- Legal issues
- Equity

Technical

- Understand what AI can (and cannot) do
- Collaborative learning
- Information validation



Technical AI Literacy: A focus on student cognition

In a recent MIT study:

- Participants were placed initially in an Brain-only (writing group without tools) and then into a Brain-to-LLM group (with LLM tools)
- 54 college-aged participants
- Wrote essays on familiar topics

FINDINGS SUGGEST...

Significant increase in brain connectivity when allowed to use an LLM on a familiar topic.

01

AI-supported re-engagement invoked high levels of **cognitive integration, memory reactivation, and top-down control**

02

A dynamic interplay between **cognitive scaffolding** and **neural engagement** in AI-supported learning contexts

03

Strategic timing of AI tool introduction following **initial self-driven effort** may enhance engagement and neural integration



**What are the implications for
graduate student writers?**



Needs of Graduate Student Writers in the AI Era

1. Process over Product

- Emphasis on the journey of learning rather than producing polished final outputs

2. Performative vs. summative assessments

- Modular exercises to encourage self-driven effort

3. Metacognitive Focus

- Need to iterate on ideas and demonstrate metacognitive awareness

4. Collaborative AI

- Ability to collaborate with intelligent systems for scaffolded learning
-



Disseminity

Disseminate Research with Clarity

Intelligent tutoring system that **centralizes human thinking and learning** during the scientific writing process through:

Process over
Product
Pedagogical
Design

Performative
Assessments
of Reading and
Writing Skills

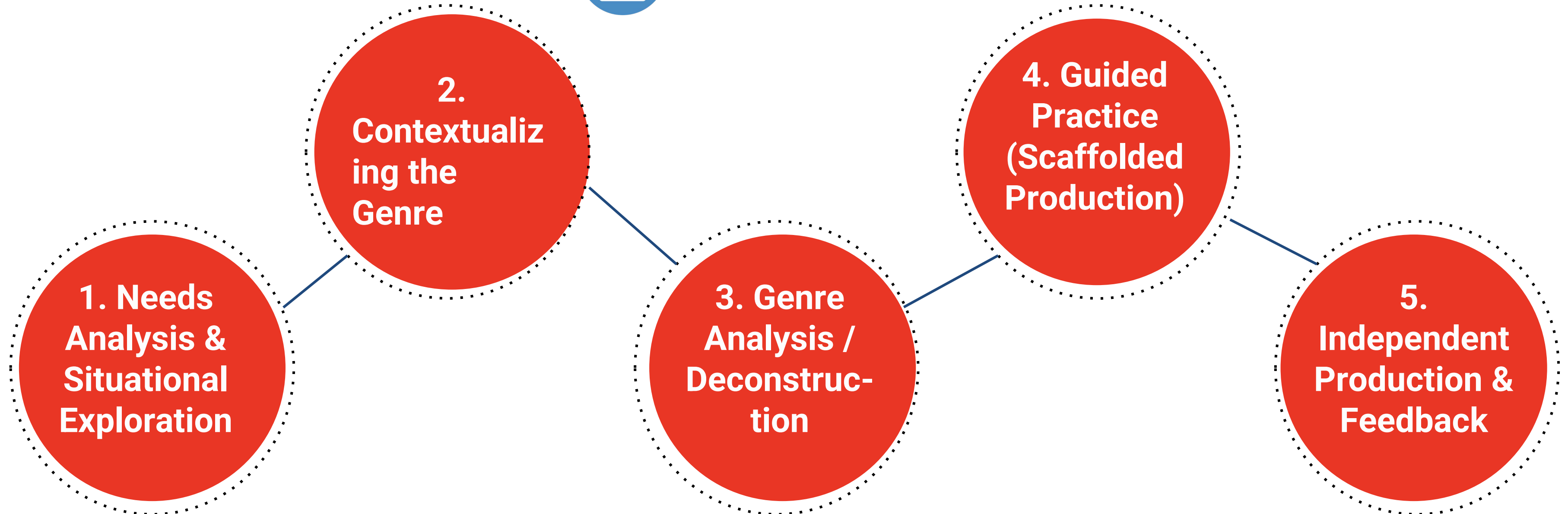
Metacognitive
Awareness
Building within
Discipline

