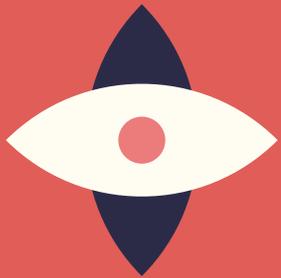


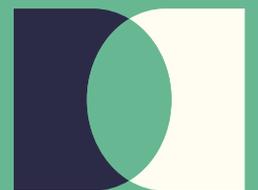
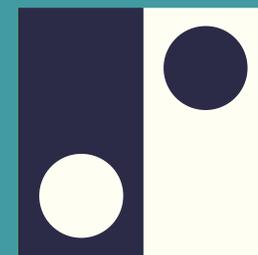
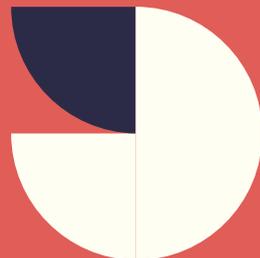
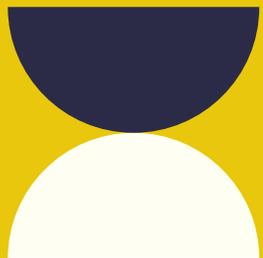
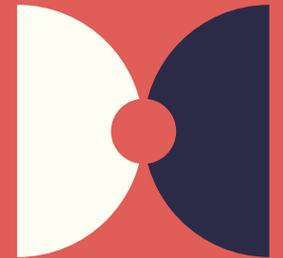
20

ANNUAL
REPORT



22

LED



LEANLAB EDUCATION

We are a nonprofit organization driven by the belief that those closest to the issues in education—students, educators, and parents—should be designing the future of education. Leanlab has evolved from an educational technology incubator to a leading research organization focused on understanding and addressing the challenges of equitable educational technology development.

VISION

We envision a world where all children have access to effective and excellent educational solutions.



MISSION

Our mission is to study and grow transformational education innovations that have been codesigned with school communities.



Dear Friends,

In 2022, Leanlab entered its second year as a full scale R&D lab, working to provide edtech companies with robust and rigorous research conducted in partnership with authentic schools communities, what we call Codesign Product Research.

As we emerged from the pandemic with this sharpened focus on community-driven R&D, we fine tuned our processes, codifying our practices through a newly published Codesign Framework. The framework explains our approach to growing the power of school communities (students, teachers, administrators, and parents) in the evolution of emerging education technology

We also expanded our research offerings to align to the stages of product development cycles. We believe that R&D should be an integral part of how edtech companies develop and evaluate their products, and we continue to refine our practices to be in service to edtech developers. We evolved our offerings into what we have come to call a “research journey,” supporting founders in gaining insights from school communities from the inception of their product idea all the way through sophisticated quasi experimental studies measuring student-level impact.

Similarly, we learned more about our school partners as they evolved post-pandemic. We worked to hone our approach to working with school districts, favoring deepened, sustaining partnerships with districts and school communities. Rather than engaging districts in one-off studies, we evolved our work to develop multi-year agreements with districts to gain deeper understanding of their needs and strategic priorities. We are building a professional learning community between district leaders and school communities from across the country who are engaging in R&D, to facilitate the sharing of findings and innovative approaches to learning.

Emboldened by the early traction of Codesign Product Research, Leanlab drafted a new strategic plan with a focus on expanding our connections with school districts nationwide, expanding our reach and influence within the edtech R&D field, and solidifying our sustainability model. We are now aiming for a goal of 50 percent of our revenue earned through fees-for-service work from edtech clients by the end of 2023, and have a goal of influencing the entire edtech sector to adopt inclusive, product-oriented R&D practices.

We realize that now, more than ever, our world is increasingly influenced and shaped by technology. However, this doesn't mean that we shouldn't make careful, tenuous efforts to mold the tools of tomorrow, so that they best serve us, our children, and our future. In 2022, through the thousands of teachers and learners we engaged over the year, we have been able to surface hundreds of insights that will go on to impact millions of students.



