ALG Adaptive Learning Pilot for Introduction to General Psychology

Final Report

Prepared by Nichelle J. Gause, Clayton State University

To submit your Final Report, send this completed form in an email to Jeff Gallant ([jeff.gallant@usg.edu](mailto:jeff.gallant@usg.edu)) and Tiffani Reardon ([tiffani.reardon@usg.edu](mailto:tiffani.reardon@usg.edu)).

You can submit the following in this email **optionally**:

* Files with the data behind your Quantitative and Qualitative Measures narrative. These data files **will not be made available to the public** but may be provided to researchers in an anonymized version upon request.
* Your final invoice for the second half of the award: $1,000. Some institutions can send this early, while others will have to confirm that you sent in the Final Report before creating an invoice. Either way works for us.

Based on receipt of this report and your invoice (either with this form or submitted later), ALG will process the final payment for your grant. ALG will follow up in the future with post-project surveys and may also request your participation in a publication, presentation, or other event.

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# General Information

**Date:** 12/06/2021

**Institution Name:** Clayton State University

**Participant Name:** Nichelle Gause (and Antoinette Miller, Mark Daddona, and Chizara Jones)

**Total Number of Students Affected During Project:** 325

**Cost of Materials Replaced by Lumen Waymaker:** $64.30 to $82.85

**Estimated Textbook Cost Savings Per Year (cost of previous materials minus cost of Waymaker):**

* Switch to Waymaker ($35.71 as listed at campus bookstore)
* 325 students in Fall 2021
* Original cost: $20,887-$26,926
* New cost (with Waymaker): $11,605
* Savings: $9,282-$15,321
* Avg savings per student: $28-$47

**Are you going to continue the use of Lumen Waymaker in your General Psychology course after Fall 2021?:**

The department plans to continue using Waymaker for the spring and summer 2022 semesters.

# Narrative

I attended several Waymaker meetings and trainings prior to embarking on this transition and my goal was to have a thorough understanding of the materials and platform. My interest for participating in this project was twofold: to find affordable materials for our students but not at the expense of quality materials and to help the department integrate an online learning source that successfully integrates with D2L. After attending the initial meetings, I moved forward with evaluating Waymaker via the cartridge provided and setting up my section of PSYC 1101.

My first step was identifying what components of the pre-set materials I plan to use and then removing them from my course setup. The first challenge was removing those components; the process was arduous and sometimes confusing. Deleting this information took quite a bit of time and would’ve been more seamless if there was a way to complete a mass edit. While I understand that once this is done, instructors can then move forward with copying the edited course and therefore the removal process doesn’t have to be repeated, it was still a significant enough frustration at the onset.

Once the course started, I found myself fielding a number of technical support style questions for students enrolled in the course despite the availability of technical support. Very early on I created informational sheets to help students find specific materials in the platform. Based on responses to the pilot survey, just under 12% of 201 respondents used Lumen Waymaker’s technical support services. A major instructional change I made, 3 weeks into the course, was to the discussion questions. Student access to the discussion questions was a constant issue in my section. As a result, I copy/pasted the pre-developed questions and posted them in D2L using the platform’s native system, not what Waymaker provided. This made it easier for me to add the due dates to the calendar and for students to navigate to these questions. This was the most significant instructional change I had to make after the semester started.

Positive experiences with the transformation included the ease of evaluating how comprehensively students are navigating the textbook with the use of the study plan. This integrated nicely with the gradebook, and it was easy as the instructor to go back and monitor activity. The rubrics attached to major assignments were a big addition to the course as this helped guide students on specific expectations. One change I would make to this is in some way making the rubrics were prominent for students. A significant number of them were not using the rubric even after being graded and informed that the rubrics are present. This is likely a student behavior issue and less of a Waymaker concern but still impacted my use of the tools. The same goes for quizzes which were great but there were a number of technical concerns being brought forward.

I utilized course announcements and employed the use of Graduate Teaching Assistant (GTA) for my course. The GTA’s responsibility was grading discussion question responses and hosting study sessions for students alongside other minor tasks. The GTA was a useful addition to the course and a subset of students utilized him a resource for exam preparation. One thing I would do differently in future is utilizing auto emails and either hosting a technology session at the start of the semester or creating a video to help students navigate the platform at the onset of the course. In addition, unless modifications are made, I would still pull the discussion questions out as I had to do for this semester and the assignment rubrics for ease of use by the students. I will be setting up my next course from the course developed this semester versus starting from the cartridge moving forward. The time it took to remove items from the gradebook is a major sticking point.