Collaborative
AI Tasks for
Knowledge
Development

Self-Driven Support Guided By Genre-Based Instruction



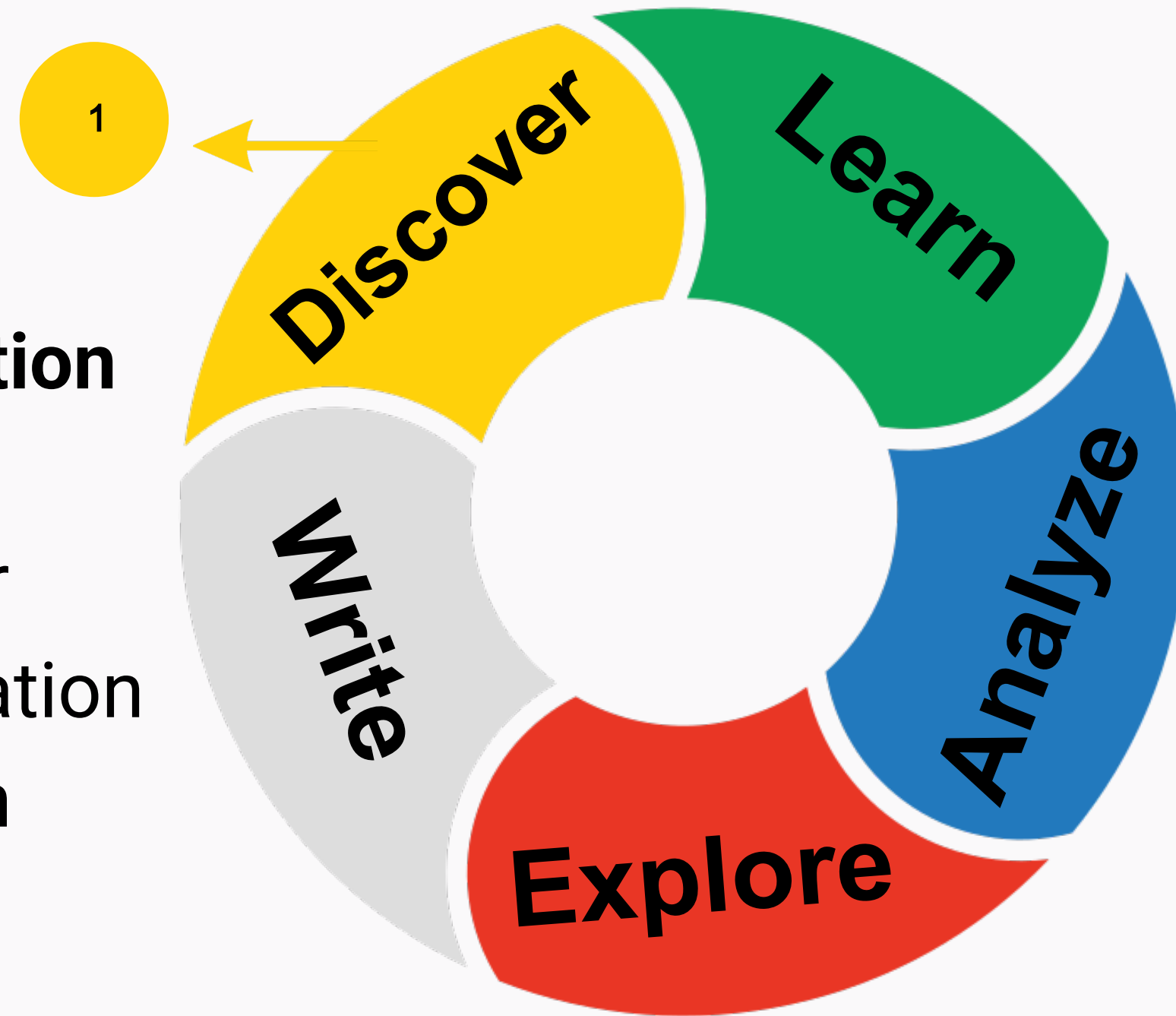
Disseminity



FIVE CORE MODULES

Needs Analysis & Situational Exploration

Guided inductive analysis to discover patterns in organization and structure within discipline-specific, scientific research articles



new docu...

Azaza an...

Khetrapal...

Pearce et ...

Li et al., 2...

Matsubay...

Olsen et a...

Flowerde...

Terriquez ...

Article 1

Article 2

Sample C...



Introduction
Archaeological and historical data have shown that since early times people played a fundamental role in the migration of

Introduction
New Public Management (NPM) has been a dominant paradigm in the discipline of public administration

Introduction
Educational qualifications and trajectories of employment, income and health across the life

Introduction
Alcohol use is the third leading risk factor for global disease burden (Lim et al., 2012) and accounts for an

Introduction
Stable isotope analyses of bone collagen are commonly performed in archaeological (e.g.

Introduction
Whilst the influence of environmental characteristics on health, over and above individual factors, is well

1. Introduction
Corpora have played an increasingly important role in linguistic research and, to a lesser extent, teaching

Introduction
The passage and subsequent implementation of the Affordable Care Act (ACA) in recent years has led many

Aural vocabulary knowledge (AVK) of high-frequency words is critical for second language listening comprehension

Writing involves more than attention to form (e.g., orthography, grammar), since it requires attention to text type, content

Two-thirds of police departments face staffing shortages (Boylan, 2019). The United States is projected to be at least 50,000 doctors



Azaza and Colominas, 2020

intro
edit

methods

results

discussion

LI



Discover



INTRODUCTION

Archaeological and historical data have shown that since early times people played a fundamental role in the migration of animals in various locations around the world. One of the most active periods began with the creation of the Roman Empire, which promoted connectivity around the Mediterranean Sea as a unique geographical space. This connectivity encouraged the movement and spread of animals that colonized new areas by travelling on human means of transport. Mobility and trade flourished across the Roman provinces and massive quantities of goods were shipped over thousands of kilometres by sea, river and road (Campillo et al., 2018). Archaeological evidence reveals the interconnectivity of the Roman world, as indicated by traded goods such as ceramics, marble and bricks (Rice, 2008). Oil and grain were also traded in large quantities and transported over long distances (Dark, 2007). During the Roman period, North Africa was one of the main productive areas and a fundamental source of goods for the Empire. The Romans exploited North Africa to maximize



grading cas_slink (you)

FIVE CORE MODULES



Contextualizing the Genre

Instructional content to increase knowledge and awareness of the conventions of scientific research writing



intro

methods

results

discussion

← previous

Lesson 1 of 18

next →

Introduction 1

R 1 Introduction Video

Watch later Share

Beginning your Scientific Argument

The Introduction

Watch on YouTube

transcript & notes

Let's get started now with how to begin your scientific argument in your Introduction section!

From this point on, we are going to jump right back into the four-step process.

We are going to read and analyze published empirical research articles to better understand the conventions in our individual fields, and we are going to practice skills and work on drafts of the Introduction to meet the expectations of our target journal.

