

## **Challenges of Higher Education Enrollment Trends in the US, Ohio and Ohio Regional Campuses**

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*Student enrollment and retention have continued to be a focal point for higher education as these numbers have predicted an “enrollment cliff” for universities. The enrollment and retention of students is a source of revenue for universities nationwide; colleges continue to scramble to meet budgetary needs by attempting to increase and retain students at their institutions. Public school funding is often tied to enrollment; as K-12 school's enrollment declines, ultimately state colleges' student base also declines, causing financial budgetary decisions to be made that impacts all aspects of university activities. This paper will delve into declining enrollment factors, and steps universities may take to meet the challenges.*

There is an expected “enrollment cliff” in higher education in the United States, predicted by declining birth rates and a reevaluation of whether going to college is worth the cost. Universities are therefore faced with budgetary concerns as fewer students are projected to attend. This paper will present the causes of enrollment decline, the impact on colleges, and how colleges can navigate the challenges of a shifting student enrollment.

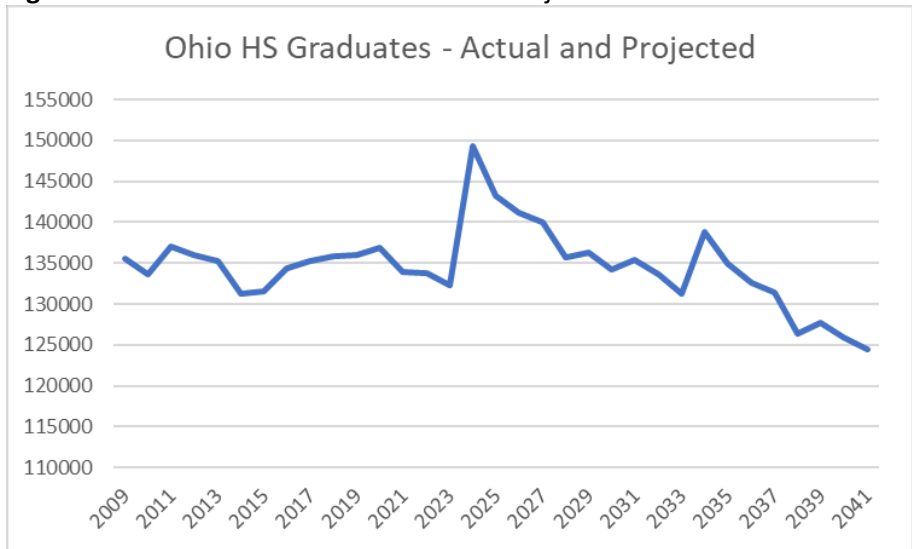
### **Factors feeding a declining college enrollment**

#### **Declining K-12 enrollment in public schools**

Although there is the impact of a preference toward private, charter and home-schooling since COVID, demographically, there is also a declining birthrate, which means fewer students K-12 regardless of if public or private. In the long-term, universities are impacted as well. Peak enrollment K-12 was at 50.8 million students in 2019 and is expected to drop to 46.9 million by 2031 (Digest of Education Statistics, 2022, n.d.). The class of 2025

was the *largest* graduating class in the US, and graduating numbers are expected to decrease through 2041 (*Total Number, 2024*). These declining graduating HS seniors’ rates will continue to trickle into universities in the upcoming years with continued decline. For Ohio, although the projection in high school graduates is at -6% between 2023 to 2041, other midwestern states are projected to drop more. For example, Michigan (-20%) and Indiana (-10%) have steeper declines (*Total Number, 2024*). Ohio faces the same enrollment cliff as seen for most states due to changes in demographics. After holding steady from 2009 to 2023 Ohio experienced a quick upturn as Covid recovery efforts allowed students to catch up from credits lost. Anticipating fewer students in the pipeline, the projected number of graduates then experiences a steady decline through 2041 (Lane, Pet al., 2024). See Figure 1.

**Figure 1:** Ohio HS Graduates – Actual and Projected



The impact of declining K-12 enrollment forces colleges to compete competitively amongst themselves for a smaller number of potential students, and many predict that smaller colleges and regional institutions will be more vulnerable to closures or mergers. For example, Penn State trustees voted in May, 2025 to close seven branch campuses, due to declining enrollments (Associated Press, 2025). These branch campuses

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served a more local populace, and as the K-12 enrollment declined, so did the local branch campuses' enrollment.