Katie Boody Adorno

Katie Boody Adorno
Founder & CEO

LEANLAB

A BRIEF HISTORY

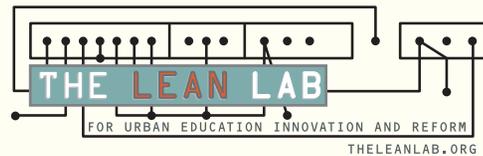


2013



Katie Boody Adorno, future Leanlab CEO, begins a series of informal, living-room conversations about the future of education with her fellow educators.

2014



"The Lean Lab" is formally incorporated as a 501(c)3 nonprofit and holds the first summer incubator to develop innovative ideas from educators using design thinking.

2015

The summer incubator is extended to a ten month fellowship where the second cohort of educators try out innovative ideas in the classroom during the school year.

2016



Leanlab launches the third cohort of the fellowship, shifting towards providing early-stage education startups with training on business development.

LEANLAB

A BRIEF HISTORY



2017

Leanlab launches the fourth cohort of the fellowship and awards \$50,000 in startup capital to early-stage education companies.



2018

Leanlab launches the fifth cohort of the fellowship and incorporates a component to match early stage startups with classroom teachers to research and co-develop products.

2019



Leanlab launches the sixth cohort of the fellowship with even more focus on Codesign Product Research studies.

2021



Leanlab shifts from the edtech accelerator model to focus solely on matching edtech companies and school communities to conduct Codesign Product Research.

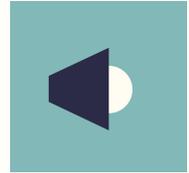
2020



In response to the Covid-19 pandemic, Leanlab begins an 18-month campaign to collect, analyze, and disseminate data on the digital divide and remote learning in Kansas City.

IMPACT

BY THE NUMBERS



7

Companies

41

Teacher Participants

51

1:1 interviews

11

Codesign Studies

24K

Student Participants

7

Educator Focus Groups

93

Recommendations

19

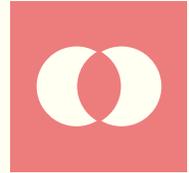
Parent Participants

13

Student Focus Groups

CODESIGN FRAMEWORK

HOW WE DO RESEARCH



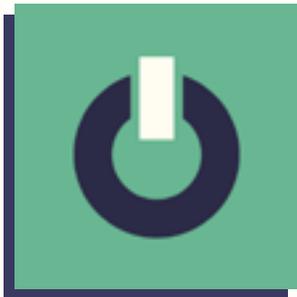
ABOUT

Codesign is a research framework and approach which emphasizes the co-creation of research objectives, methodologies, data collection, and dissemination among researchers, educators, and technology developers. Our belief is that when power is shared in the research and development of innovative products, these solutions have the potential to be liberating approaches to education.

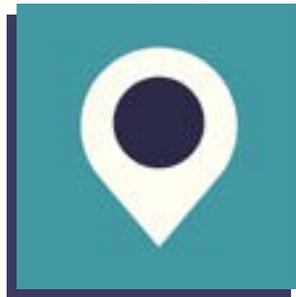
PURPOSE

This framework is intended to give practical tools to support school communities, technology developers, and researchers working to co-create and research innovative solutions to education's toughest challenges.

Cultivate



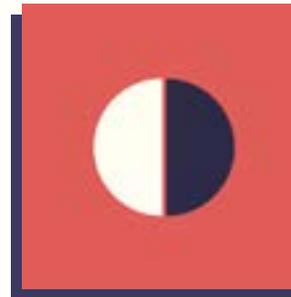
Engage



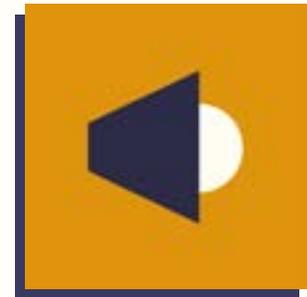
Design

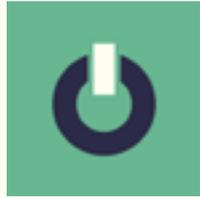


Research



Produce





Cultivate

Cultivate the conditions necessary to conduct codesign research.

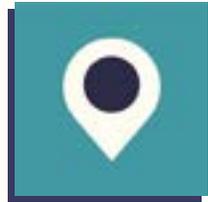
Define Roles
& Distribute
Power



Identify
Shared
Problems



Assess
Obstacles &
Opportunities



Engage

Engage in the co-creation of shared purpose, processes and commitments.

