

LiDA Center 2022-23 Report

(June 2022-May 2023)

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[HOW THIS REPORT IS ORGANIZED](#)

With the exception of the Executive Summary, this annual report is organized around the five strategic goals (and related sub-goals) articulated in our 2019 LiDA Strategic

Plan. You can choose to read about the progress made this year with respect to specific goals in any order you wish, using the linked table of contents provided on the left side bar.

For each goal, we have listed all the projects/activities that contributed towards that goal during the period covered by this report. To keep the main text to a minimum, for each project/activity listed under each goal we provided just a brief description (which readers familiar with that project/activity can skip), followed by information about specific achievements made this academic year related to that goal. Links to artifacts and other documents providing additional information have been embedded in the text, for readers interested in learning more.

As some of our projects/activities address multiple goals, they will be listed more than once - so some repetition was unavoidable.

This annual report is intended to complement other "cumulative" reports (i.e., from the start of the LiDA Center in 2018 to date) about the progress made in each of our strategic initiatives to date, as well as other metrics and products, that are also accessible on the Strategic Planning and Reports page of our website.

EXECUTIVE SUMMARY

Since COVID-19 caused schools and universities to close in early 2020 and for the following couple of years, our priority became supporting educators as they dealt with the many challenges and implications of the pandemic. This year, while continuing to promote and provide support on online and digitally-rich teaching, we have also been able to shift more of our attention to other aspects of "learning in the digital age" – most notably, (a) addressing implications of recent advances in Artificial Intelligence (AI) for the future of education, and (b) supporting the implementation of the new New York State Computer Science and Digital Fluency Standards for K-12 Schools.

Although progress was made along each of our strategic goals and initiatives over the past year (as documented in the comprehensive report that follows), we chose to focus this executive summary on key achievements related to these two themes (which are both related to our strategic initiative #4, "Developing Capacity in Applying Selected Promising Technologies") as well as to goal #5, *Assure the needed resources to support and expand our work.*

Addressing implications of recent advances in AI for the future of education

The launch of ChatGPT in Fall 2022 has forced educators to grapple with the potentially transformative implications of AI for education. Since our 2019 strategic plan had already identified understanding the implications of emerging technologies such as AI as a priority, and we have proactively worked at developing expertise in this area ever since, we found ourselves in a good position to play a leadership role around this issue. Our work in this area over the past year involved the following complementary components:

- ***Expanding our efforts around preparing for the “Future of Work”:*** In October 2022 we were awarded our first research grant from the NSF “Future of Work at the Human-Technology Frontier program. This 4-year project (TEAMuP) involves an interdisciplinary collaboration between the Warner School of Education, the Eastman School of Music and the Electrical & Computing Engineering department within the University of Rochester, as well as Northwestern University Computer Science department, to develop new ways to empower musicians to leverage AI-powered tools in the creation, production and dissemination of their artistic work. Building on this success, we wrote another Future of Work research proposal on “Leveraging Language Models in Higher Education Admissions” (still pending). We were also just notified of another NSF award that would support an innovative professional learning program for cybersecurity professionals, developed in collaboration with RIT experts in cybersecurity.
- ***Exploring the implications of ChatGPT for K-12 schools and colleges:*** Since ChatGPT’s launch, LiDA staff has engaged in webinars, study groups and other events about its implications for education, and also acted as a catalyst to foster informed dialogue around these issues – through dedicated LiDA Colloquia and aLiDA-led Study-Group on ChatGPT. LiDA also collaborated with the UR College Writing program and Philosophy department to submit a proposal to the NSF Innovations in Undergraduate STEM Education (IUSE) program, aiming to develop productive and ethical uses of ChatGPT in college STE writing courses; while this proposal was declined, we plan to revise and resubmit it to another funder. We have also submitted a few ideas for a special call from NSF for 1-year projects about applications of AI in K-12 Education (pending).
- ***Developing expertise at the intersection of education and AI:*** The development of the previously mentioned projects and grant proposals have provided unique opportunities for LiDA staff to continue to learn about AI and its applications, as well as to develop interdisciplinary teams that can effectively engage in this work. We also made great strides in preparing some

Warner doctoral students with dual expertise in AI and education, as two students completed both an Advanced Certificate in Data Science and a special NSF-funded training in AR/VR, and two more students have been admitted in these programs this year.