### **Perceptions of Education**

There is a shift in the perception of the value of a college degree toward the degree not being worth the cost. Satisfaction with U.S. public education went from 37% in 2017 to 24% in 2025 according to a Gallup poll (Saad, 2025). Parents question the value of education being received and the cost of education, either as a taxpayer or tuition provider (Kelderman, et al., 2019). Students also consider the balance of the cost of a college degree with the value they receive (Schanzenbach, et al., 2022). Will they get a job? Will the job pay their bills? Some jobs have weaker job placement rates, increasing their skepticism about the value of that degree. This skepticism on the value has shifted students to pursue credential programs, certifications in a trade, or skill-based training (National Student Clearinghouse, 2025), ultimately adding to the student population decline. For instance, in Mercer County Ohio, TriStar Career Compact has increased from 219 students in 2019 to 385 students in 2025; an increase of 75% in student enrollment (NCES, 2025). Tristar offers career technical education with certification in trades.

### **Student funding of college costs**

Student loans are the second-largest debt in America after home mortgages (Federal Reserve Bank of New York, 2025). On average, in America, 50% of students have a loan upon graduation, and the average student loan debt per borrower is \$31,960 for a public university (Hanson, M., 2026). Currently the impact of the One Big Beautiful Bill Act on students involves their federal loan limits, Pell Grant eligibility and other financial plans. The Bill, signed into law on July 4, 2025, affects students and educational institutions (Cooper, 2025). According to Cooper (2025), other impacts on student funding can come from lowering the amount of money allowed to be borrowed to attend graduate or professional school each year, limiting the Parent PLUS plan, and terminating loans for Grad PLUS. These limitations narrow the student's options for making college affordable. The deficit in funding needs will have to be found elsewhere. The One Big Beautiful Bill also proposes a standard fixed-payment plan and Repayment Assistance Plan (RAP) to replace income-driven plans potentially

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lessening monthly payments for students (Cooper, 2025). This may be a positive for students with college debt.

### ***College Savings Plans***

Often referred to as a 529 plan, these plans can be more than college tuition. Changes in the 529 plan include doubling the amount that can be withdrawn for K-12 expenses to \$20,000 annually, toward private tuition, obviously impacting K-12 public schools. It also broadens the plan to include workforce training, not just postsecondary expenses, according to Cooper (2025). These changes are all meant to help lessen the burden of college cost but does not address the value of the degree.

***Pell Grants*** The new rules for student eligibility and changes to the Student Aid Index formula may make fewer students eligible for Pell Grants, increasing the need for other funding sources such as private loans. Donors—both individuals and businesses—can receive tax credits for contributing to state-approved scholarship organizations under the 'Big Beautiful Bill.' This also creates a new source of tuition funding for students.

### **Drop in international student enrollment**

Another reason for declining enrollment in universities is a drop in international students. According to data from 2022, the United States still enrolls the greatest number of international students at approximately 24% (Project Atlas, 2024, n.d.). These numbers are now decreasing due to the suspension of visa interviews in the Spring of 2025 impacting fall enrollment, Visa restrictions on 19 countries in the Spring of 2025 and a decrease in consulate appointment availability for certain countries impacting international students seeking to enroll in American universities (*Fall 2025 International Student Enrollment Outlook and Economic Impact*, 2025). The estimated international student enrollment decline in the US is projected to be 150,000 students in Fall 2025 (*Fall 2025 International Student Enrollment Outlook and Economic Impact*, 2025), Bear in mind that this data is for Visa applicants and does not include those international students which currently reside in the US.

For Ohio, all Ohio colleges have seen a decrease in international student enrollment compared to last Fall (Henry 2025). The four universities which enrolled the most international students decline in number is shown in Table 1 (Morona, 2025). It should be noted that international and out-of-

state students often pay a higher tuition rate than in-state students, further impacting budgetary concerns.

