

Affordable Learning Georgia Affordable Materials Grants Transformation Grants Final Report

(or Textbook Transformation Grants, if R17 or earlier)

General Information

Date: December 23, 2020

Grant Round: 15

Grant Number: 480

Institution Name(s): Kennesaw State University

Project Lead: Shane Peterson

Team Members (Name, Title, Department, Institutions if different, and email address for each):

1. Shane Peterson, Assistant Professor of German, Department of Foreign Languages, speter71@kennesaw.edu
2. Sabine Smith, Professor of German, Department of Foreign Languages, ssmith2@kennesaw.edu
3. Dylan Goldblatt, Lecturer of German, Department of Foreign Languages, ngoldbla@kennesaw.edu
4. Susanne Estrella, Part-Time Instructor of German, Department of Foreign Languages, sestrell@kennesaw.edu

Course Name(s) and Course Numbers: GRMN 1001, GRMN 1002, GRMN 2001, GRMN 2002

Semester Project Began: Fall 2019

Final Semester of Implementation: Fall 2020

Total Number of Students Affected During Project: 371 (as of Fall 2020)

Narrative

A. Key Outcomes

Experience, Challenges, Accomplishments:

- **We developed and implemented our four-course OER in a phased approach:** GRMN 1001 (Fall 2019), GRMN 1002 (Spring 2020), GRMN 2001 (Fall 2020). The OER focuses on the vocabulary most frequently used by native speakers. It works ideally in tandem with the no-cost online platform [der|die|das](#), developed by Dr. Jamie

Rankin at Princeton University, but can also function as a stand-alone resource for classroom instruction.

- **The COVID-19 pandemic created new challenges and time constraints**, as we shifted to more time-consuming online teaching. GRMN 2002 was originally scheduled to adopt the OER in Fall 2020, but the course was cancelled due to lower overall enrollment during the pandemic thus delaying the classroom adoption until Spring 2021. Materials for all four courses were nonetheless developed on schedule.
- Over the grant period, we collectively created **192 learning activities divided into 16 chapters, with 4 units per chapter**. Each unit contains three scaffolded activities on a common theme organized to help students meet the proficiency standards of the American Council on the Teaching of Foreign Languages (ACTFL) in all three communicative modes: interpretive, presentational, and interpersonal.
- **Appropriately scaffolded**, these activities advance from reading/listening comprehension and passive vocabulary use to scripted, active production of target language (German) vocabulary and structures followed by a culminating conversation or role-play to build students' abilities to communicate in more spontaneous, open-ended situations.
- The learning materials leverage **authentic cultural materials** developed for native-speakers, thus giving students the tools to succeed in **real-life situations** that are relevant to their future studies abroad and professional work experiences, including grant-funded internships and full-time employment in German-speaking settings, including at German companies in the metro Atlanta area.
- Because links to authentic, web-based materials such as videos, podcasts, blogs, websites, and newspapers can disappear without warning, we consistently provided far more links than necessary for each activity, as well as additional ideas in a "Digging Deeper" section at the end of each unit. This variety of material also allows **instructors maximum flexibility to expand and contract each unit** to meet student needs in varied institutional contexts.
- The materials are also **multi-medial in nature, combining audio-visual materials with written texts**. By using authentic materials for a range of interpretive tasks, learners are initiated, from the first lesson forward, into tolerating ambivalences and information gaps. They also learn to develop strategies for understanding and communicating based on contextual clues and core vocabulary. These materials, therefore, help students advance to proficiency while facilitating the acquisition of **intercultural competence and information, technology, and media literacies** in alignment with the ACTFL "21st Century Skills Map."

Impacts on Instruction:

- The **COVID-19 pandemic confirmed our belief** that no-cost, online textbook materials are the way to go. Using a standard, hardbound textbook would have not

only increased student cost and access, but also hindered their ability to complete coursework effectively from home.