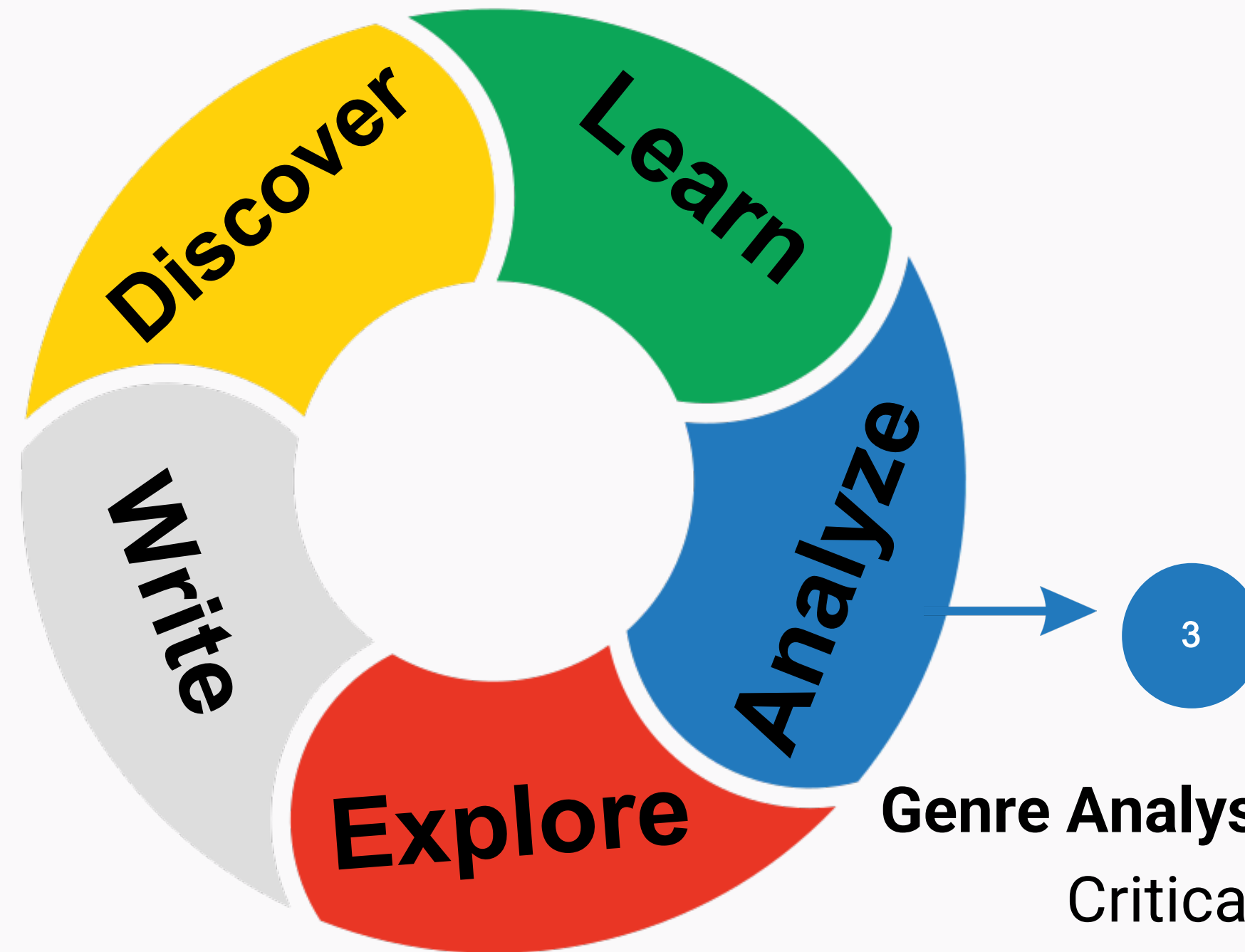
Although we are starting with the Introduction section here, this section may not be your preferred start for the future.

I like to start with this section because it helps me to formulate my whole argument more concretely, but please know that this

LI



FIVE CORE MODULES



Genre Analysis / Deconstruction

Critical analysis tasks and
automated feedback support for
constant access to learning
opportunities



INTRODUCTION

New Public Management (NPM) has become a dominant paradigm in the discipline of public administration (Aldrich, 2003), encouraging policies which have included contracting out, privatization (Kalimullah et al., 2012). Public-Private-Partnerships (PPPs) have been an area of particular interest, as a new tool for supporting public service provision. The Government of India (GoI), since the economic liberalization reforms of 1980s, envisions significant untapped potential for the use of a PPP model in the health sector and has developed enabling tools and activities to encourage private sector investment and engagement (Government of India, 2011). India's general government health expenditure to GDP ratio is about 1% (2015-16) or about 25% of total health expenditure, amongst the lowest in the world. Out-of-pocket expenditure amounts to nearly 65%, one of

INTRODUCTION

Establish territory

Identify niche

Address niche

AUTOMATIC FEEDBACK

You correctly marked this sentence as *establish territory*. Good work!

[Tell me more](#)

Was this feedback helpful?  

EXPLORE LANGUAGE PATTERNS

"particular interest"
[explore](#)

INSTRUCTOR COMMENTS

system: This does not yet have any comments

[add comment](#)[next](#)

FIVE CORE MODULES



4

Guided Practice (Scaffolded Production)

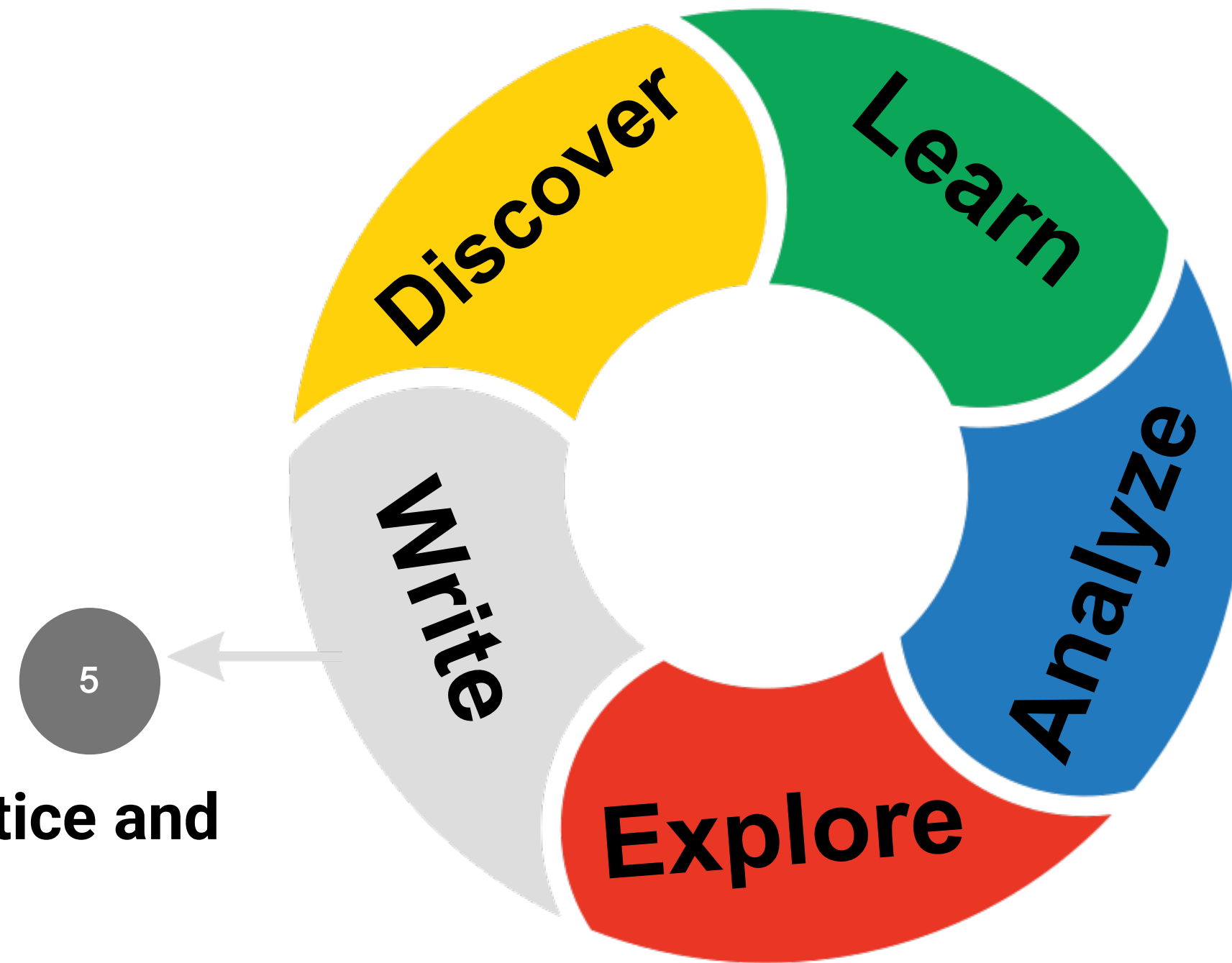
Searchable collection of thousands of articles for users to explore the language use patterns in their field