# Quotes

1. “I definitely had a positive outcome with using Waymaker. It was very easy to navigate and self explanatory. I used it with ease and enjoyed the way Waymaker was set up. It made doing my class work a lot easier and if I could I would definitely like to use this platform again for anyone of my classes.”
2. “I felt as if the Waymaker resource was useful at times for me, but in general, I personally found more helpful solutions online or through teachers.”
3. “My experience was positive as Waymaker gives the answers to self-check questions and Try it questions even if answered incorrectly or correctly. This helps me better understand the material. Additionally, the Waymaker textbook contains material that you would also find in a regular textbook. Having immediate access to correct responses, more resources (videos), and having equal quality to regular textbooks makes my experience with Waymaker positive.”

# Quantitative and Qualitative Measures

## Uniform Measurements Questions

**Student Opinion of Materials**

**Was the overall student opinion about Waymaker used in this course positive, neutral, or negative?**

Total number of students affected in this project: 325

* Positive: 92.04 % of 201 respondents
* Neutral: 3.48% of of 201 respondents
* Negative: 4.48% of of 201 respondents

**Student Learning Outcomes and Grades**

**Was the overall comparative impact on student performance in terms of learning outcomes and grades in the semester(s) of implementation over previous semesters positive, neutral, or negative?**

Choose One:

* \_\_\_\_ Positive: Higher performance outcomes measured over previous semester(s)
* \_\_\_ Neutral: Same performance outcomes over previous semester(s)
* \_X\_\_ Negative: Lower performance outcomes over previous semester(s)

**Student Drop/Fail/Withdraw (DFW) Rates**

**Was the overall comparative impact on Drop/Fail/Withdraw (DFW) rates in the semester(s) of implementation over previous semesters positive, neutral, or negative?**

< 1% of students, out of a total 325 students affected, dropped/failed/withdrew from the course in the final semester of implementation.

Choose One:

* \_\_\_ Positive: This is a lower percentage of students with D/F/W than previous semester(s)
* \_\_\_ Neutral: This is the same percentage of students with D/F/W than previous semester(s)
* \_\_X\_\_ Negative: This is a higher percentage of students with D/F/W than previous semester(s)

## Measures Narrative

*In this section, summarize what you found using your qualitative and quantitative measures.*

The data used for the current comparison is based upon my fall 2021 course as compared to departmental DFW rates. I did not use the previously adopted text to make a more specific comparison of my individual courses. In fall 2021, PSYC 1101 was taught across multiple modalities and included a diverse student population. The tables below provide data on student demographic information (Table 1) and the subsequent tables provide information current and historical DFW rates. Further discussion to follow the tables.

Table 1. Student Demographics (based on 201 responses)

|  |  |  |
| --- | --- | --- |
| **Age Range** | **% of total** | **Choice Count** |
| 17 and under | 21.32% | 42 |
| 18-25 | 67.51% | 133 |
| 26- 39 | 8.63% | 17 |
| 40-65 | 1.52% | 3 |
| 66+ | 1.02% | 2 |
|  | **Total** | **197** |

|  |  |  |
| --- | --- | --- |
| **Gender** | **% of total** | **Choice Count** |
| Female | 76.88% | 153 |
| Male | 23.12% | 46 |
|  | **Total** | **199** |

|  |  |  |
| --- | --- | --- |
| **Race/Ethnicity** | **% of total** | **Choice Count** |
| African | 2.78% | 5 |
| Asian/Asian American | 11.67% | 21 |
| Biracial | 2.78% | 5 |
| Black/African American | 64.44% | 116 |
| Hispanic | 2.78% | 5 |
| Indigenous | 0.56% | 1 |
| Latinx | 2.22% | 4 |
| Multiracial | 1.11% | 2 |
| Other\* | 0.56% | 1 |
| West Indian | 1.11% | 2 |
| White/Caucasian | 0.56% | 18 |
|  | **Total** | **180** |