Supporting the implementation of the new New York State Computer Science and Digital Fluency Standards for K-12 Schools

In December 2020, New York State issued their first Computer Science and Digital Fluency standards, along with the expectations that these standards be fully implemented in all NYS K-12 public schools by September 2024. Many school leaders in the region feel that their schools are unprepared for this implementation, yet have found it difficult to devote the needed effort and resources to this new initiative given the higher priorities generated by the pandemic. Therefore, we believe it is important for the LiDA Center to provide support towards the implementation of these new standards in the following complementary ways:

- ***Providing high-quality professional learning to K-12 educators:*** As essentially all K-12 teachers in NYS will be expected to implement some aspects of the new standards, professional development will be key. Despite the challenges experienced in recruiting teachers for professional development activities throughout NYS, this year we were able to recruit almost 30 teachers for the second year of the Computer Science component of the Smart Start grant awarded by NYSED to the Wayne-Finger Lakes BOCES, which provides a year-long intensive program for K-8 teachers around the new standards.
- ***Offering new programs to prepare certified computer science teachers:*** The implementation of the new standards is expected to increase the demand for certified computer science teachers – a new area of teaching certification in NYS, which currently less than a dozen institutions are offering teacher preparation programs for. To address the expected shortage of certified computer science teachers, this year we applied for and got approval from NYSED for new programs to prepare computer science teachers.

Securing the needed resources

As Centers at Warner are expected to be self-sufficient, securing funding to support our work continues to be crucial. Given last year's success in securing multi-year professional development sub-contracts from BOCES as part of newly awarded New York State grants, this year we focused on securing research grants. This has indeed been an extraordinary year for grants for LiDA, as in addition to the already mentioned \$1,800,000 TEAMup Future of Work research grant and \$500,000 cybersecurity education grant with RIT, we were also awarded a \$300,000 NSF

EAGER grant in collaboration with Computer Science and a new \$3,000,000 NSF Noyce Master Teacher Fellowship grant to prepare another cadre of digitally-rich STEM teacher leaders. We have also been very active in grant writing, as we submitted two additional grants to NSF (a \$400,000 IUSE grant and a new \$1,800,000 Future of Work grant) plus multiple Concept Outlines for RAPID grants. Thanks to the generosity of our LiDA Council members and other donors, we have also been able to secure funding to continue to support our LiDA Assistant Director position as well as to pilot a new "LiDA post-doc" position next year.

This year also marked the launch of the LiDA Affiliated Faculty role, as a way to expand the scope and impact of LiDA work. We have welcomed a first group of six Warner faculty in this new role.

Please look at our full annual report for more information on the initiatives just described, as well as other work that has taken place at LiDA over the past academic year.

PROGRESS MADE TOWARDS EACH STRATEGIC GOAL

GOAL #1a – Increase the number of successful transformative LiDA initiatives, with a focus on providing support to specific innovative uses of technology for teaching and learning

1. **UR Online Learning** (*Strategic Initiative B + F*):

PROJECT DESCRIPTION: In his role as Associate vice-President for Online Learning for the entire University, and with support from LiDA Center staff and others, *Fredericksen leads strategic efforts to promote and strengthen online learning across the UR.

While most of UR courses offered this year returned to their original modality, there has been an increased interest in online teaching from faculty across the University, as demonstrated by the continuing demand for and attendance at workshops on online teaching. The LiDA Center supported these efforts in the following ways, leveraging *Eric Fredericksen's work as the University Associate Vice-President for Online Learning as well as LiDA Associate Director for Higher Education:

- *Fredericksen continued to open his semester-long course on Designing Online Courses to interested UR faculty, as well as graduate students; 18

individuals took this course this year, resulting in the design of almost an equal number of new high-quality online courses for the University. A special version of this course was also offered in Summer 2022 to a select group of 9 Simon School professors who are developing an online MS program in Business Analytics.