INTRODUCTION

New Public Management (NPM) has been a dominant paradigm in the discipline of public administration (Arora, 2003), encouraging policies which have included market orientation of public services, contracting out, and privatization (Kalimullah et al., 2012). Public-Private-Partnerships (PPPs) have been an area of particular interest, as a new tool for supporting public service provision.

✓ The Government of India (GoI), since the economic liberalization reforms of 1980s, envisions significant untapped potential for the use of a PPP model in the health sector and has developed enabling tools and activities to encourage private sector investment and engagement (Government of India, 2011). India's general government health expenditure to GDP ratio is about 1% (2015-16) or about 25% of total health expenditure, amongst the lowest in the world. Out-of-pocket expenditure amounts to nearly 65%, one of the highest rates globally (World Health Organization, 2018; World Bank, 2018). One-time high expenditure can deplete household resources so considerably as to induce impoverishment (NSS, 2015). To help redress this situation, the Government of India adopted a health insurance programme called Rashtriya Swasthya Bima Yojana (RSBY) in 2008. The RSBY was a national health insurance scheme launched by the Ministry of Labour and Employment (MoLE) for below poverty line (BPL) families in the informal sector, to improve access to

FIVE CORE MODULES



Independent Practice and Production:

Write research articles with heightened knowledge, awareness, and confidence!

type here to begin writing

Skin cancer is the most common form of cancer in the United States, with over a million new cases diagnosed each year. It is estimated that about one in six Americans will develop skin cancer at some point in their lifetime. Despite its high prevalence, most forms of skin cancer are preventable by adopting behaviors that limit exposure to ultraviolet (UV) radiation.

Accurate measurement of UV exposure and related skin damage is critical for the development and evaluation of effective prevention and intervention strategies. Reliable data are essential for understanding individuals' exposure to UV radiation, their protective behaviors, and the extent of skin damage, all of which inform targeted health messaging and behavioral change efforts.

Historically, most studies in this area have relied on self-report methods to gather data, with approximately 93.8% of research using self-reported measures. Although self-report is low-cost and easy to administer, it has significant limitations. Individuals may inaccurately report their behaviors, misperceive skin damage, or be unaware of their natural skin tone, which can introduce bias and reduce the validity of

GO

GENRE

Maximize the impact of goals and strategies.

QUANTITATIVE GENRE

Compare your writing to disciplinary norms.

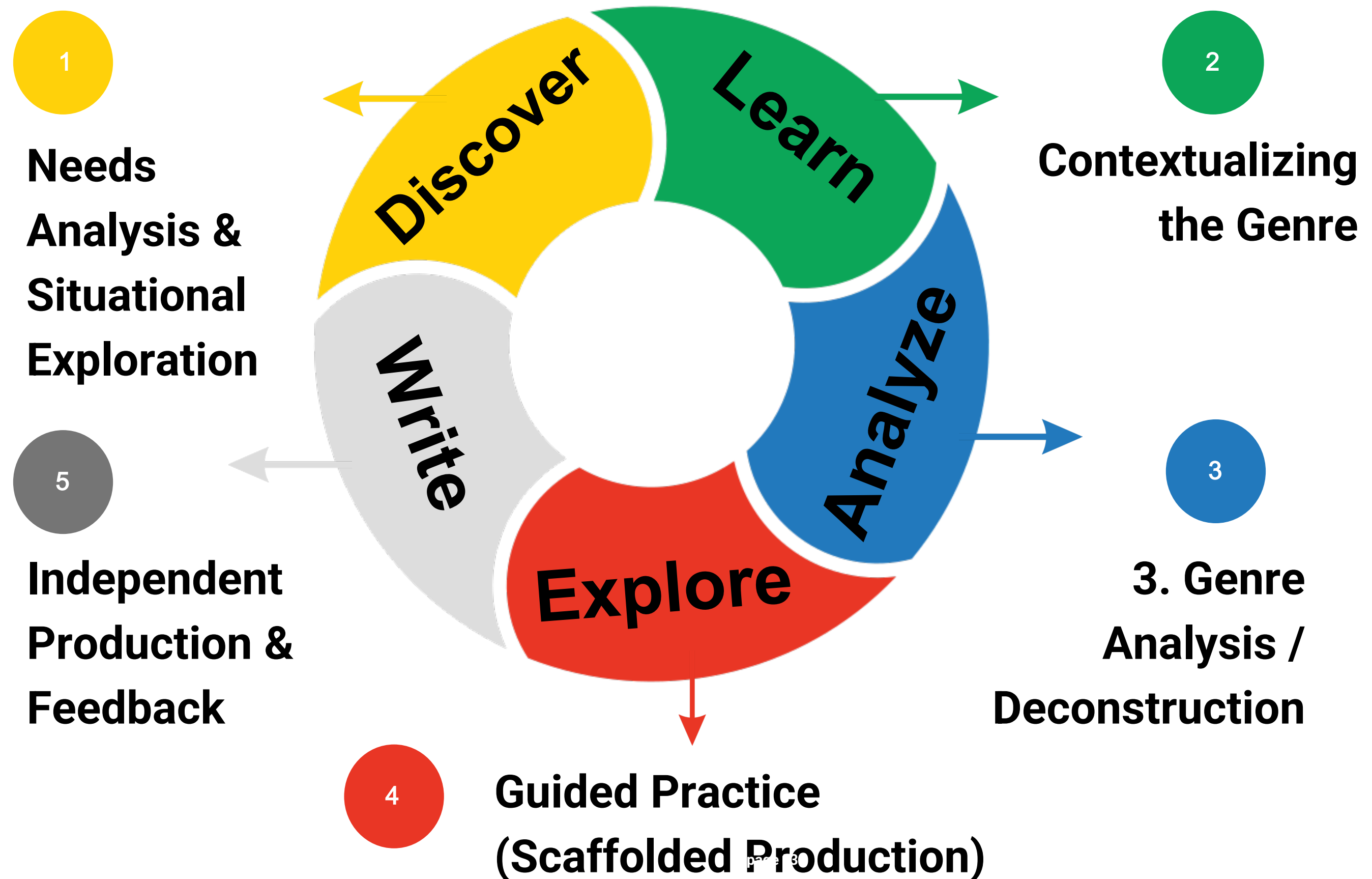
GO

GO

CLARITY

Balance complexity with understandability.

