

Narrative

Project Justification:

VIVA, a state-funded consortium of 71 academic libraries in Virginia, in cooperation with Software Services by Scientist.com (SoftServ), a software development company with a proven record of contributing to open-source software, and the Roy Rosenzweig Center for History and New Media (RRCHNM), the developers of Zotero and Omeka, requests \$248,235 to fund a National Leadership Implementation Grant entitled “COALA: The OER Homework Solution.” With the IMLS National Leadership Grants for Libraries program Goal 1, Objective 1.1 as its aim, this 2-year grant will fund the next phase of development of an open source, learning management system (LMS)-integrated Open Educational Resources (OER) repository for assessment, homework, and test-bank resources.

The first phase of this project, funded by an IMLS National Leadership Planning Grant, has resulted in the prototype of a discipline-agnostic, replicable tool that instructors can use to share and search course assessments, which can be integrated into a LMS. While the prototype will be tested by faculty, refined further by developers, and communicated widely during this final stage of the planning grant, we seek funding for the next phase of development to expand the platform’s functionality, increase the number of available disciplines and question types, integrate with additional LMS, create documentation and training materials for librarians and faculty, and finally, develop a business plan that ensures the long-term accessibility and sustainability of this platform.

VIVA is seeking funding before our previous grant concludes to capitalize on the project’s current momentum, having surpassed initial project milestones and demonstrated the feasibility of the platform. Further, the educational landscape is evolving at an unprecedented pace, requiring that we continue active development to ensure the viability of this solution. The need for the open, LMS-integrated, Collection of Assignments and Learning Assessments (COALA) repository prototype developed by the initial planning grant is even greater now than it was when the initial planning grant was submitted. In addition to strong feedback from focus groups¹ affirming the broad disciplinary needs for this tool to support the adoption of OER, and the critical importance of easy integration with grading workflow in an LMS (a key focus of this approach) the challenges posed by the expenses of course materials for students and their subsequent impact on academic progress and success have been extensively documented. COALA also addresses two pivotal developments in higher-ed: the increasing adoption of inclusive and equitable access programs across the country and the integration of Artificial Intelligence (AI) generated assessments into pedagogical practice.

When we examine the current landscape, we see a consistent and significant picture of the impacts of course material costs on students' lives nationwide. Notably, in the 2021 Virginia Course Materials Survey, the 2022 Florida Textbook and Instructional Materials Survey, and the most recent 2023 Pennsylvania Course Materials Survey (which collectively reached over 23,000 students), approximately one in three respondents in each survey reported earning a poor grade as a result of the cost of required course

¹ Results of faculty focus group interviews summarized priorities; findings from report from Nathan Sleeter, February 2023, for the IMLS Planning Grant LG-252309-OLS-22 “An Open Homework Repository to Aid Adoption Efforts in Open Education”

materials.² The Virginia survey additionally revealed that course material costs not only present academic challenges but have deeper impacts on students' lives. Respondents frequently expressed concerns about meeting basic needs while struggling to afford course materials, leading to compromised mental health and feelings of distrust toward faculty and higher education institutions. Illustrative responses from participants include: “There have been multiple occasions when I have had to choose between paying for a textbook or buying groceries for myself.”³ The steep costs of course materials are further magnified by the integration of homework platforms into the required curriculum – digital environments where students submit assignments, receive prompt feedback, and engage in coursework activities. Often requiring access codes, these platforms contribute to the financial burden of students, either through additional course expenses or through inclusive access programs added automatically to students' fees. Since student's assignments and grades are often contingent on using these platforms, students cannot alleviate expenses through common coping strategies such as purchasing secondhand copies or sharing textbooks with peers. Libraries, long engaged with efforts to reduce course costs for students, are not able to offer tools such as course reserves to alleviate the financial burden of access codes.

In good news, OER awareness and use is now at the highest levels ever reported. In 2022-23, a BayView Analytics survey report that tracks curricula discovery, selection, and adoption processes in higher education noted that “2 in 3 faculty were aware of OER, and 1 in 3 faculty required OER materials in at least one course.”⁴ At the same time, the expansion of inclusive access programs, which lease and bundle course materials with homework platforms for entire departments and schools, presents a growing challenge to the sustainability of OER. These programs often dictate departmental or school-wide purchasing options for students while limiting faculty's pedagogical flexibility, making it difficult to adopt free and openly available resources, such as OER, into their classrooms. Findings from VIVA's 2021 Course Materials Survey, focusing on the costs of course materials and educational equity, reveal that such programs, which restrict students' access to alternative options like used textbooks, library resources, or OER, may provide the least benefit, and may result in higher charges, for those in the greatest financial need. This is because while these programs may offer savings for students purchasing new textbooks, 98% of respondents in both the 2021 Virginia and 2023 Pennsylvania Course Materials surveys attempted to reduce textbook costs through methods such as buying used copies or borrowing from libraries. Consequently, these programs may only benefit a small percentage of students.