**Table 1:** Four Colleges in Ohio with greatest international student enrollment, with changes 2024-2025

College	Fall 2025	Fall 2024	Year-over-year change:
University of Cincinnati	3,879.00	4,616.00	-15.97%
Cleveland State University	1,249.00	1,900.00	-34.26%
Kent State University	1,768.00	2,169.00	-18.49%
Ohio State University	5,996.00	6,305.00	-4.90%

The impact of lower international student enrollment on universities is not only the loss of tuition revenue, but also research talent. Lower graduate students impact research done at the graduate level. International students make up approximately 24% of graduate students in the US, but only 6% of college students overall (McKenzie, B.D. et al, 2023).

**Challenge Accepted! How Universities are Responding**

Continuing expected decline from 2025 onward has led to the term “enrollment cliff” projecting a steep decline in college enrollments starting around 2025-2026 and onward due to declining birth rates, which started in 2007. This projects financial strain on colleges or potential college closures as a result. However, the actual results of Fall 2025 in Ohio at least, are mixed. As of October 2025, Bowling Green, Ohio State, Ohio University, Shawnee State, U of Akron, U of Cincinnati, Wright State and Youngstown State all reported an *increase* in Fall Enrollment (Henry, 2025). Cleveland State, Miami and the U of Toledo all reported decreases in Fall 2025 enrollment. No data was reported for Central State or Kent State, and we could not find their data in our research as of this writing. For many colleges in Ohio at least, challenges are accepted. Their numbers went against expectations. We also have not found in our research a specific easy-to-copy reason *why* many have increased their enrollment that can be applied as a general “fix” for all. Perhaps it is intricate, nuanced, and specific to each University and how each seeks to reach students and retain them. One potential reason may be that high school students are taking college courses for credit, which may provide a small but potential niche for regional campuses in Ohio to increase enrollment. However, although Ohio’s universities do receive tuition for high school students to attend while still in high school to receive college credit, the tuition received is not the regular

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tuition rate, is of often much lower, and paid for by the local public-school districts (Faber, 2023).

### **Decreasing college tuition costs**

College is becoming more affordable. For public four-year institutions, college costs are down 4% from 2014 when adjusted for inflation and, when grants and financial aid are included, it has on average decrease ~40% since 2012 from \$4,340 to \$2,480 annually in 2024, according to College Board (2024). Lower tuition costs should entice more students to see college as an affordable option for them, although the idea of rising college costs still is presented by the media and financial institutions and the public tends to believe that tuition is increasing.

### **Continue to inform that college degrees are worth it**

According to the US Bureau of Labor Statistics (US BLS) 2024, the median weekly earnings of a 25-year-old worker with a high school degree: \$930. For a worker with a bachelor's degree, the median weekly earnings are \$1,543. The difference is a 66% increase in earnings per week. Yearly, the difference is approximately \$32,000 more in earnings with the college degree.

Also, there is an inverse relationship between level of degree earned and unemployment rates (US BLS, 2024), HS diploma unemployment rate is 4.2%, while Bachelors degree unemployment rate is 2.5%, showing that degrees are worth the time and cost involved to acquire and maintain employment. Because they are often more affordable, regional campuses can market themselves to prospective students by highlighting the strong return on investment of their degrees.

### **Innovation in attracting students**

Recruitment efforts have included attracting students from diverse backgrounds, along with attracting non-traditional non-18-year-old students due to decreasing graduation rates of 18-year-olds. Research results are sparse in the effectiveness of reaching the non-traditional student to attend college. The potential is there, but large-scale enrollments are probably not going to be seen. Adult learners often have many tasks to juggle and even if they start, they may not be able to finish college in a timely manner. Regional campuses can continue to entice nontraditional (modern) students by offering courses online, with flexibility.

**Finding alternative funding opportunities besides tuition**

Besides tuition rates as a source of revenue, exploring other potential sources of revenue is a must in the present college market. Thinking outside the box may include rental of college facilities for local venues/activities, improving services to students which may be anything from healthy food choices to laundromat services, textbook rentals or a community bookstore. Reaching out to local businesses to establish partnerships between meeting their employment needs and the courses offered through the university. Online and flexible learning may also be an option. Developing a strong alumni base may pool monies toward the university, especially if sponsorships for students or particular development needs are presented. Every campus should assess the community it serves to find the particular niche it can fill and be financially secure. The solution depends on the unique needs and abilities of the campus.