FIVE CORE MODULES





FIVE CORE MODULES





The pheromone communication system plays important roles in moth reproduction. They use this system to perceive sex pheromones for locating mating partners. Perception of sex pheromones is thought primarily to be mediated by small soluble proteins (15–17 kDa), the pheromone binding protein (PBPs), which are localized mainly in the lymph of sensilla trichodea on the moth antennae 1–3. These proteins typically feature six conserved cysteine residues, which may form three disulfide bridges that are important to stabilizing the 3-D structure^{4,5}. Insect PBPs are believed to bind and ferry hydrophobic sex pheromones across the aqueous sensillum lymph to the olfactory receptors (ORs) located on the olfactory receptor neurons (ORNs) where signal transduction is initiated^{6–8}. Several PBPs have been shown to bind sex pheromone compounds^{9–11}. Moreover, some studies have indicated that the absent of a PBP can alter chemosensory behavioral phenotypes or reduce the sensitivity of a sensory neuron to its odor ligand. In *Drosophila melanogaster*, the pheromone receptor OR67d depends on the PBP protein LUSH for



OLIVER'S NOTES

Your annotations demonstrate a strong grasp of the overall structure and purpose of the introduction section. Observations like 'Need of this study' and 'Research gap' align with applied linguistic research on the rhetorical moves common in introductions. Additionally, your annotations highlighting the hypotheses, previous studies, and future implications reflect an understanding of how the language supports the article's purpose.

Reflection Questions

How does the author's use of technical terminology and formal tone contribute to conveying the novelty of the research?

answer here



What functional patterns do you notice in the organization and language use that reflect disciplinary conventions?

answer here



respond ▲

**What else is next
for Disseminity?**

Implementation Strategies

Kickstarter Sessions

1-hour workshops to introduce
introduce writing strategies and to
launch Dissemity

Autonomous Learning

Centralized access to Dissemity for
any-time access to modular support

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Four-Week Workshop

Asynchronous learning opportunities
with weekly virtual meet-ups to
progress towards completion of
Dissemity modules

THE 4-WEEK WRITING WORKSHOP

Week 1

1. Identify target journal
2. Compile corpus of articles
3. Discover patterns in organization, structure, language use

Week 2

1. Watch instructional videos
2. Take notes on goals/strategy framework
3. Complete knowledge comprehension quizzes

Week 3

1. Analyze articles for discipline-specific conventions
2. Apply AI-feedback to analytical task
3. Explore language use features

Week 4

1. Outline Introduction section
2. Draft Intro section
3. Revise based on AI-powered feedback

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Reflection +
Synchronous Check-ins

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Campus Collaborations

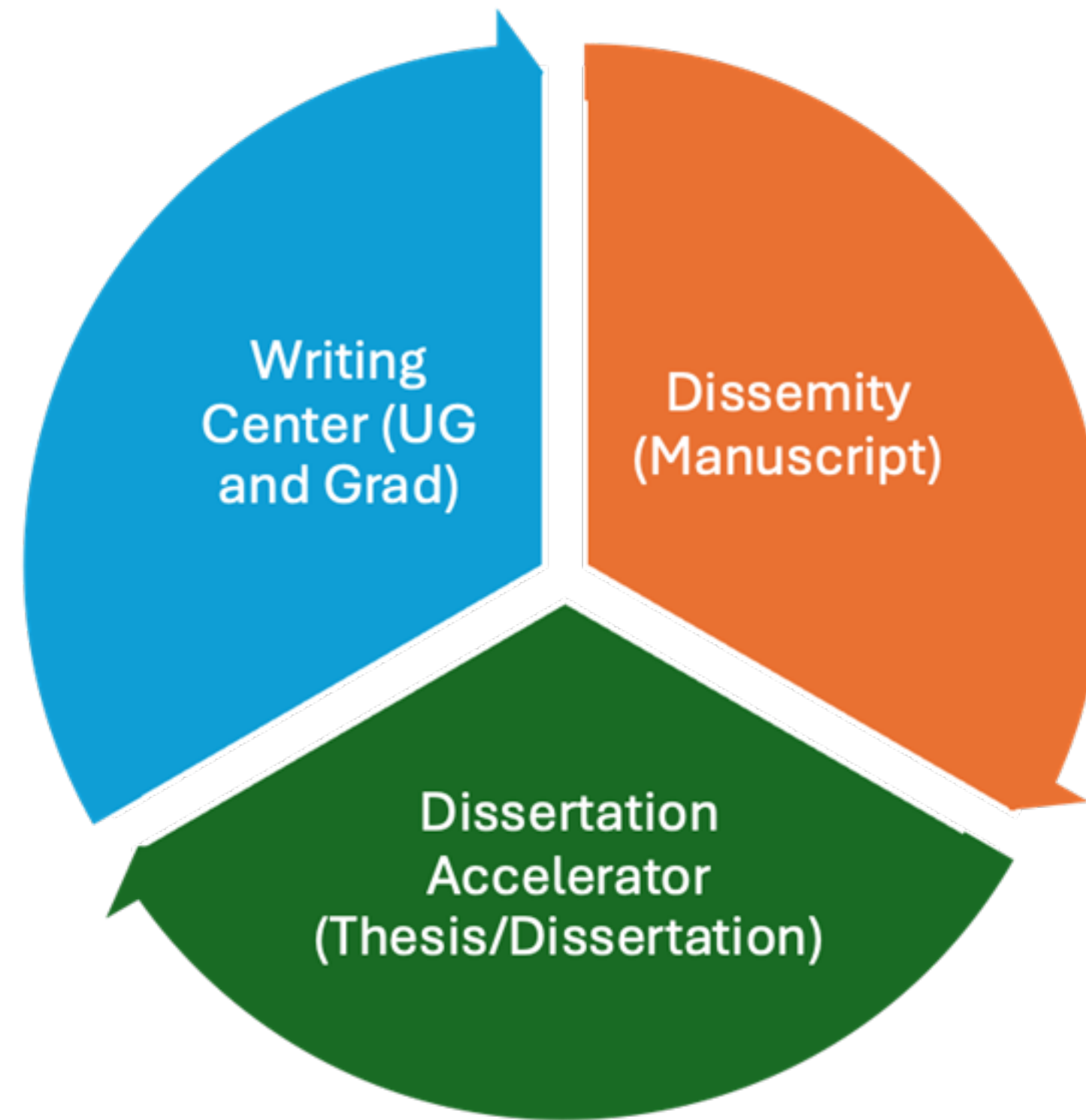
Partnership discussions to cultivate a
culture of research writing across the
disciplines