In addition to the implications for students' financial agency and data privacy, employing these platforms and programs presents real pedagogical concerns for instructors.⁵ While utilizing pre-written and packaged assessments, quizzes, and homework assignments may lighten the workload for instructors, this short-term gain lessens student benefit from modern pedagogical practices that emphasize the importance of aligning learning outcomes, assessments, and course materials to enhance both the student learning experience

² The results of the 2021 VIVA Virginia Course Materials Survey (<https://vivalib.org/va/open/survey>), the 2022 Florida Textbook and Instructional Materials Survey (<https://tinyurl.com/8fuvxhxw>), and the 2023 Pennsylvania survey (https://www.bayviewanalytics.com/course_materials.html) all highlight the consequences of course material costs, with 34%, 32%, and 38% of respondents respectively citing earning a poor grade due to the cost of required course materials.

³ 2021 Virginia Course Materials Survey results: <https://vivalib.org/va/open/survey>

⁴ Digitally Established Educational Resources in U.S. Higher Education, 2023
<https://www.bayviewanalytics.com/reports/digitallyestablished-2023.pdf>

⁵ VIVA: Understanding Inclusive Access: Considerations <https://sites.google.com/view/understanding-inclusive-access/considerations>

and instructional effectiveness. Pre-packaged materials often lack alignment with specific course learning objectives, instead relying on generalized goals. This lack of customization becomes particularly apparent in courses with diverse instructional approaches, where assessments need to be tailored accordingly. Despite this, as of 2023, nearly half of degree-granting institutions have adopted variations of inclusive access programs, according to the Association of American Publishers.⁶

Although OER offers a solution to the issue of course material costs and faculty pedagogical agency, the absence of available open homework platforms that can be associated with OER often deters instructors from embracing otherwise effective, cost-free textbooks for their classes. Despite the potential barriers these platforms pose to student success and faculty autonomy, they also can significantly reduce faculty workloads and provide students with immediate feedback through interactive assessments. This becomes especially important when contemplating the demands of introductory and general education courses, which typically enroll a significant number of students and are frequently taught by adjunct faculty. These instructors, grappling with their own time and financial constraints, may be more inclined (and sometimes departmentally mandated) to adopt course packages.

Libraries continue to play a pivotal role in the advancement of OER, as they often lead institutional OER initiatives and directly support location and creation of OER. Library consortia, six of which are represented on the project’s Advisory Board and collectively serve over 400 academic libraries across the United States, remain well-poised to support their members in this critical work. As organizations dedicated to developing collaborative and cost-effective solutions for higher education, consortia are uniquely positioned to amplify libraries’ work in this arena. The success of libraries’ efforts relies on their ability to meet the needs of this moment by ensuring a mechanism exists for instructors to create and share ancillary materials that make OER an effective option for the classroom.

COALA, an LMS- integrated homework repository prototype, developed from the IMLS National Leadership Planning Grant awarded to VIVA in 2022, answers this need and demonstrates a viable homework platform alternative; highlighting the potential of an open-source tool to search, share, and assign assessments using existing workflows and practices. Developed after an extensive survey of available platforms, both open and proprietary, COALA fills a gap by being discipline agnostic, open, and integrated into LMS.⁷ Content management systems like MyOpenMath, for example, are discipline specific and require that instructors learn a new platform in addition to redesigning their course to accommodate open materials. Assessment creators like H5P require users to have existing technical savvy or the interest, ability, and time to learn how to use the tool. Of the systems surveyed, only OER Commons was non-commercial, LMS-integrated, and discipline-agnostic, and it is a platform focused on making content available, rather than integrating open assessments into classrooms. While other homework systems are being developed, COALA’s low barrier to entry ensures that users can continue to assign and assess students within the LMS that their

⁶ Inside Higher Ed, “Biden Administration Looks to Clamp Down on Open Access”

<https://www.insidehighered.com/news/government/2024/01/29/biden-admin-looks-clamp-down-inclusive-access>

⁷ Results of the 2022 platform landscape survey, conducted by Lisa Becksford, for the IMLS Planning Grant LG-252309-OLS-22 “An Open Homework Repository to Aid Adoption Efforts in Open Education”. Included as a supporting document to this application.

institution provides. As one reviewer of the prototype noted, “The filters are easy to use, understand and navigate. The functionality is simple and intuitive.”