- *Fredericksen and **Lisa Brown offered more than 38 workshops on various aspects of online teaching (<https://www.rochester.edu/online-learning/>).
- A symposium was organized in fall 2022 by *Fredericksen to showcase UR faculty experiences with online learning (recording of the presentations can be found at: <https://www.rochester.edu/online-learning/symposium/index.html>)
- The Educational IT Governance Committee, co-chaired by *Fredericksen (in his role as the UR Associate Vice-President for Online Learning) and comprising of representatives of all UR academic units (including *Dave Miller, *Raffaella Borasi and **Lisa Brown) has continued to meet regularly to share information and inform decisions across the University.
- Related to his role within the Educational IT Governance Committee, *Fredericksen's also conducted a research study of the faculty experience both during and coming out of the pandemic. The study captured feedback from UR faculty about their experience and satisfaction with teaching with technology, their usage of specific University provided tools, developing an understanding of the impact of the pandemic on their teaching practices, and capture their thoughts about limitations to using technology for teaching and ideas for improvement. The results of the study have been shared with academic leaders at the university, with school-based reports shared with the respective Deans.
- 3 new awards were made this year as part of the "Educational IT Innovation Grants program" to support digitally-rich instructional innovations at the UR - see <https://www.rochester.edu/online-learning/edtechgov/announcement2022innovationgrants.html> for a list and brief description of each funded project).
- *Warner strategic planning group on Online Learning*: As the culminating product of this group's effort, a report to the Dean was prepared to identify new opportunities for online programs and courses within Warner
- *New online Ed.D. in Health Professions Education*: *Borasi has continued to lead the development of a proposal for a first Warner Ed.D. that healthcare professionals could be taken fully online if desired; a successful "virtual site visit" has been completed this year, and an official application to NYSED has been submitted in May 2023.

2. **K-12 Digital Consortium** (*Strategic Initiative C*):

PROJECT DESCRIPTION: The LiDA Center is offering some leadership and infrastructure support to the [K-12 Digital Consortium](#) – a collaboration between the LiDA Center and K-12 school districts in the Rochester region interested in transforming teaching practices by leveraging digital technology. This year we finally lifted the suspension of Consortium meetings due to the pandemic, and developed a few initiative to “restart and revitalize” the Consortium, led by *Miller and *Borasi. *Miller first reached out individually to most district “liaisons” to seek input on their most pressing current challenges and opportunities, so as to inform future Consortium initiatives. A two-part Zoom conversation on “online professional learning” was held on January 11 and 31 with representatives of Consortium districts, and later leveraged to create online materials about this topic posted on the Consortium website so as to be available to a wider audience (see goal #1c, item 1 for more information). A half-day in-person retreat was also organized and held on May 24 - involving over 50 participants from 17 consortium districts (see goal #1c, item 1 for more information).

3. **Noyce Master Teacher Fellows (MTF) Digitally-Rich grant project** (*part of Strategic Initiative C*):

PROJECT DESCRIPTION: This 5-year \$3M grant from NSF is preparing 21 math and science “master teachers” to provide leadership in 7 high-need districts engaging in technology innovations (which are all part of the K-12 Digital Consortium). Each MTF will complete an Advanced Certificate in Digitally-Rich Teaching in K-12 Schools and an Advanced Certificate in Teacher Leadership at Warner (for a minimum of 42 credits per MTF) (see [program description](#)). This project was launched in collaboration with the Center for Professional Development and Education Reform in summer 2018, and it will be completed after a 1-year no-cost extension in 2024; the leadership team consists of **Callard (as PI), *Borasi, *Borys, *Carson, **Daley, Fluet, Kruger, Martin, *Miller, **Occhino and Staloff.

Highlights from the fifth year of this project include:

- All fellows engaged in a leadership project impacting stakeholders beyond their classroom (e.g. teachers, administrators, or community members). Some notable examples include: developing professional development focused on equity-based grading, connecting with community members to build better relationships between guardians and school, launching a STEM for Women Club, and partnering with the district to take advantage of underutilized outdoor spaces for kindergarten science field trips
- Five fellows represented the program at two presentations during the annual NYSCATE Conference and one fellow attended the annual Noyce Summit in Washington D.C.

4. **Noyce Master Teacher Fellows (MTF) BeAJEDI grant project** (*part of Strategic Initiative C*):

PROJECT DESCRIPTION: This 5-year \$3M Noyce MTF grant was awarded in October 2022 from NSF to prepare a

cadre of 19 secondary math and science “master teachers” to support instructional innovations that are consistent with the most recent math and science standards, leverage technology to enhance student learning, and also address issues related to Belonging, Access, Justice, Equity, Diversity and Inclusion (BeAJEDI). This grant focus specifically on teachers working in urban school districts of different sizes (Rochester, Elmira, Jamestown, Salamanca, and Hornell). Each Fellow will complete a Master’s degree in Inclusion and Special Education, along with Advanced Certificates in Teacher Leadership, Digitally-Rich Teaching in K-12 Schools, and Urban Teaching and Leadership. This project is another collaboration between the Center for Professional Development and Education Reform and the Center for Learning in the Digital Age; the leadership team includes several Warner faculty (**Callard - as PI; *Borasi, Cutt, *M.Daley – as co-PI; *Borys, Fluett, Kruger, **Occhino, Pearson and Staloff as part of the leadership team).