CROSS-INSTITUTIONAL PARTNERSHIP



Writing Support Ecosystem for UH Graduate Students





Dissertation Accelerator

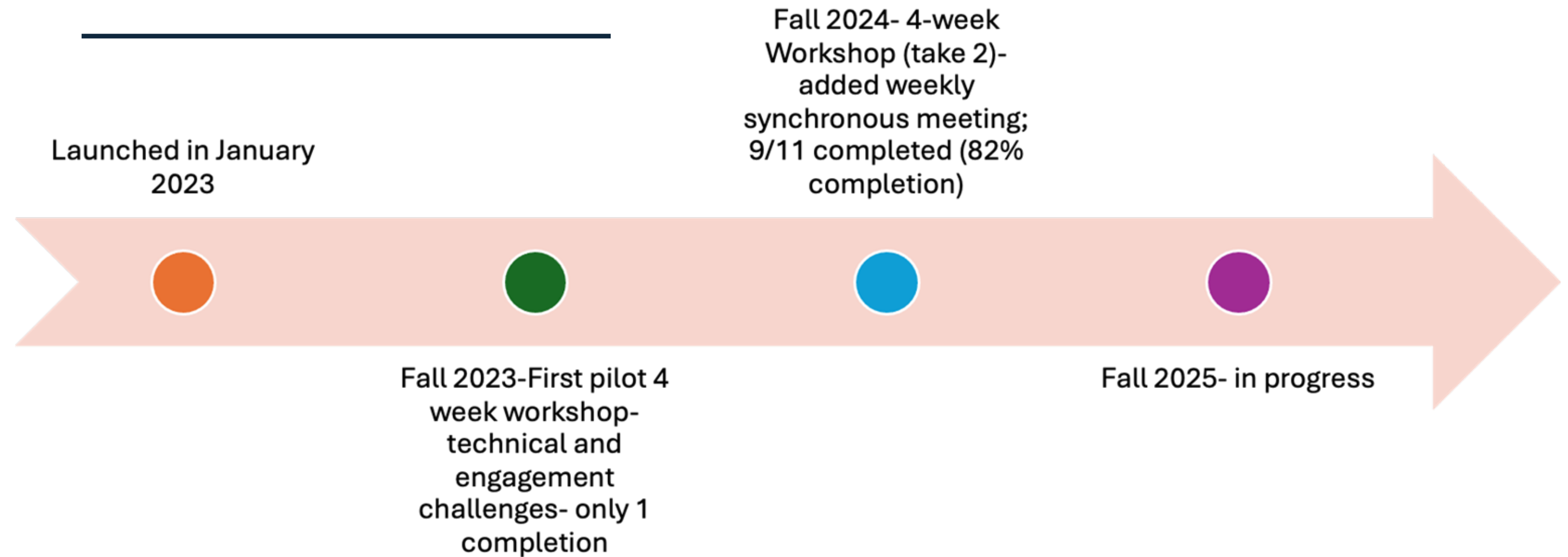
- 4 day writing “bootcamp”
- Developed concept with representatives from the Writing Center, Library, faculty, graduate students. (Dr. Tashemia Jones)
- Launched in 2019
- Fall 2025- expanded to thesis

“This workshop made me feel like I wasn’t going it alone. It showed me all the resources on campus that are here for me to succeed...To be honest, these 28 hours were some of the best hours of my career.”

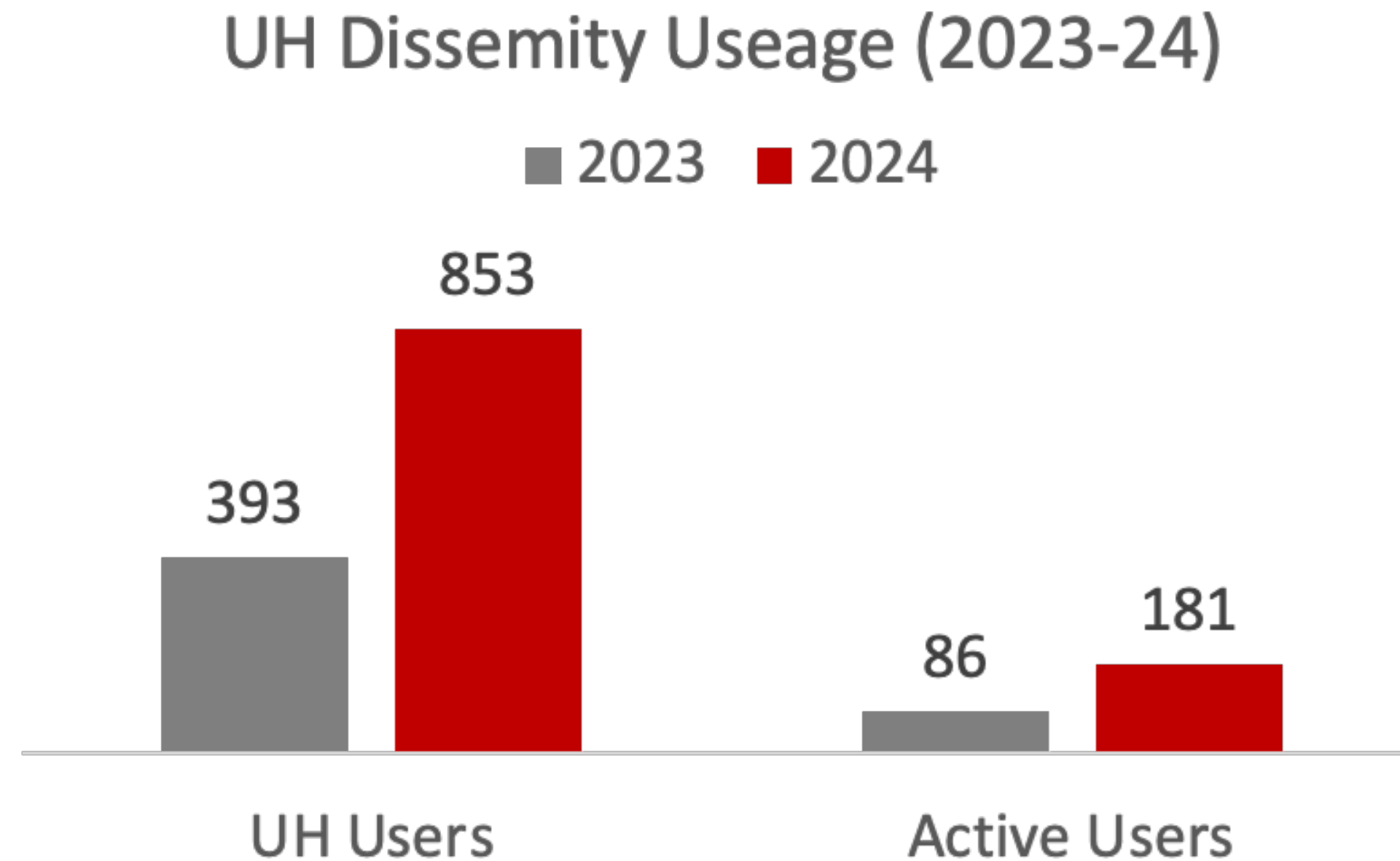
“It is one of the most beneficial programs I have ever participated in. It boosted my confidence, helped with fighting procrastination and writer’s block, and helped me make a lot of progress before the semester even started.”