*\*Other= one respondent identified as “human”*

|  |  |  |
| --- | --- | --- |
| **Please select the category that best describes your student type** | **% of total** | **Choice Count** |
| Dual-Enrollment (Currently in high school) | 27.14% | 54 |
| New Freshman | 36.18% | 72 |
| Native student (started as freshman and continuously enrolled) | 25.13% | 50 |
| Transfer student (not the 1st semester at Clayton State) | 11.56% | 23 |
|  | **Total** | **199** |

|  |  |  |
| --- | --- | --- |
| **Please select the category that best describes your current semester enrollment.** | **% of total** | **Choice Count** |
| Part-time student (taking 9 or less credit hours) | 31.34% | 63 |
| Full-time student (taking 12 or more credit hours) | 68.66% | 138 |
|  | **Total** | **201** |

|  |  |  |
| --- | --- | --- |
| **If you work, how many hours per week do you typically work?** | **% of total** | **Choice Count** |
| I do not work | 47.00% | 94 |
| 20 or less hours per week | 15.50% | 31 |
| 20 hours or more per week | 37.50% | 75 |
|  | **Total** | **200** |

Table 2. DFW Averages for Fall 2021 By Modality

|  |  |  |
| --- | --- | --- |
| **Course Modality** | **Average of %ABC** | **Average of %DFWI** |
| Hybrid | 68.42% | 31.58% |
| Online | 67.35% | 32.65% |
| Seated | 76.67% | 23.33% |

Table 3. DFW Rates for N. Gause Section Fall 2021

|  |  |  |
| --- | --- | --- |
| **Course Modality** | **Average of %ABC** | **Average of %DFWI** |
| Online | 50.00% | 50.00% |

The DFW rates for my course during fall 2021, as compared to the department, suggest student academic performance was negatively impacted as evidenced by a significantly higher number of DFW rates for my section (see Tables 2 and 3 above). However, the reasons for this disparity are likely not resource based but due to co-factors such as the current pandemic resulting in increased student illness and academic absences as well as a major change in admissions practices where admissions criteria was lowered for the incoming year. The latter is important because it speaks to the possibility that current incoming students may not have had the same academic preparedness compared to previous incoming students. This coupled with taking an online college course likely had some influence on the current semester’s DFW rates. To further illustrate the influence of these co-factors, there were higher DFW rates across other sections and methods of delivery not seen in previous semesters. Table 4 has data for DFW rates based on modality for fall 2021; table 5 has DFW rates for PSYC 1101 sections from the previous two years.

Table 4. DFW Rates Fall 2021 (All Sections)

|  |  |  |  |
| --- | --- | --- | --- |
| **Modality** | **# of Students** | **ABC %** | **DFW %** |
| Seated | 30 | 76.67% | 23.33% |
| Online | 34 | 47.06% | 52.94% |
| Online | 37 | 83.78% | 16.22% |
| Online | 36 | 83.33% | 16.67% |
| Online\* | 30 | 50.00% | 50.00% |
| Online | 47 | 80.85% | 19.15% |
| Online | 36 | 77.78% | 22.22% |
| Hybrid | 38 | 68.42% | 31.58% |
| Online | 37 | 48.65% | 51.35% |
| **Averages** |  | **69.23%** | **30.77%** |

*\*This data is for my course*

Table 5. Historical Data on DFW Rates

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Course modality** | **# Sections** | **# Students** | **%ABC** | **%DFW** |
| **Hybrid** | **6** | **249** | **78.56%** | **21.44%** |
| Fall 2019 | 3 | 129 | 80.33% | 19.67% |
| Spring 2020 | 3 | 120 | 76.78% | 23.22% |
| **Online** | **23** | **849** | **74.79%** | **25.21%** |
| Fall 2019 | 2 | 73 | 75.53% | 24.47% |
| Spring 2020\* | 2 | 75 | 81.20% | 18.80% |
| Fall 2020 | 11 | 388 | 72.02% | 27.98% |
| Spring 2021 | 8 | 313 | 76.81% | 23.19% |
| **Seated** | **6** | **221** | **82.55%** | **17.45%** |
| Fall 2019 | 3 | 126 | 82.55% | 17.45% |
| Spring 2020\* | 2 | 76 | 94.89% | 5.11% |
| Fall 2020 | 1 | 19 | 57.89% | 42.11% |
| **Grand Total** | **35** | **1319** | **76.76%** | **23.24%** |

\*all classes switched to entirely online in March 2020 due to pandemic

When comparing all sections from fall 2021 to the DFW rates from the previous two years, fall 2021 had a marked increase in overall DFW rates; with 3 of the highest DFW rates being in online courses. It is going to be important to monitor these rates over the next two semesters as the department continues using Lumen Waymaker. It is currently too early to determine whether the resource or the abovementioned co-factors had the greater influence on this semester’s outcomes. The section on future instruction plans will discuss how I would mitigate impact to my own course next time I’m scheduled to teach PSYC 1101.