Create
Shared
Commitments



Establish
Conditions of
Success



Create
Shared
Meaning



Design

Design a research plan for how you will test the solution.

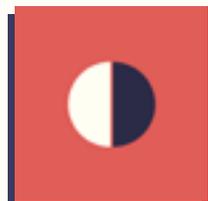
Explore
Research
Questions



Identify
Methods &
Tools



Set the
Research
Timeline



Research

Implement the study, analyze the results, and make iterations

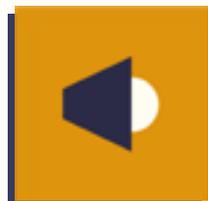
Implement
and Collect
Data



Analyze the
Results



Iterate and
Improve



Produce

Publish and circulate the results of the study and prepare for continued partnership.

Create
Shared
Deliverables



Circulate
Findings



Commit to Next
Steps



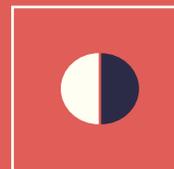
CODESIGN PRODUCT RESEARCH

Through Codesign Product Research, we help companies build edtech tools that are needed by schools, simple to use for educators, and impactful for all students. Our focus is on building a process for research that is unobtrusive for schools and valuable to edtech companies. We do this through Codesign—a process that elevates the insights of students and educators in the development of edtech tools and the design of research studies.



RESEARCH

THE RESEARCH JOURNEY



Concept
Validation



Research Ready
Audit



Logic
Model



Product
Validation



Usability



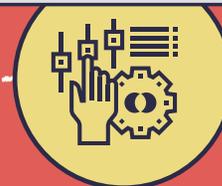
Feasibility



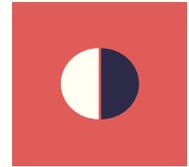
Implementation



Correlational



RESEARCH DESCRIPTIONS



Concept Validation

Obtain feedback on a product concept from target end users and validate that the product is needed.



Product Validation

Understand from target end users how the product adds value and how they would use it given the realities of the school environment.



Implementation

Test and validate sustainable product adoption and implementation at scale within schools and classrooms.



Research Ready Audit

Assessment of your product's theory of change, functionality, usability, standards alignment, implementation guidelines, and data-security policies.



Usability

Improve product's ease of use and appeal with insights direct from actual end users.



Correlational

Collect preliminary evidence that connects the product's usage to intended outcomes.



Logic Model

Understand and illustrate the specific mechanisms of a product that lead to desired outcomes.



Feasibility

Identify best implementation conditions and environment for sustainable product use.

SPEAK AGENT

And The Research Journey



HYPOTHESIS



EVIDENCE

A Codesign Case Study

At Leanlab, we often speak about research as a journey. Unlike most journeys, there is no end point. There's no point in the life-cycle of an ed-tech company where research loses its relevance.

The journey metaphor is used to illustrate that ed-tech companies can and should be using research to codesign and evaluate their products with the input of educators, students, and parents at every stage of development—from using focus groups and interviews to understand if a product solves an actual problem, to engaging users throughout the semester, to measuring the impact on student outcomes.

The “journey” also describes the cumulative effects of conducting research in a certain order. Before we can measure student outcomes in a quasi-experimental study, we have to ensure that teachers and students are using the tools as intended and there's high user engagement through usability, feasibility, and implementation studies.

This process can, at times, feel slow or incremental but there are moments within the journey that reaffirm that it is worthwhile and meaningful.

In 2022, we conducted a quasi-experimental study with Speak Agent—an academic language learning platform for K-12 public schools—that yielded some very exciting results. Our analysis found significant improvements in math scores for middle

grade students and a significant, positive effect on multilingual learners' English language proficiency scores as measured by third-party assessments.

However, the process Speak Agent used to get to those results embodies the idea of the research journey. “We consider research not a one-and-done, but an ongoing process. We care about the results, even if they're not positive, because that's what enables continuous improvement in our platform development,” said CEO Ben Grimley.