- **Collaboratively developed by a team of both full- and part-time instructors**, these OER materials promote **consistent results** across instructor and section for courses frequently taught by more than 5 instructors per term while lowering DFW rates through the introduction of high-quality, easy to use, and accessible learning materials in digital format.
- These materials **align our teaching with best practices** from the foremost professional organization on language teaching in the U.S., ACTFL, to ensure appropriate progression toward proficiency.
- Since **all graduating seniors** in the program must complete the ACTFL Oral Proficiency Interview (OPI-C), the curricular alignment with ACTFL proficiency standards at the lower levels directly influences student performance on this key career credential. **Teacher certification candidates** will benefit in particular since their program mandates the attainment of Advanced-Low on the ACTFL proficiency scale by the time of graduation.

Impacts on Students:

- Ensuring **equitable access** to high-quality learning materials from day 1 so that no student must choose between a textbook (or course) and their daily necessities, especially amidst pandemic-related job loss, health issues, and stress.
- To date, the OER project has affected 371 enrolled students. Since a portion of these students have taken more than one course with these materials, we conservatively estimate 200 unique students for an **annual savings of of \$47,998 - \$60,940** (depending on where and what type of textbook students would have purchased with our former publisher).
- These cost savings have come at an especially crucial time: most KSU students work at least part-time to support themselves during their students, with the majority in **low-wage jobs that were impacted by the pandemic**. Anecdotally, the vast majority of students in our programs lost their jobs in spring 2020, with many only recently regaining employment and often at reduced hours. Individual savings of at least \$120 per student (for one semester of online access with our former textbook) were crucial, particularly since students must pay the full cost for a textbook (\$240+) upfront if they intend to take more than one course in the sequence.
- In end-of-course evaluations, students expressed satisfaction with: the **range of materials** (“Content within the course catered to all learning styles (visual, auditory, sensory),” the **degree of rigor** (“It wasn't easy, it wasn't unattainable, it was challenging. 10/10 class.”), **comprehensibility** (“really easy to understand”; “I have learned the required content for the course with ease”), **scope and focus** (“The course content was thorough and included lots of vital vocabulary and grammar rules for speaking, writing, and understanding German.”), and **learning gains and**

motivation to continue (“I can say I learned much about the culture and language to a point where I want to continue learning and even visit the country.”)

B. Lessons Learned

- It was **challenging to develop OER content for the entire four-course sequence** simultaneously. Ideally, we would have applied for two ALG grants spaced 1-2 years apart, each focused on two courses only (GRMN 1001 and 1002; GRMN 2001 and 2002). Due to the weighting of ALG awards rubrics, however, we felt it necessary to maximize the student number affected in order to be competitive in our application.
- **Including an instructional designer on our team would have streamlined** the process considerably. We spent a lot of time hammering out templates (contents and format) and investigating Wiki platforms that could have been better directed toward content design. Although we had one team member with considerable technical skill, his time was divided between content and design tasks.
- It would have been helpful to **survey the 13 other USG institutions that teach German**. In particular, we debated back-and-forth whether to write the instructions for each activity in German, in English, or in a mix (depending on course level). Ultimately, we decided that English-only instructions would promote the broadest adoption across institution types and pedagogical methods while making sure that students can spend precious instructional time on completing the activities themselves in German rather than trying to understand the task.
- Although we composed the proposal collaboratively, once it came to designing actual learning materials it became clear that we each understood the descriptive narrative differently. In the future, we would have **composed a mock learning activity in its full detail before applying** to make sure we were on the same page rather than merely describing the contents and format of our proposed materials.
- **Our use of peer review was an exceptionally smart and helpful feature**. Not only did it increase faculty collaboration—including between full- and part-time faculty—it also resulted in more uniform, complete, accurate and pedagogically sound learning materials and greater buy-in across instructors of the courses.

Quotes

1. “The course content was thorough and included lots of vital vocabulary and grammar rules for speaking, writing, and understanding German.”
2. “This course was challenging, but not too much. I truly adored improving my German skills using the online materials and assignments that he had us on.”
3. “I have learned the required content for the course with ease and found it challenging yet obtainable.”
4. “Content within the course catered to all learning styles (visual, auditory, sensory) and was very insightful into the German culture.”

Quantitative and Qualitative Measures

A. Uniform Measurements Questions

Student Opinion of Materials

Was the overall student opinion about the materials used in the course positive, neutral, or negative?

Total number of students affected in this project: 371

- Positive: **81** % of 48 number of respondents
- Neutral: **19** % of 48 number of respondents
- Negative: **0** % of 48 number of 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?