Further, COALA is unique in its ability to stand alone as well as integrate into other systems. COALA does not need to be the one tool that instructors choose, but rather can work with multiple platforms. Instead of seeking to reinvent an assessment tool or compete with pre-existing and ongoing projects, COALA is flexible enough to work with those that openly pull questions from elsewhere. LibreText’s ADAPT, for example, pulls questions from pre-existing repositories. In the future, COALA hopes to partner with similar tools and platforms, extending the reach of the investment of time and resources that go into creating the assessments it will house and in COALA itself. In the interim, COALA stands out as the solution that allows instructors to create their own assessments and share them in a variety of formats without the impediments for learning H5P or a new content manager, changing institutional LMS workflows, or paying for technological innovation—all things that the landscape scan of pre-existing platforms (included as Supportingdoc2.pdf) during the planning phase of the grant suggested were typical in other available assessment tools.

The surge of AI in higher education, and its implications for OER in particular, calls for forward-thinking strategies as well. COALA’s design flexibility enables us to explore the utilization of AI to facilitate the development of supplementary materials with subject experts. It has become clear that higher education will, in addition to considering AI-generated content with a healthy dose of skepticism, also make use of its capacities to lighten the burden of writing and developing content. If that is the case, then any project that will depend on the content creation of instructors must also consider the best practices of creating that content, as well as be aware of the difficulties and rights implications in uploading, housing, and sharing content generated by AI. The COALA team will work with a research team from the University of Virginia to develop documentation for COALA users on best practices in using AI to generate assessments and integrate them into the repository.

As the home to many ongoing efforts to increase OER adoption and creation, libraries and library consortia are central to COALA’s vision of reducing course costs and increasing student success. Librarians will be the primary target group of COALA’s train-the-trainer workshops, ensuring that there is local expertise in its use and offering OER librarians and advocates an additional tool to offer faculty considering OER. Critically, library consortia will be the focus of the business plan developed for centralized hosting, an approach that ensures that what COALA offers will be available statewide and at scale, regardless of the resources of an individual institution.

The primary target groups for the project are instructors, teaching faculty, and students at institutions of higher education, as they were in the initial planning grant. In this next phase, however, the disciplinary focus of the tool will expand beyond the prototype subjects of nursing and history, to encompass 5-10 additional disciplines, detailed in the work plan. Experts in a wide variety of fields and representing a diversity of institution types (such as community colleges, 4-year comprehensive schools, and research institutions) will be recruited to ensure COALA is seeded with questions and assessments that highlight its disciplinary flexibility. This will ensure that even in its earliest days, faculty that come to explore COALA will find usable content that convinces them the platform is worth learning and integrating into their workflows.

Ultimately higher education students will be the true beneficiaries of this project. From the *2021 Virginia Course Materials Survey*, *Florida's 2022 Instructional Materials Survey*, and *Pennsylvania's 2023 Course Material Affordability Survey*, we know that the impact of the costs of course materials on academic careers is significant and ongoing, and that these impacts are broad and shared across populations. We also know that the impacts of costs go far beyond academic success, affecting life and wellness as students make difficult choices between items such as groceries and utilities and costly required course materials. Equipping instructors with the tools they need to make adopting no-cost materials possible, this tool addresses the immediate barrier to OER adoption created by homework platforms, and is a foundational step in giving instructors the resources to support students better across disciplines, institutions, and states.

Importantly, this platform can be integrated into and advance other consortial library efforts and IMLS funded projects, such as BTAA's investigation through their planning grant "Open Homework Systems: Planning and Piloting Library Support" of library-led support for open homework systems. It also has implications for the University System of Maryland's planning grant, "Recentering Relevance: Exploring the Role of Academic Libraries and Consortia in Supporting OER Localization" by creating an accessible tool that directly supports the practices necessary to increase the relevance of open educational resources to specific student populations.⁸ Working in tandem with ongoing initiatives in this arena ensures that these efforts are not done in isolation, but rather are built together to create greater impact for library OER initiatives, faculty, and students.