We first worked with Speak Agent, Inc. in 2019 to implement a pilot of the academic language learning platform at KIPP KC. This first study we undertook with them used a mixed methods approach to

“This process can, at times, feel slow or incremental but there are moments within the journey that reaffirm that it is worthwhile and meaningful.”

understand the effects of Speak Agent on reading performance, social-emotional outcomes, as well as attitudes towards reading and learning.

Speak Agent has continually used this approach to incorporate both design and instructional changes in their products. Chief Learning Officer Dan LaFountain notes, “We’ve added in the option for students to speak their responses in many of our learning activities—in addition to typing them—a change that came directly from teachers at our partner districts.”

After the promising results from this pilot study, we partnered with Speak Agent again to conduct two more data analyses. This time we teamed up with a long-time partner of theirs, Prince George’s County Public Schools (PGCPS).

The initial data analysis explored the effect of using the platform in isolation, while the second study incorporated the effect of Speak Agent on standardized test scores. “The first analysis laid the foundation and allowed us to make changes in our data collection,” shared Grimley. The second analysis incorporates student math benchmark assessments from a sample of nearly 1,600 middle school classrooms.

The study evaluated the effect of Speak Agent Math+LanguageSM usage on student outcomes in math and English language proficiency across

grades 6 to 8 within PGCPS. The nation’s 20th largest school district, PGCPS serves a diverse student population from urban, suburban, and rural communities. All of the classes and students in the sample had full-year access to the platform, with usage based on teacher and student choice in real-world classroom environments.

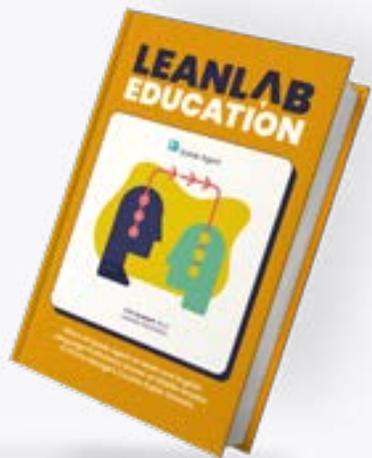
Data analysis showed that students who used Math+Language outperformed their peers who did not use the program. Students who completed ten Speak Agent learning activities experienced a 10% higher mean score than their peers on the PGCPS math benchmark assessments. Multilingual learners experienced a 5% higher mean score on the WIDA ACCESS for ELs test, in addition to a higher math score.

This is the first large-scale study to find a positive, independent effect at a 99.9% confidence level for both math and English language proficiency scores, as measured by third-party assessments, caused by a single education technology program.

At PGCPS, in addition to assessment and platform data, students participated in a short survey. Eighty percent of the student respondents agreed or strongly agreed that they enjoyed Speak Agent, and 86% agreed or strongly agreed that it helped them learn math.

Speak Agent embodies what we look for at Lean-

lab in edtech partners: enthusiasm for codesign research, appreciation for data, and willingness to keep iterating to find the best edtech solution. It's exciting to see a commitment to research-driven product development result in such positive student impacts.



 **READ THE FULL REPORT**

A large red rectangular area containing a yellow winding road graphic that starts from the left and ends on the right. Below the road are three logos in white rounded rectangles: LEANLAB EDUCATION, PGCPS (Great By Choice), and Speak Agent.

LEANLAB EDUCATION

PGCPS
Great By Choice

Speak Agent

Leanlab Education Prince George's County Public Schools Speak Agent

SCHOOL DISTRICT RESEARCH NETWORK

The Leanlab School District Research Network is a group of innovative school districts across the country. Educators in the network conduct research in collaboration with new and growing edtech companies that seek to solve real problems in classrooms. Through the honest feedback and advice that educators give over the course of the research study, educators directly contribute to the development and innovations of edtech solutions.

- **Brookside Charter Middle School**
- **Central High School**
- **Clinton County Middle School**
- **Ellis Elementary**
- **Plattsburg High School**
- **Kansas City International Academy**
- **Operation Breakthrough**
- **Prince George's County Public Schools**
- **Research and Service High School**
- **Roselle Public Schools**
- **Allegiance Steam Academy**
- **Castleberry Independent School District**



TRY IT. USE IT. STUDY IT.