Student outcomes should be described in detail in Section 3b.

Choose One:

- Positive: Higher performance outcomes measured over previous semester(s)
- Neutral: Same performance outcomes over previous semester(s)
- 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?

18.26 % of students, out of a total 241 students affected for whom we have DFW information, 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)
- Negative: This is a higher percentage of students with D/F/W than previous semester(s)

B. Measures Narrative

A. Course-Level Retention (DFW rates): To assess DFW rates, we selected a representative sample by isolating the 2018-19 and 2019-20 academic years, each with data from two semesters and one accelerated, 8-week summer term. We analyzed data from GRMN 1001 and 1002 only. Our rationale is two-fold: (1) these courses offer the largest sample sizes and most comparable data sets across the two curriculums; (2) our phase-in of the OER curriculum is still ongoing in second-year courses; in Fall 2020, GRMN 2002 was cancelled due to low enrollment and data from GRMN 2001 (Fall 2020) is not yet available in its entirety. We excluded drop data from our analysis due to institutional constraints on data access and the impact of COVID-19, which began following our first semester of implementation. The representative sample comprises these course and section totals:

- **Old textbook:** 251 students in 9 sections of 1001 (6 f2f, 3 online) and 10 sections of 1002 (6 f2f, 4 online)
- **OER textbook:** 241 students in 11 sections of 1001 (8 f2f, 3 online) and 4 sections of 1002 (2 f2f, 2 online)

The discrepancy in the number of 1002 sections across textbooks is due to our phased adoption which intentionally delayed the OER in 1002 until the second semester of the project. It can also be attributed to fewer sections of 1002 overall, a typical enrollment pattern. Nonetheless, the 1001 data is highly comparable in the number of sections and students affected across both textbooks. Below I will summarize the primary findings:

- **The overall DFW rate demonstrated a decrease by a full 25% (from 24.30% to 18.26%)** across both courses when the commercial and OER textbook are compared. But these figures do not show the full improvement, and we anticipate that the longer we use and more we refine the OER textbook, the greater the impact on DFW rates will be.
- **Moreover, we suspect that COVID-19 has impacted DFW rates in our OER courses,** thus muting the positive impact of the new textbook. Accordingly, we isolated 1001 sections only, selecting the last semester of the former textbook (Spring 2019, five 1001 sections—including one online) and the first semester of the new textbook which occurred before the pandemic (Fall 2019, six 1001 sections—including one online). **In this more accurate comparison, we see a 40% decrease in DFW rates (from 21.38% to 12.99%).** Interestingly, the same trend continues if one separates out the online courses.

Several granular differences reveal impacts that deserve further study, when one compares the old and new curriculum. Below I will summarize the secondary findings:

- **The number of students to “withdraw failing” (WF) decreased from nine to zero, despite similar overall enrollment numbers (251 vs. 241).** This improvement may

be attributed, in part, to extended withdrawal deadlines during the pandemic. But considering the prevalence of students receiving WF in nearly every term of the control group, there may be curricular factors at play as well.

- DFW rates have historically been several times higher in our online sections of GRMN 1001 and 1002, the only courses we regularly offered online pre-pandemic. Although the two semesters isolated above do not demonstrate a strong impact of online sections (marked with a W before the section number, e.g., W01) on overall DFW rates, one can easily see that **the online sections contribute an outsize impact to DFW rates generally**. With only one exception (Spring 2019, 1001-01, 30.77%), the online sections for both curricula represent the only sections with DFW rates over 30%. With the former textbook, online course DFW rates averaged over 33%, with 3 of 7 sections surpassing 40%. **With the OER textbook, that number has decreased to 25% across 5 sections**, with no single section surpassing 31.25%. As before, the impact of COVID-19 on these online course DFW rates is unknown, whether positive or negative.
- **Withdrawal rates (W) hold fairly steady across control and intervention groups (18.73% vs. 17.84%)**. Considering the high number of pandemic-related withdrawals at our institution, we are encouraged by this apparent parity in withdrawal (W) rates and expect to see a marked improvement once the public health and student employment situation has steadied. In short: **to hold withdrawal rates steady despite the pandemic seems to indicate an improvement** in this particular metric that we intend to continue tracking.