# Future Instruction Plans

My department plans to adopt Lumen Waymaker again for the spring and summer 2022 semesters; beyond this adoption decisions for PSYC 1101 have not been made. Adoption decisions for the course are typically department wide and not left up to the individual instructors. However, at this time I would recommend the continued use of Lumen Waymaker. I would develop additional tools to supplement technological navigation and more heavily push the use of tech support. Students were not accessing the technical support and continued to struggle with this throughout the semester, see Table 6 below. Despite some of the aforementioned technological issues from my narrative, they were minor in comparison to student experience with the resource. Results in Table 7 are student responses when asked to rate quality of the materials and Table 8 are student responses when asked about ease of use compared to other materials, which clearly delineate student support for the advantages of the platform.

# **Table 6.** Did you use technical support for the platform?

# Field Choice Count

1 Yes 11.94% 24

2 No 88.06% 177

201

Showing rows 1 - 3 of 3

# **Table 7**. How would you rate the quality of the Waymaker resource as compared to books and/or resources used in other university classes?

|  |  |  |
| --- | --- | --- |
| 1 This book is the same quality as other books I have used | 75.00% | 150 |
| 2 This book is of poorer quality than other books I have used | 3.00% | 6 |
| 3 I have not used the book for this course | 4.50% | 9 |
| 4 I have not used other university text books so I cannot compare | 17.50% | 35 |
| Showing rows 1 - 5 of 5 |  | 200 |

# **Table 8.** How would you rate the ease of use for this low-cost learning resource compared to other online resources?

|  |  |  |
| --- | --- | --- |
| 1 This low-cost book is the same quality as other books I have purchased | 70.15% | 141 |
| 2 This low-cost book is of poorer quality than other books I have purchased | 2.99% | 6 |
| 3 I have not used the low-cost book for this course | 6.97% | 14 |
| 4 I have not purchased other university text books so I cannot compare | 19.90% | 40 |
| Showing rows 1 - 5 of 5 |  | 201 |

One glaring concern is that despite positive student response, I had a marked increase in DFW rates for my section of the course which incongruent with how students reported their experience. To mitigate a possible recurrence of this phenomena, particularly for an online course which saw the highest negative impact across the department, I would institute more academic support around the material itself. I utilized a Graduate Assistant which I would use again but in addition be more deliberate about other student support services for students such as tutoring. I would look at developing activities that encourage more student interaction beyond discussion questions, with the goal of helping students feel more connected and supported in the course. Additional issues discussed as a department was the lack of materials and information regarding multiculturalism. Mark Daddona and I worked to identify and incorporate additional material and activities for the Spring 2022 semester. These issues have also been communicated Lumen. The minimal inclusion of diversity content was a major oversight and needs to further evaluation by Lumen. The field of psychology has shifted and gone on record to detail the importance of diversity and inclusion; therefore, this needs to be properly reflected in an intro course. I would continue to supplement these content areas until Lumen makes the necessary changes due to financial reprieve low-cost textbooks provide students. However, if a competitor presented a low-cost text that properly covers all areas, I would be inclined to evaluate a different adoption. The addition of these materials is an easy fix on Lumen’s part. Additionally, the availability of an optional hard copy textbook.

# Future Scholarship Plans

The survey developed to have students evaluate their experience with the text would be a great tool to administer over the next few semesters and evaluate the data for additional scholarship. Areas of interest include experience with the materials but also how cultural factors and student status may be impacting outcomes. We collected a lot of demographic data that can also be used to look beyond the materials and develop a better understanding of possible cultural and environmental co-factors.

The four faculty members who piloted Luman Waymaker this semester obtained Institutional Review Board (IRB) approval to survey our own students about their experience with Luman Waymaker. Although plans are not definite at this time, we would like to submit a conference proposal at an appropriate upcoming conference. In addition, we might prepare and submit a paper for publication to share our experiences and findings from our student surveys.