A Research Primer for Educators



Educators and students are the source of truth on the classroom experience, and they hold invaluable knowledge as the end users of many edtech products. Leanlab Education's School District Research Network taps into their expertise by bringing together innovative educators and school districts to collaborate with edtech companies seeking to solve real problems in education.

Members of the network have opportunities to engage with edtech product research in a variety of capacities, sharing honest feedback and influencing product decisions. Leanlab conducts different types of research studies in partnership with schools and edtech companies—studies developed using the Codesign Framework, which emphasizes the co-creation of research objectives, methodologies, data collection, and dissemination among stakeholders.

Each type of research study asks different commitments of school partners, and compensation is based on the scope of the study. Schools and/or individual educators are matched with studies that best fit their availability and capacity, and address their unique community's challenges.



The shortest-term research opportunities include concept validation and product validation studies. These studies are often conducted with edtech companies early in their product development process—the perfect time to incorporate formative research. Typically running only a few weeks, concept validation and product validation studies require smaller time commitments from educators and students, and they help set edtech companies in the right direction.

Concept Validation

The first step in the research journey, Concept Validation studies seek feedback on a product concept to validate if a product is needed by schools.

CONCEPT VALIDATION RESEARCH QUESTIONS

- To what extent is this tool needed in schools? How would it add value?
- Would this tool address a critical pain point for schools?
- How do users believe the product compares to similar products?

This feedback is typically collected through focus groups or surveys. Sometimes, Leanlab may need to diversify the sample and recruit different administrators and teachers from across the country, while other times, participants are recruited from a single school.

Product Validation

Product Validation research studies tools farther along in the development process to understand how intended users would use it given the realities of school environments, and how the product might add value.

PRODUCT VALIDATION RESEARCH QUESTIONS:

- To what extent is this tool needed in schools? How would it add value?
- Can students see themselves using the tool? What about teachers? How does it compare to similar products?
- What might keep schools from implementing this product?

Feedback is typically collected through focus groups or surveys from an educator or student sample that varies depending on the study's needs.

In a recent codesigned study, teachers and students from Kansas City International Academy and Clinton County R-3 Schools received a product demonstration from CodeAlgo—an edtech platform designed to teach early learners the basics of programming and computer science. Elementary and middle school students shared ideas and suggestions for the user experience, while teachers also explored and gave feedback on the instructor interface. Their collective input helped ensure the product would address school needs for computer programming and informed CodeAlgo's curriculum development.

“There’s a lot of learning that happens in the process of piloting new ideas, and being a part of that process is both exciting and enlightening. For us, involving our students in the CodeAlgo study gave them instant agency in their own learning, and helped them see the real-world applications of the technology they’re learning. It’s always good to engage students in the process and empower them to take ownership of their learning. It was definitely a neat experience all around.”

Brandon Burns
Principal
Plattsburg High School



Usability

The next step in the research journey is a Usability study. Usability studies, which run for 3–4 weeks, explore and improve the ease of use and appeal of an edtech tool with actual end users. During a Usability study, Leanlab researchers will present the edtech tool to a teacher, administrator, or student and ask them to perform a series of actions on the platform (this is called a task analysis).

Researchers will note which actions the participants struggle with and which actions can be completed with ease. After the task analysis, more qualitative data is gathered by interviewing the research participants.

USABILITY RESEARCH QUESTIONS:

- How well can students in the targeted age range independently navigate the product? How well can any user independently navigate the product?
- Are users able to find and use features? Could they access those features more easily?
- What are the most valuable features of the tool?
- While still lighter on time commitment for school partners, and open to individual network participants, Usability studies offer users more exploration of the edtech tool and helps researchers gather first impressions of the product and its functionality. Feedback generated helps edtech companies create a platform that is simple to use and, hopefully, saves teachers time and frustration.

Feasibility

Feasibility studies are similar to Usability studies, except that during a Feasibility study, teachers use the product for a longer period of time and have greater opportunity to explore the platform on their own.

Feasibility studies collect data to improve a product's ability to be used within a classroom setting. These studies collect data over 4-8 weeks, allowing for regular use by teachers and students. To collect data on how educators feel about the product, Leanlab asks teachers to keep a user journals and regularly jot down their impressions, ideas, and feedback. Teachers are also asked to participate in one or two focus groups or interviews throughout the study.