Dissemy Collaboration Timeline



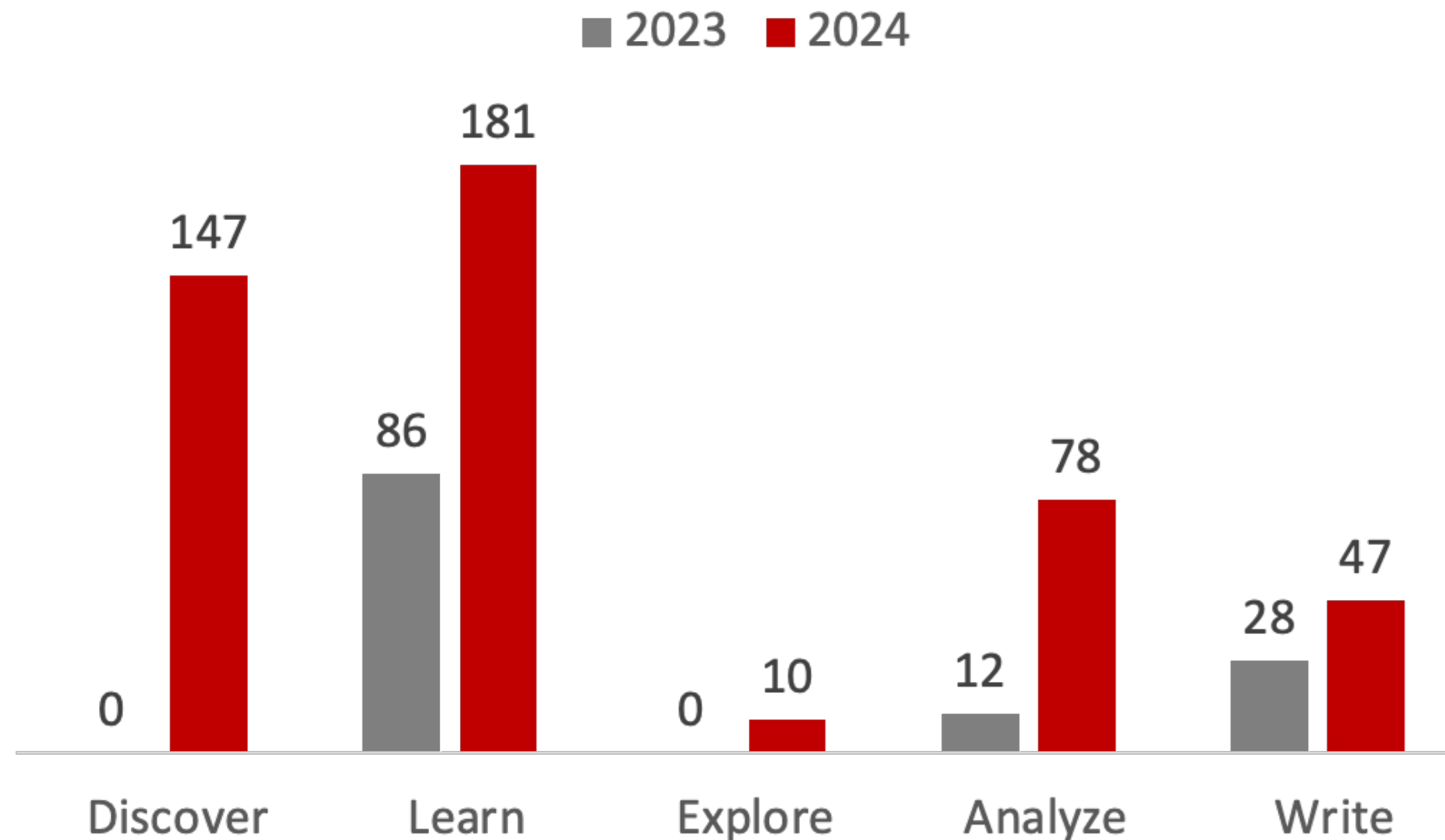
UH Dissemy Adoption



UH Users = # of users registering for Dissemy access

Active Users = max # of users engaging with Dissemy modules

UH Dissemy Usage by Module



Discover = annotating at least two documents

Learn = watching videos from at least one section of the research article

Analyze = annotating at least three documents

Explore = saving at least three language patterns per writing strategy

Write = drafting at least one section of a paper

Active Users by Module = # of users engaging with each module based on analytics specific to each module, i.e.:

STUDENT FEEDBACK

Undergraduates, graduate students and phd students- especially those that start their PhD straight after undergraduate studies, can all benefit from this workshop massively. Even students with research experience can also learn something new. All graduate students should be mandated to take this workshop at the start of their graduate studies [...].