Project Work Plan

COALA will begin the work of this grant where the IMLS planning grant left off. Users of the COALA prototype (screenshots included Supportingdoc1.pdf) can currently upload assessments by the question or as complete assignments, search by keywords or by discipline, and integrate selected assessments into Canvas, the LMS believed to be most used on represented campuses by the Advisory Board. As the planning grant concludes, the advisory board, faculty experts, and RRCHNM have continued to test the prototype to determine additional development milestones for the next phases.

COALA was designed from the outset to be iterative in order to capitalize on the benefits of the planning grant and the results of focus groups, testers, and, ultimately, technological innovation that would otherwise render it obsolete. Extensibility and flexibility are strengths of this tool. The ability for the project team to evaluate the success of each iteration of the project and make it more user friendly, more accessible, and more integrated into pedagogical best practices as they develop is foundational to project aims. In the project proposed in this grant, that process of evaluation takes place through formal user testing as well as use by members of the project team and faculty recruited to contribute to the project. COALA development will be completed in phased sprints to incorporate Advisory Board feedback and the results of user testing on each enhancement.

User testing is conducted with the target groups in mind. During the planning grant, VIVA reached out to faculty across the country, using the instructional contacts of consortia in five states. More than 200 faculty

⁸ BTAA IMLS Grant: <https://www.ims.gov/grants/awarded/lq-254849-ols-23> and USMAI IMLS Grant: <https://ims.gov/grants/awarded/lq-254836-ols-23>

members responded with interest in volunteering, representing a diverse constituency and creating a group of instructors from whom to pull testers of the project at different iterations. One phase of user testing was conducted at the end of the planning grant, and another will be conducted at the beginning of phase three of this grant (detailed below). In addition, an outreach plan has been developed that will communicate to faculty via libraries and library consortia to train, build community, and relay feedback throughout the life of COALA, not just during this grant period of performance.

VIVA will take on project management of the proposed work, executing the plan as outlined here. As in the planning iteration of COALA, central to the project will be an Advisory Board consisting of representatives of VIVA, SoftServ, and RRCHNM, as well as representatives from the academic library consortia for Ohio, Pennsylvania, Georgia, and Louisiana, as well as Open Oregon, an open educational resources program serving institutions of higher learning in Oregon. Additionally, an invitation to participate as advisory board members will be sent to the team engaged in IMLS-funded homework platform research at BTAA and in OER localization research at USMAI. The consulting Instructional Designer, Lisa Becksford, and Judith Thomas, who will lead AI-centered research activities, will also have seats on the board. The board will meet four times a year, with assessment integrated into each meeting agenda. In addition to a briefing from the project manager and Instructional Designer on the progress toward milestones, the committee will review the overall progress of the project during every meeting with effectiveness, efficiency, quality, and timeliness in mind.

The Roy Rosenzweig Center for History and New Media (RRCHNM) will work with the instructional designer, to identify content experts to develop materials and best practices on an iterative basis. Relying on the faculty focus group findings from the planning grant and utilizing the more than 200 volunteers that were gathered during the planning phase of the project, the RRCHNM will identify the 5-10 additional content creators. This will allow for continued outreach to earlier participants in the planning project to continue at campuses nationwide. Additionally, RRCHNM will participate fully in the iterative testing of COALA.

A consulting Instructional Designer will have a significant role in the work of this grant, working closely with the project managers, developing project documentation and training materials and workshops, and overseeing the faculty experts as they develop additional material for the repository.

Resources needed to complete the project include the time and labor of the project managers, the Advisory Board, the Instructional Designer, SoftServ, and RRCHNM. This project will have a budget of \$248,235 over two years. VIVA will provide support by dedicating staff time to project management. To complete the outlined development of the tool, SoftServ will receive \$156,000. \$12,000 will be budgeted to pay an instructional designer to work with content experts to develop material for the repository and to develop documentation and training materials for the tool. RRCHNM will continue working with faculty groups to test the tool through these iterations for \$15,000. Ten faculty experts in a diverse group of subject areas will each be paid \$1,000 to seed the repository with content, and ten faculty members will be paid \$200 each to participate in beta testing of the refined tool. George Mason University will receive 27.3% in indirect costs.