FEASIBILITY RESEARCH QUESTIONS:

- How successfully can this tool be used within a classroom?
- What are the barriers to use in the classroom?
- What is the value added by the tool for teachers and/or students?

In fall 2022, Leanlab codesigned a Feasibility research study with charter middle school IDEA Round Rock Tech and Forged Ed—an advisory curriculum intended to help educators build the shared knowledge, vision, and collective capacity to forge schools where students of color thrive. Over a five-week period, teachers implemented Forged Ed’s advisory curriculum, with each teacher completing a list of tasks that covered the full range of the tool’s features. In addition to participating in focus groups after the pilot period, teachers also kept journals of their insights and experiences in real time.



Implementation and Correlational studies require the most time commitment from educators but they rarely last more than a semester.

Implementation Research

Implementation studies are designed to investigate the practicalities of using an edtech tool. A company can create the most usable and impactful edtech tool but if it doesn't integrate well with other student data systems or the onboarding instructions are lackluster, it will never get used in the classroom.

During an Implementation study, teachers will use the tool for up to a semester. Researchers pay special attention to the first few weeks of usage, when teachers are learning how to use the platform and integrating it into their daily teaching routines.

Implementation research collects data over a full semester across multiple classrooms and/or schools.

IMPLEMENTATION RESEARCH QUESTIONS:

- When integrating a tool into a classroom, which techniques are most effective?
- How do contextual factors influence implementation success or failure?
- How can these contextual factors be modified to increase chances of success?

Correlational Research

Correlational studies may feel similar in the amount of time required by the participants; however, the research goals are different. Correlation studies seek to understand if there is a relationship between a tool's use and the intended outcomes. Leanlab's most intensive level of research, Correlational studies take place over a full semester or longer. Typically, this will include a pre- and post-survey to measure changes in qualitative and quantitative outcomes. For example, do teachers report that students seem more engaged (qualitative) and do student's test scores increase after using the product (quantitative).

During a Correlational study, teachers implement the edtech tool into their curriculum and use it as intended for a semester or longer. Leanlab researchers will periodically check in with the teachers through interviews and focus groups to understand if there are any challenges with using the product. Feedback is then relayed to the edtech company, so they can make product revisions.

CORRELATIONAL RESEARCH QUESTIONS:

- What is the relationship between the use of the product and the intended outcomes?
- Is there a correlation between use of the product and improved outcomes?

Over the course of the 2021–2022 school year, Leanlab conducted a Correlational study with Speak Agent, creators of content+language programming, and Prince George’s County Public Schools. Nearly 1,600 middle school classrooms had access to Speak Agent’s Math+Language platform, the effects of which were evaluated through math and English language proficiency outcomes.

Dr. Michelle Dyson, PGCPs Mathematics Instructional Supervisor for Grades 6–8 shared, “We could see students making progress, so we collaborated with our ESOL department to commission this study to quantify the impact. This research shows that our implementation—which closely integrates with our curriculum—helped students make strong gains on math and ELD assessments.”

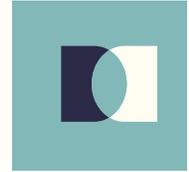
There is a need for a broad range of educator perspectives and expertise across edtech research. With different types of studies and varying goals, there are also research opportunities to fit educator and school priorities and constraints.

Leanlab’s goal with the School District Research Network is to expose educators and students to new edtech tools that are attempting to solve their specific challenges and give them a voice in the development of those solutions.

“We could see students making progress, so we collaborated with our ESOL department to commission this study to quantify the impact. This research shows that our implementation—which closely integrates with our curriculum—helped students make strong gains on math and ELD assessments.”