**Enhance student support and success**

Attracting students toward the campus is one thing; keeping them through degree attainment is another. Community colleges have seen the highest gains in retention rates at 3.7% over a 10-year period, according to eCampus (Staff, 2024), while four-year institutions rate at 3.1%. At-risk students are those who are not attending right out of high school, basically the non-traditional student, whose retention rate is less than 50% (Staff, 2024). Four keys elements which impact student retention include academic support, financial barriers, social integration, and institutional culture (*Student Retention Strategies for Higher Education*, 2025).

***Academic support***

Having access to tutoring, advising, and faculty helps the student stay and track during their college career. Each of these can also be an informal mentor to the student as well, providing insight and direction to the student.

***Financial Barriers***

Obviously, debt can cause students to drop out of their program of study. Being aware of financing options and grants available may help the student stay the course.

***Social Integration***

Feelings of belongingness are important to the student. Being engaged socially and developing strong relationships with their peers and also with faculty maintains involvement and connection. Clubs, activities, teams, and hobbies help retain the student during their college career.

***Institutional Culture***

The healthy campus environment impacts the student by feeling supported, noticed, and valued. Universities can support a healthy campus culture by having activities which get students out and about with each other. These can include outdoor game days, free coffee/donut days to mix and mingle or campus-wide organizational game events.

**Align degrees with workforce needs**

This coincides with another part of the Big Beautiful Bill: Colleges are required to pass the “Do No Harm” test (*An Analysis of the One Big Beautiful Bill Act’s Effect on Student Loans*, 2025). Basically, a comparison is made between the median annual earnings of graduates four years after earning their degree with what a student might have earned if they had not pursued college at all. If they do not out-earn this benchmark, it is considered harmful to students. If the degree program fails two out of any three consecutive years, the university can no longer disburse federal loans to students in that program. Although this was passed into law and may change, ultimately this will streamline the degrees offered by universities with future employment opportunities upon graduation whether colleges want to streamline or not. In the end, it does address the question of whether a degree is worth the cost. And therefore, it will impact student enrollment and finances positively or negatively as students choose to, or not, attend college with the consideration of the degree possibilities offered at a particular campus. Regional campuses can continue to work with their local businesses in developing the skills and degrees needed to meet the employment needs of their locality. Our local regional campus has had success in doing just this alignment and has been successful at turning their financial crisis into financial reserves.

**Wright State Lake Campus Success at Recruitment and Retention**

According to a recent Regional Workforce Summit held at Lake Campus on March 11, 2025, Wright State has become an example of how to

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turn around a financial crisis into a success. In 2017, WSU had just 23 days of cash on hand for expenses, and was required to reduce the 2018 budget by \$30 million dollars (Kincaid, 2026) and achieved this by eliminating at both Dayton and Lake a total of 57 employees and not filling 119 vacant positions. The focus of Wright State had been continuing to be three-fold: recruitment, retention and relationship. It is the focus on the relationship part of this triangle that helps build success, according to Andrea Faber, Vice Provost, and CAO of Lake Campus. WSU Lake has seen an increase in the Fall headcount from 10,491 in 2022 to 11,628 in 2025; an 11% percent increase.

To foster community relationships, WSU launched a strategic plan last year focused on three pillars: student success, experiential learning, and industry partnership. President Sue Edwards notes that this initiative creates a direct link between students, the university, and local businesses. This relationship building with the students includes providing for the students needs not only for their college success, but also providing the experiential learning that will help them become employed upon graduation. Building relationship with local businesses provides the links for our students to connect with career professionals and potentially provide future employment (Edwards, 2026). This 3-fold alignment is believed to be a key factor in the high job placement rate of Lake nursing students, where 90% have secured positions in west central Ohio (Faber, 2026). Keeping your students local with affordable tuition, can keep your workforce local upon graduation by linking job needs with what colleges can provide to local businesses. This in turn can help with the economic development of the region by maintaining job opportunities and businesses in that region.