The work of this grant will take place over two years, with four substantial activities. They include (1) further development of COALA, (2) seeding the repository with content, (3) executing the outreach plan developed in the planning phase of the grant, and (4) developing a sustainable business model for central hosting of COALA by SoftServ that is library and consortia-centered, while simultaneously developing documentation for open-source, free, locally hosted instances.

This work will take place over two years in three phases, each with a focus on an essential activity to prepare COALA for nationwide use. That focus will not, however, be to the exclusion of other activity, and each area of work - extending the prototype, seeding it with content, and implementing the outreach plan - will take place throughout the project. The phases are as follows:

Phase I: Extending the Prototype (August 2024-June 2025)

During this phase, further development of COALA, in partnership with SoftServ and RRHCNM, will take place. This will include addressing any issues identified from user testing at the end of the planning grant that were out of the scope of that work, extending COALA to be compatible with three additional learning management systems, and improving the following functionality of the prototype:

- more robust search functionality
- user-friendly upload procedures for new materials
- the ability for users to rate content for integrated peer review
- permissions development to ensure faculty and students have differing access to the content (primarily the answers to questions) stored in the repository

Also, during Phase I, the Advisory Board will work with a team from the University of Virginia, headed by Judith Thomas and Bethany Mickel, to develop documentation for best practices in creating, uploading and ingesting AI-generated problem sets. This work is essential in ensuring that COALA and its users are prepared to consider that content will be developed both by instructors and by machine.

Phase II: Content Development (July 2025-December 2025)

During Phase One, faculty will be recruited to seed the prototype with substantial content, ensuring that when outreach begins, faculty exploring the prototype for the first time will find that there is already content available to assist in their course planning and assessment. Phase two will focus on the work of creating and uploading that content. Recruited from the robust pool of faculty volunteers gathered during the planning grant, with attention to diversity of location, institution type, and discipline, these faculty will come from disciplines new to COALA, including: Biology, Chemistry, Computer Science, Economics, Sociology, Psychology, Philosophy, and English.

Additional disciplines will be considered and chosen by the advisory board. Recruited faculty will meet with the instructional designer for best practices on developing the materials and adding material to the

repository. These faculty will act as ambassadors for COALA on their home campuses and be invited to participate in outreach activities, including webinar Q&As, as they are developed in phase three.

During the past four years, VIVA has administered a grant program that has awarded funding to more than 120 faculty teams to develop Open Educational Resources for use in the classroom. Many of these projects include problem sets and assessments of all kinds. The desire to have a repository where these materials could be stored, accessed and integrated into courses was a strong initial driver of this project. In this phase those materials will be added to COALA to both contribute to the material found there and fulfill the goal of a home for grant materials that will increase their availability and viability. Other library consortia run similar grant programs, and during this phase, will also be invited to contribute assessments to the repository. Adding these materials will give VIVA and other consortial representatives the opportunity to test and document COALA, passing information back to SoftServ on functionality and bugs.

Phase III: Outreach (January 2026-August 2026)

Phase Three will see three essential activities to ensure the sustainability of COALA. The first of these is the final round of user testing, overseen by RRCHNM. The second activity is the development of COALA documentation, and the execution of the outreach plan as developed during the planning grant. Project results will be disseminated widely, with focus on two targeted groups: instructors and librarians. They will be disseminated in the form of a website, a webinar, and a train-the-trainer workshop. Conference presentations are also planned and will bring COALA and what it offers to large groups of instructors.

The primary outreach activities will be managed by VIVA and executed by the instructional designer, who will develop a webinar and training videos. She will also work with the Advisory Board to develop a train-the-trainer workshop for librarians, ensuring local experts in the technology on individual campuses. By the end of phase three, both the webinar and the train the trainer workshop will have been offered five times to a wide array of targeted audiences. A recording of the webinar will be made available, and both the webinar and workshop will be offered regularly beyond the period of performance for the grant.

Included in the documentation released during this phase will be instructions for locally hosting instances of COALA for campuses that wish to use the freely available code to do so. For those that don't have the capacity or desire to host their own instances of COALA, the second key activity during this phase will be the development of a sustainable business model. The model will reflect the importance of a platform that is no-cost to instructors and students, and affordable for consortia to offer to their libraries and member institutions, regardless of their ability to host a platform locally. A centrally hosted platform will also allow content to be searched, integrated, and customized nationwide. This plan will include assurances that further developments are open source and that the code is contributed back to the community via github in a timely manner.