Dr. Michelle Dyson
Mathematics Instructional Supervisor
Prince George’s County Public Schools

TEAM



Katie Body Adorno
CEO



Sanaz Farhangi
Principal Researcher



Laura Gowans
Operations, Finance,
and HR



Lynne Harden
Principal Researcher



Taylor Haun
School Experience



Michelle King
Executive Assistant and
Operations

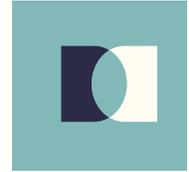


Robyn Vatter
Marketing and
Communications



Anna Treesara
Customer Experience

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Doolin Ward Consulting, LLC



Roberto Quintanilla
KRE Consulting



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BrandLab Kansas City



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North Kansas City School District

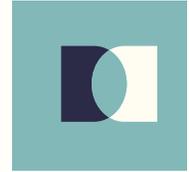


Sean Talamas
Proof Leadership Group

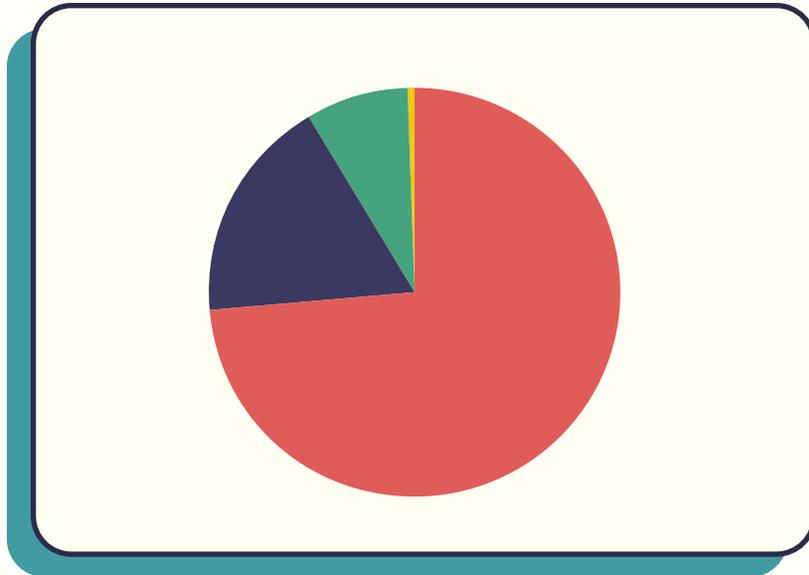


Malvika Bhagwat
Owl Ventures

FINANCIALS

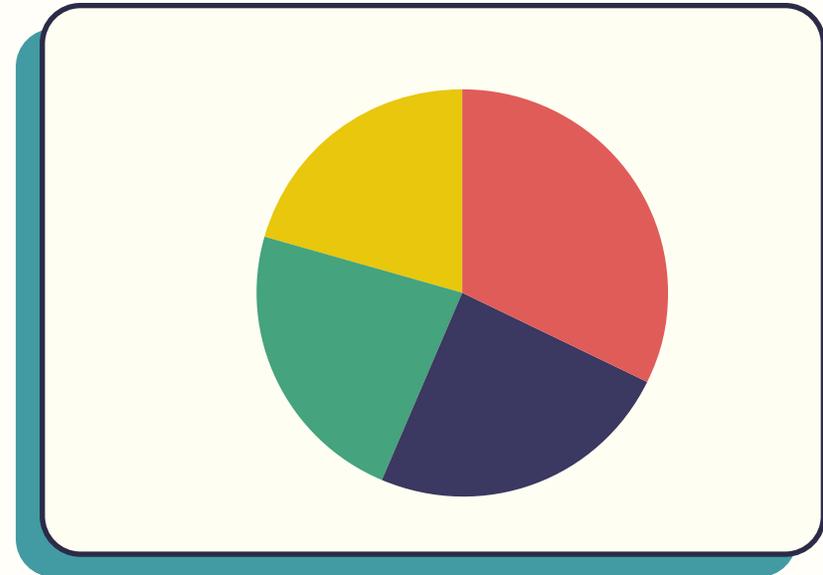


REVENUE



73%	FOUNDATION GRANTS	\$ 530,000
18%	PROGRAM SERVICE FEES	\$ 126,700
8%	OTHER INCOME	\$ 59,571
1%	INDIVIDUAL CONTRIBUTIONS	\$ 1,748
		\$ 718,019

EXPENSES



32%	OPERATIONS	\$ 481,526
24%	PILOT IMPLEMENTATION	\$ 363,927
23%	SCALE & SUSTAIN	\$ 341,193
21%	BUILD PIPELINE	\$ 306,942
		\$1,493,588