B. Student Performance was measured by end-of-course grade distribution patterns as compared to historical data when a commercial textbook was in use. These are our findings:

- When isolating the **failing grades (F)** from the aforementioned sample of 1001 and 1002 sections, we noted a **five-fold improvement** from 5 per 251 students (1.99%) to 1 per 241 students (0.41%).

The remainder of our grade-level data comes from a less representative sample due to institutional data access restrictions. In this case, we gathered the numbers of A's, B's, C's, and D's across all sections of 1001 and 1002 taught by the four-person faculty OER team over the past 5 years, comparing students by curriculum (144 vs. 91 students; 11 sections vs. 8 sections). We used this same sample to evaluate student satisfaction since we only had access to our own end-of-course evaluations (see section below).

- The percentage of **C's holds steady** at 18-19% across textbooks;
- The percentage of **D's**, meanwhile, has been **reduced by over one-third** (7.64% vs. 4.40%);
- Not only are more students passing these two courses, more students are passing with higher grades. With the new OER curriculum, **70%** of this sample of 91 students

achieved **A's or B's compared to just 56% with the commercial textbook**. Moreover, the distribution between A's and B's demonstrates higher levels of success on average. The proportion of A's rose from 18% to 42%; consequently, the proportion of B's decreased from 38% to 30%.

As this is a small sample, this improvement in student performance deserves further investigation to factor our confounding variables. Ultimately, however, the best measure of student performance gains will come from our proficiency-oriented, two-part, longitudinal research study.

C. Research Study: Due to COVID-19, our institution halted all in-person research studies in March 2020. Because our study involved handwritten reading and writing assessments conducted in face-to-face class sessions, it was paused before students could complete the post-test. Consequently, we have only a full data set (pre- and post-tests, educational and demographic survey) for our control group consisting of students who used a commercial German textbook prior to Spring 2020. Since pre- and post-testing allows us to control for common knowledge, students' prior knowledge, and the influence of students' knowledge of other languages on their acquisition of vocabulary, no comparative data is currently available. We do hope to resume data collection in Fall 2021. This comparative data will form the basis of our publication and presentation plan (see section 6 below). We intend to update the ALG project once this more granular data on student outcomes is available.

Once collected and published, the data will measure the development of students' active and passive German vocabulary within each course as well as across the four-course sequence. Conducted in class at eight-week intervals, these pre- and post-tests consist of a recall test for reading comprehension and a writing prompt to measure vocabulary production, both in timed settings. We will conduct a content analysis to quantify the value of each word produced (writing prompt) or idea understood (reading recall test), using the respective ranking of words within the Jones/Tschirner corpus as a key weighting tool. We will focus, therefore, not merely on the size of students' active and passive German vocabulary vis-a-vis their peers in the control group, but also the relative usefulness of the words they have learned. More details of our publication plan can be found in section 6.

D. Student Satisfaction was measured using qualitative and quantitative data from KSU's institutional end-of-course evaluation survey (SET) in German 1001 and 1002 sections taught over the past five years (2015-20) by the faculty OER team. These include two semesters and one summer term with the new curriculum. We noted

- Only **mild increases in student satisfaction in terms of quantitative measures** (78.5% to 81.0% who rated the course content 4 out of 4). We believe, however, that it is still early and as we become more adept at teaching with these materials we will notice improvement. We also believe that university-level initiatives to

- increase SET participation starting in Fall 2021 will increase the number of respondents, thus yielding more accurate and representative data.
- Meanwhile, a **drop in 4/4 ratings for use of technology tell us we encountered a learning curve** when using fully online OER materials that will take some time to adjust to.

Qualitative measures, by contrast, painted an exceptionally favorable picture of our new curriculum:

- With our **former textbook**, we received many positive comments about the instructors and course climate, but very few about the curriculum. Students described the commercial textbook as “[not] of much help to the content other than vocabulary” and expressed frustration that it “often used German words we have not yet learned at that point, or have had notes on.” The textbook’s companion online learning platform, meanwhile, drew even more disappointment: “very tedious” and “pointless.”
- By contrast, with the adoption of our **OER and no-cost materials**, students expressed satisfaction with:
 1. the **range of materials** (“Content within the course catered to all learning styles (visual, auditory, sensory)”)
 2. **degree of rigor** (“It wasn't easy, it wasn't unattainable, it was challenging. 10/10 class.”)
 3. **comprehensibility** (“really easy to understand”; “I have learned the required content for the course with ease”)
 4. **scope and focus** (“The course content was thorough and included lots of vital vocabulary and grammar rules for speaking, writing, and understanding German.”)
 5. **learning gains and motivation** to continue (“I can say I learned much about the culture and language to a point where I want to continue learning and even visit the country.”)