Throughout these phases of the project, progress toward the goal will be tracked in two ways. The first is through regular monthly meetings among project managers, the instructional designer, and the developers to review milestones and troubleshoot when deadlines pass, or obstacles arise that would prevent the

team from reaching project goals. In the planning grant these meetings have proven both essential and effective in keeping the project on track. The second is through quarterly presentations to the Advisory Board to guarantee the project has multiple levels of oversight, culminating in Advisory Board approval of activities, as well as assistance should difficulties develop. By addressing effectiveness, efficiency, quality, and timeliness in every board meeting, we will track progress and complete the work outlined in this proposal.

Diversity Plan

Since the beginning of its Open & Affordable Course Content Program, VIVA has had a focus on using OER to increase equity among students and increase diversity and inclusiveness in the higher education experience. In 2021 VIVA conducted the Virginia Course Materials Survey, garnering 5,600 valid responses from 41 institutions. These institutions included community colleges and research institutions, as well as both public and private minority serving institutions. The primary aim of this survey was to understand the impact of course material costs on educational equity among Virginia students. To do this, VIVA identified seven areas of financial or social concern, which included: Pell Grant funding, education loans, full time job(s), race/ethnicity other than white-only, first generation, taking care of family members, disabled. Perhaps predictably, the academic career damage stemming from course material costs was amplified by the number of areas of concern identified by respondents. For example, a non-white First-Generation student that had received Pell Grant Funding and had education loans was four times as likely as a student without these areas of concerns to have failed a course due to the cost of course materials. With this in mind, the continued development of COALA and its subsequent impact on instructors' capacity to integrate open education materials into the classroom is critical.

In the development of COALA we will integrate the identified areas of concern identified in the survey, including taking institutional levels of Pell Grant-eligible students and students from underrepresented racial and ethnic groups into account when selecting faculty participants, and when selecting institutions for the train-the-trainer portion of the outreach efforts. For the advisory board and subject matter consultants, we will actively encourage and seek out the participation of individuals from diverse backgrounds, including but not limited to diversity in race, ethnicity, culture, age, disability, gender identity, geographic location, and career stage. Furthermore, subject matter consultants will be committed to generating representative content for testing, catering to a wide array of assessment types and communities to ensure diverse backgrounds and learning needs are addressed. Given the central goal of increasing access to digital pedagogical tools, we will prioritize accessibility and diversity of student and faculty needs across disciplines in both the planning and execution phases of the grant.

Project Results

The grant team guiding this project has the ambitious intention to impact on the cost of course materials for college students nationwide. COALA has the pedagogical advantage of supporting faculty in providing assessments that align with their individual course goals, rather than relying on the static materials that are pre-packaged with existing commercial content. Its technological advantage is that it can integrate with existing LMS, without the need for the creation and maintenance of a separate platform. As a repository, it

is flexible enough to serve as a space for other open homework efforts to draw quality OER from. In addition, for institutions and consortia offering OER creation grants, the full development of an LMS-integrated assessment repository offers an opportunity to extend the reach of the work they fund and support by making developed ancillary materials widely available nationwide. This project - scalable, extensible, and responsive to the changing demands of higher education classrooms - will continue the important work of leveling the academic playing field by making OER a more viable classroom alternative by easing faculty adoption and integrating open ancillary materials into the learning management systems that faculty already work within.

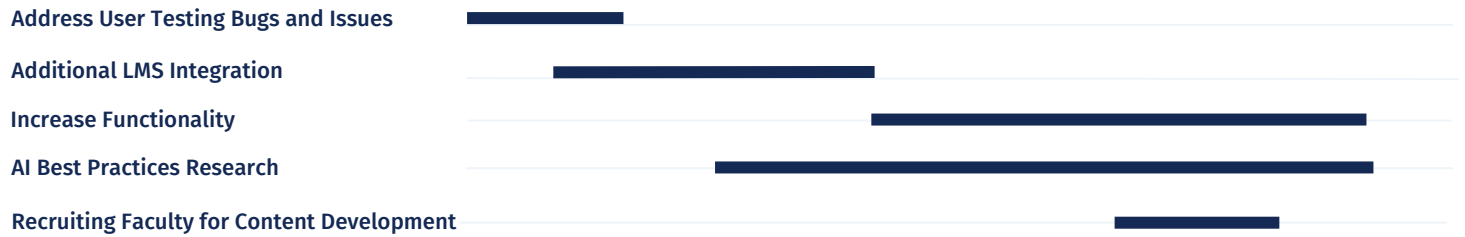
Project deliverables, including COALA itself, as well as documentation, training materials, and a business plan for sustainability, are readily adaptable by design. COALA is a discipline-agnostic tool, developed according to the same question types used by learning management systems used across college campuses, regardless of department or subject. Different question types can be added and integration with additional LMS will be possible without closing off the possibility of future development and functionality.