## **Conclusion**

Although a smaller number of high school graduates is expected in the forthcoming years, universities have available strategies to maintain or even increase their enrollment. Each campus needs to identify and take advantage of their own strengths to meet the needs of the community/students it serves. For Lake Campus, success seems to come from a focus on linking students, the college and local businesses in a concerted effort to keep the Region economically strong.

A drawback, not addressed here, would be the decrease in the importance of liberal arts degrees, especially when local businesses are looking, for instance the Lake Campus region, degrees in Engineering,

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Business, Nursing, Education for example. Despite this, Lake Campus has been able to become financially stable.

There is no one-size-fits-all answer to declining enrollment and revenue. Regional campuses need to find and fill the niche that fits themselves and their community.

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## Appendix A: AI-Generated Resources for Chemistry Instruction

The following tables summarize the types of instructional and assessment materials generated using ChatGPT to support General Chemistry students. These resources were designed to align with specific Student Learning Objectives (SLOs) and to facilitate mastery-focused learning through scaffolded worksheets, personalized study guides, real-world applications, and multi-version assessments for Specs Grading. Each table provides sample prompts, example questions, and descriptions of how these materials are structured to cater to diverse learning needs. By using AI, faculty can efficiently create adaptive learning materials that support both foundational understanding and complex problem-solving skills.

Table 7: Summary of AI-Generated Resources and Examples in Chemistry Instruction

Resource Type	Purpose	Sample Prompt/Description	Example Use Case
Scaffolded Worksheets	Support incremental mastery of complex concepts through structured steps	"Create a scaffolded worksheet on stoichiometry, starting with basic mole calculations and progressing to limiting reactants."	Topic: Stoichiometry Steps: 1) Mole Concept Basics – Calculate moles of NaCl for 5g 2) Stoichiometric Ratios – Identify limiting reactant 3) Applied Problems – Calculate yield based on limiting reactant
Study Guides	Reinforce key concepts and provide targeted practice for self-study	"Develop a study guide for acid-base reactions with key concepts and practice problems."	Topic: Acid-Base Reactions Content: Overview, key concepts, sample problems with solutions

Real-Life Chemistry Examples	Connect theory to real-world applications, enhancing engagement	"Provide examples of oxidation-reduction reactions in everyday life, with explanations."	Examples: Rusting, combustion, photosynthesis, with explanations of each reaction
Customized Worksheets	Adapt materials to different levels of prior knowledge	"Generate a worksheet that adjusts stoichiometry questions for various student skill levels."	Customization: Vary question complexity based on student proficiency
Multi-Version Quests for Specs Grading	Facilitate mastery-focused retakes by offering varied versions of assessments	"Create three versions of a quest question on molar mass calculation, each with different compounds and masses."	Quest Versions: 1) Yield of $H_2$ from $Zn + HCl$ 2) $O_2$ yield from $KClO_3$ 3) $CO_2$ yield from $C + O_2$
Practice Problems	Provide targeted problem-solving practice with step-by-step solutions	"Create five practice problems on acid-base titration with step-by-step solutions."	Example Problems: Titration calculations, identifying endpoints, acid-base balance

### Appendix B: Sample Response for Scaffolded Worksheet on Stoichiometry

This scaffolded worksheet progresses from simple to complex concepts, reinforcing each step with examples and practice. This approach allows students to build a solid foundation in stoichiometry, setting them up for success in more advanced topics.

Prompt:

"Create a scaffolded worksheet on stoichiometry, beginning with basic mole calculations and progressing to limiting reactants."

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## ChatGPT-Generated Worksheet

Topic: Stoichiometry – From Moles to Limiting Reactants

Objective: This worksheet guides students through the fundamental steps of stoichiometry, starting with mole calculations and advancing to limiting reactants. Each section includes examples and practice problems to reinforce understanding.

### Step 1: *Mole Calculations*

1. Introduction: Understanding moles is crucial in chemistry as it allows us to relate masses of substances to the number of atoms or molecules.
2. Example Question: Calculate the number of moles in 10 grams of NaCl.