6. Sustainability Plan

Maintenance and updating: For sustainability and ongoing pedagogical refinement, team members will systematically revise the OER materials for one course per summer for four years following the expiration of the grant. Full-time faculty team members will rotate the lead role annually; the other team-members will provide peer-review of all updates:

Summer 2021: German 1001 (Smith lead)

Summer 2022: German 1002 (Peterson lead)

Summer 2023: German 2001 (Peterson lead)

Summer 2024: German 2002 (Goldblatt lead)

Updates will be based on learner feedback, instructor feedback, and academic achievement performance data. We noted, for instance, in recent SET surveys that students would benefit from more help navigating the curriculum in the early stages, perhaps together with a slower pacing throughout, more grammar explanations, and study guides. One suggestion—the creation of short introductory lecture videos—deserves particular attention, perhaps as part of a continuous improvement grant. New versions of annual updates will be published annually to GALILEO and KSU Digital Commons for 4 years. In addition, we will maintain an archive of all versions in a restricted D2L site.

Offerings to students: To streamline student access, we will roll out a Wiki-based version of our OER in Summer 2021. The Wiki will be accessible via the Internet with no log-in required. Currently, students are required to log in to D2L to view OER course materials. The transition to a public-facing Wiki will also facilitate the adoption of these materials—and their further adaptation—by colleagues at other institutions across Georgia and the U.S. in conjunction with our presentation and publication plans described in section 6 below. The Wiki format will also ease the updating process described above.

7. Future Affordable Materials Plans

Continuous Improvement Grant: While developing these materials, we have noted additional materials that would complement this OER which we hope to develop in 3-5 years with additional funding. These include: (1) STEM-focused activities to broaden participation in German among engineering students; (2) additional career readiness materials to promote greater professionalization in language study and an awareness of culture-specific professional conventions; (3) an assessment package for teachers, including descriptive rubrics and exams; (4) inclusive activities focused on race, ethnicity, gender, and able-bodiedness in German culture and society.

OER degree program: We are currently exploring the feasibility of transitioning our entire German major to OER materials only. We have already begun exploring OER materials for two 3000-level skills courses which serve a large number of major- and minor-seeking students. Moreover, since the literature on vocabulary learning demonstrates a need for learning and re-learning the most frequent 2000 words at spaced intervals, we are considering how best to infuse the entire four-year curriculum with high-frequency vocabulary in a systematic way.

8. Future Scholarship Plans

Presentations (Georgia audience): Over 2,700 Georgia university students take German courses annually, primarily at one of the 14 USG institutions that offer German courses. To encourage the adoption of OER textbooks, we will present our materials and findings at the Georgia chapter meeting of the American Association of Teachers of German in October

2021. Since this meeting is attended by both Higher Ed and K-12 instructors, our materials may also benefit Georgia high schools and the Georgia Virtual School.

Presentations (U.S. audience): To disseminate our OER materials and research findings more broadly, we will present at a national conference such as the ACTFL convention, North America's largest conference for K-16 language teachers, in November 2022.

Publications (U.S. audience): We also intend to publish the results of our research study after data collection resumes post-Covid-19 restrictions. The PI and one co-PI anticipate publishing a cluster of two or three peer-reviewed articles in journals such as *Der Unterrichtspraxis*. These publications will consider: (1) differences in active and passive vocabulary; (2) issues of word variety, length, relevance, and sophistication; and (3) the relationship between word retention and student motivation.

9. Description of Photograph (optional)

Caption: The German Studies faculty at Kennesaw State University. From left to right: Shane Peterson, Susanne Estrella, Sabine Smith, Magdalena Constantin, Janet Ward, and Dylan Goldblatt