-Natural Sciences and Mathematics student



Dissemy Collaboration

Challenges

- Technical during setup
- Contract protocols
- Adapting to campus culture
- Communication- getting the word out

Benefits

- Personalized writing support
- Discipline specific
- AI enhanced
- 24/7 availability





Transforming Graduate Education Through AI Partnerships and Critical Engagement

Innovative Partnerships

- Collaborations with tech developers, libraries, and writing centers
- Co-creation of tools with student input

Critical Engagement

- Ethical considerations (bias, authorship, transparency)
- Developing AI literacy among graduate students
- Encouraging reflective use of AI tools

Vision for the Future

- Cooperative learning with AI
 - Reimagining scholarly communication and writing pedagogy
-

THANK YOU

QUESTIONS?



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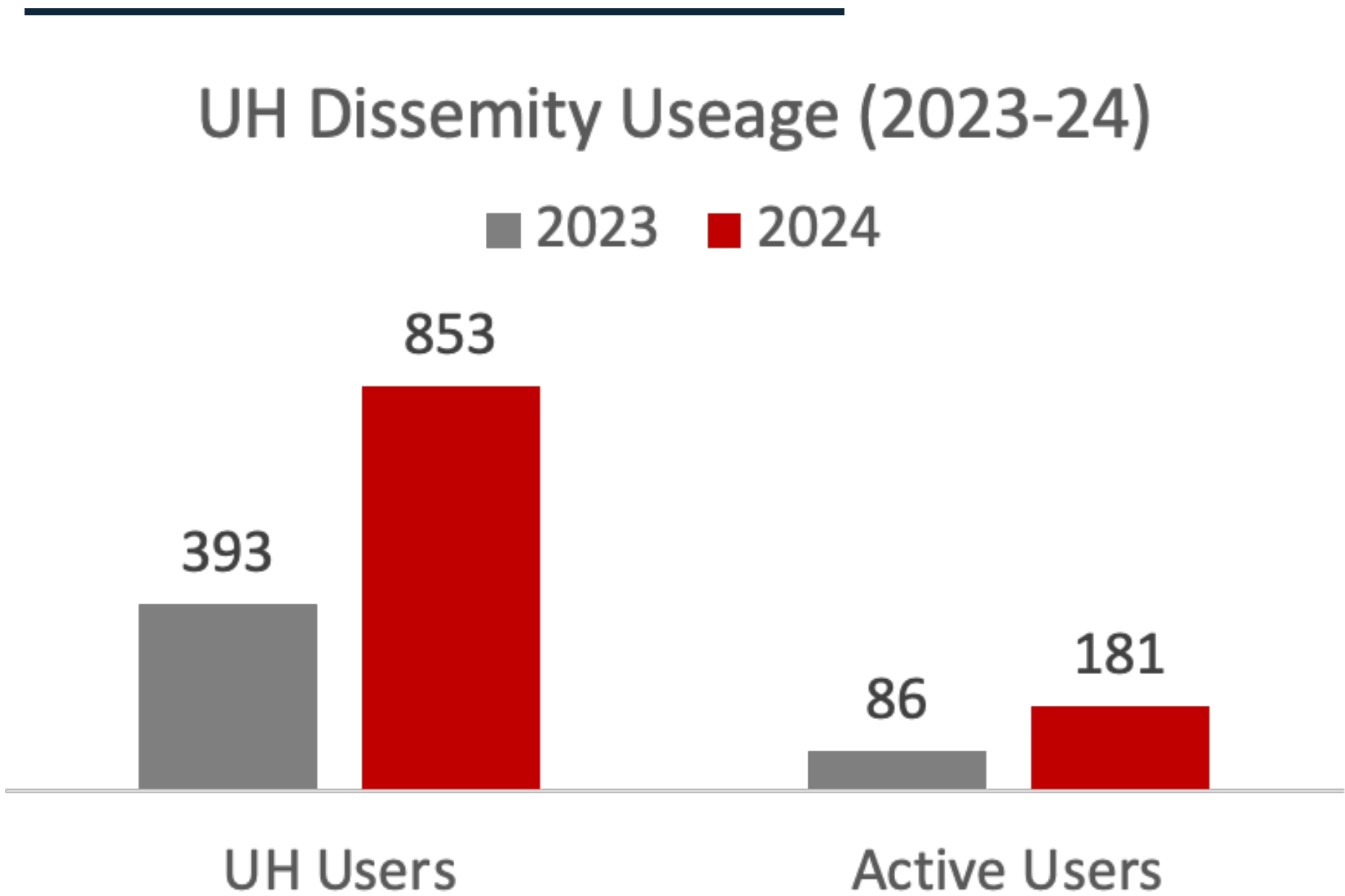
Extra slides



SUBTITLE

Text

UH Disseminity Usage



UH Users = # of users registering for Disseminity access

Active Users = max # of users engaging with Disseminity modules

OSU: Sample Syllabus Statements for AI in the Classroom

For Faculty Who Do NOT Allow Generative AI Tools in the Learning Environment

Oklahoma State University: *"Students are prohibited from using any generative AI tools such as ChatGPT, Bing AI, or Bard when completing course assignments. Use of these tools, or other similar generative AI tools, will not be tolerated and will be considered plagiarism and could result in the student failing the course. Any incident detected will be addressed through the university's academic integrity procedures."*

For Faculty Who Allow Generative AI Tools to be Used in Some Circumstances or With Explicit Permission

Oklahoma State University: *"Students may access and use generative AI tools, such as ChatGPT, Bing AI, or Bard, to assist them in their learning of the course content. Appropriate uses may include generating ideas for writing assignments, checking facts of a phenomenon, and assessing a paper for grammatical errors that are written by the student. Such uses of the tool assist students in learning the content and will therefore be permitted. However, students are prohibited from using generative AI tools to completely produce, reproduce, and/or manufacture paper and/or other assignments without using any personal effort devoted to the learning process. Before using generative AI tools, students should check to ensure they do not conflict with copyright laws or other's proprietary information."*

For Faculty Who Allow Full Use of Generative AI Tools in the Learning Environment

Oklahoma State University: *"Students may use generative AI tools such as ChatGPT, Bing AI, or Bard, to help them learn course content, complete course assignments, or do other course-related tasks. Students are expected to provide attribution for any text created using generative AI tools as appropriate."*