Solution:  $Molar\ mass\ of\ NaCl = 58.44 \frac{g}{mol}$

$$Moles\ of\ NaCl = 10\ g\ NaCl \times \frac{1\ mol\ of\ NaCl}{58.44\ g\ NaCl} = 0.171\ mol\ NaCl$$

3. Practice Problem: Calculate the number of moles in 25 grams of H<sub>2</sub>O.

### Step 2: *Stoichiometric Ratios*

1. Introduction: In a chemical reaction, substances react in specific ratios. Stoichiometry helps us calculate how much of each substance is needed or produced.
2. Example Question: In the reaction  $2\ H_2 + O_2 \rightarrow 2\ H_2O$ , how many moles of  $O_2$  are required to react completely with 4 moles of  $H_2$

Solution: According to the balanced equation, 2 mol of  $H_2$  reacts with 1 mol of  $O_2$

$$Moles\ of\ O_2 = 4\ mol\ H_2 \times \frac{1\ mol\ of\ O_2}{2\ mol\ of\ H_2} = 2\ mol\ of\ O_2$$

3. Practice Problem: In the reaction  $3\ H_2 + N_2 \rightarrow 2\ NH_3$  how many moles of  $NH_3$  are produced when 6 moles of  $H_2$  react?

### Step 3: *Limiting Reactants*

1. Introduction: When reactants are not in perfect stoichiometric ratios, one will run out first and limit the reaction. This is called the limiting reactant.
2. Example Question: In the reaction  $2 H_2 + O_2 \rightarrow 2H_2O$ , if you have 3 moles of  $H_2$  and 2 moles of  $O_2$ , which is the limiting reactant?

Solution: According to the equation, 2 moles of  $H_2$  requires 1 mole of  $O_2$

$$\text{Moles of } O_2 = 3 \text{ mol } H_2 \times \frac{1 \text{ mol of } O_2}{2 \text{ mol of } H_2} = 1.5 \text{ mol of } O_2$$

Since you have 2 moles of  $O_2$ ,  $H_2$  is the limiting reactant.

3. Practice Problem: For the reaction  $2 Al + 3Cl_2 \rightarrow 2AlCl_3$ , if you have 5 moles of Al and 5 moles of  $Cl_2$ , which reactant is limiting?

### Appendix C: Real-Life Chemistry Examples

To make complex chemistry concepts more relatable and engaging, ChatGPT was used to generate real-life applications of chemistry principles. These examples help students see the relevance of their studies beyond the classroom, enhancing their understanding and interest in the subject.

#### Sample Prompts for Real-Life Chemistry Examples

- Oxidation-Reduction Reactions: "Provide examples of oxidation-reduction reactions in everyday life, with explanations of how and where they occur."
- Acid-Base Reactions: "Generate real-life scenarios where acid-base reactions are essential, such as in cleaning products or food chemistry."
- Combustion and Energy: "Explain the chemistry behind combustion in engines and how it converts fuel into energy."

#### Example Responses from ChatGPT

1. Oxidation-Reduction in Batteries: "Batteries rely on oxidation-reduction reactions to generate electricity. In a zinc-carbon battery, zinc undergoes oxidation while manganese dioxide is reduced, creating a flow of electrons that powers electronic devices."
2. Acid-Base in Cleaning Products: "Many cleaning agents contain bases, like sodium hydroxide, which reacts with oils and greases to

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form water-soluble substances, making cleaning more effective. Vinegar (acetic acid) is an acid commonly used to dissolve mineral deposits due to its acidic properties."

3. Combustion in Automobiles: "In car engines, gasoline combustion produces energy. The carbon and hydrogen in gasoline react with oxygen, releasing energy in the form of heat and producing carbon dioxide and water as by-products."

### **Appendix D: Full List of Likert Survey Questions**

*The following survey questions were previously published in Author (2024) and are provided here for reference. The average scores reflect student responses on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).*

1. Clarity of content (M = 4.4)
2. Usefulness in learning (M = 4.3)
3. Preparedness for assignments (M = 4.2)
4. Engagement level (M = 4.3)
5. Ease of application (M = 4.1)
6. Interaction with peers (M = 3.9)
7. Independence in learning (M = 4.0)
8. Preparedness for assessments (M = 4.2)
9. Preference for scaffolded worksheets (M = 4.5)
10. Overall experience (M = 4.5)