In addition to testing COALA with instructors nationwide, the outreach materials themselves will be developed with the guidance of library consortia, representing institutions across the United States, that serve on the advisory board. Documentation and code will be freely available to campuses that would like to run instances of COALA locally, and the project takes it as a given that any hosting costs for a national repository will be borne by institutions and consortia, not instructors and students. The webinar that will be developed in phase three of this project will be regularly offered with open question and answer sessions. The business model that will ensure the project's sustainability will include a plan for ongoing support, development, and bug fixes. In addition, by centering the business model on library consortia, rather than individual institutions, COALA will see wider impact, being available state by state across the country.

The business plan puts the need for sustainability front and center for the final phase of this grant project. Any repository will have ongoing technical needs to address and we recognize that even if the code and documentation for COALA is freely available, hosting a project of this size is not without cost. Beyond the period of performance, SoftServ, RRCHNM, and VIVA will work together to put the developed business plan in place, to not just sustain, but to actively grow the community of open education practitioners who will use COALA to reduce the costs of classroom success.

SCHEDULE OF COMPLETION

PHASE ONE: EXTENDING THE PROTOTYPE	AUG 2024	SEPT 2024	OCT 2024	NOV 2024	DEC 2024	JAN 2025	FEB 2025	MARCH 2025	APRIL 2025	MAY 2025	JUNE 2025	END OF PHASE ONE
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PHASE TWO: CONTENT DEVELOPMENT	JULY 2025	AUG 2025	SEPT 2025	OCT 2025	NOV 2025	DEC 2025	END OF PHASE TWO
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PHASE THREE: OUTREACH	JAN 2026	FEB 2026	MARCH 2026	APRIL 2026	MAY 2026	JUNE 2026	JULY 2026	END OF PHASE THREE
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VIVA-IMLS "COALA: The OER Homework Solution"

Digital Products Plan

The implementation phase of this project will create an LMS-integrated homework repository. All code for the repository will be open and freely available in GitHub, as will instructions on how to set up the repository and integrate it with an institutional LMS. All documentation and outreach documents, including any recorded webinars and presentations, will be made freely available on a project web page. In addition, a robust outreach plan is a key deliverable of the project and will include strategies for getting the products to as many members of the target audiences as possible. VIVA and collaborating organizations will place no restrictions on the digital projects beyond attribution required by a CC-BY license and will actively encourage their use and uptake.

Any project that involves the work of students must be sensitive to both the legal and ethical responsibility to their privacy. One advantage to an LMS-integrated system is that, as systems that handle grades and assessments, Learning Management Systems are already required to be compliant with the Family Educational Rights and Privacy Act (FERPA), and these systems already work within the bounds of existing higher-educational institutional guidelines, protecting student data and any identifying information. By ensuring that the primary student interface for the repository is via the LMS, we can address major concerns about privacy, such as who owns student data and the rights of the students who will use the assessments created in the system.

In part, the sustainability of this system relies on the project team's success in making it widely available and easily adoptable. As instructors contribute to the repository, there will be more assessments for other instructors to choose from, and the more institutions and consortia create instances of the repository, the more time will be invested in maintaining and sustaining its development by the wider community. In addition, the extensibility of the repository, designed with a robust API to ensure that it can be incorporated into not just an LMS but existing and future open homework platforms, will ensure that it will not become obsolete as developments in this arena are made.

The sustainability plan for the project is not limited to the hope that others will use and contribute to the repository of materials. A substantive and critical deliverable for this phase of the project is a business plan that will consider the very real costs of hosting and maintaining a tool of this kind. Centered on library consortia, it will offer a model for statewide subscriptions that will outsource hosting and maintenance to Software Services at Scientist.com. This, however, will co-exist with extensive documentation on how institutions that would prefer not to outsource this work can create and host their own instance of COALA without fees or subscriptions.