This new project was successfully launched this year with the recruitment of the 19 fellows, who started their first course in Spring 2023.

5. **“COVID Connects Us” unit** (*Strategic Initiative F*):

PROJECT DESCRIPTION: In response to the pandemic, in Summer 2020 **April Luehmann collaborated with graduates from her Get Real! Science program (including four Noyce Scholars who previously graduated and had teaching positions) to develop a very [innovative science unit](#) around the science of COVID, which she also designed to be used as a start-of-the-year unit setting expectations and practices promoting equity. She reached out to the LiDA Center for help in seeking external funding to support the implementation and study of this unit, as well as further expansions, which led to a 1.5 year \$75K grant from the Greater Rochester Area Foundation and a \$1.5M DRK12 grant from the National Science Foundation.

*April Luehmann has continued to work on the NSF DRK12 research grant around the “COVID Connects Us” unit.

6. **Bullying Education through Literacy**

PROJECT DESCRIPTION: This project, funded by the Moskowitz Family Foundation, focuses on providing teachers with online supporting materials and information to fight bullying in school using literacy. Started in 2018 with *Carol St.George as the PI, after a year the project pivoted to pursuing their original goal through a rich website that would make the materials created easily accessible to everyone. *Borasi and *Han, as well as other LiDA research assistants, are part of this project team. In the period covered by this report, the team has continued to produce and post new materials for the [website](#).

7. **Reading2Babies**

PROJECT DESCRIPTION: This project, also funded by the Moskowitz Family Foundation with additional support from the Rosenwald Foundation, aims at increasing literacy development in young children, starting at birth. Started in early 2020, and involving a collaboration with the UR OBGYN department, this project involves the creation of another website to disseminate materials and information to support reading and other literacy activities with babies, as well as an “All about Babies” app that will also include other information and guided activities involving health.

This year we continued to work at populating the dedicated [website](#) intended to complement the planned app by providing more in-depth information about early literacy and possible resources that families could benefit from - in addition to

launching a new initiative that involved supporting family bed-time reading with virtual “guest readers”. Development of the app continues to have been delayed due to COVID-19 demands on the Medical Center team.

8. **Online AP Music Theory course by Eastman**

PROJECT DESCRIPTION: The Eastman School of Music decided to design and offer a high-quality fully online AP Music Theory course for high school students, led by **Venturino.

Although **Stephanie Venturino left the UR for a faculty position at Yale University, the AP Music Theory course she designed with the support of *Miller and *Fredericksen in 2020 continued to be offered during the 2022-2023 academic year. A video-recording of Venturino sharing lessons learned from her experience designing and teaching this course was used as instructional material in the NYSED grant to support high school students' access to advanced courses.

9. **Exploring “Hy-flex”:**

PROJECT DESCRIPTION: The pandemic forced many schools and colleges to use “hy-flex” – that is, offering courses where some of the students attend classes in person while others join those classes virtually. Recognizing the importance of better understanding how to make the most of this new modality even after the pandemic, *Kristen Love is leading a series of initiatives to explore the potential as well as challenges of “hy-flex” for teaching. To date, this has included two UR IT mini-grants.

Two UR IT mini-grants (2022 & 2023) were awarded to explore more effective ways to deliver high-quality hy-flex courses (i.e., where some of the students attend in person and others via Zoom simultaneously in such sessions) and to share concrete strategies with other HE instructors. This year *Love has collaborate with the *Carson and *Borys in the implementation of a first Educational IT Innovation grant entitled “Personalizing the Hy-Flex Learning Experience”, involved an exploration of how to best use Hy-Flex in a few courses. *Love also applied for and was awarded a second Educational IT Innovation grant to continue this exploration in a few more courses at both the Warner School of Education and the Simon School of Business.

10. **TESOL online tutoring for refugees and immigrants:**

PROJECT DESCRIPTION: Funded by Mother Cabrini Health Foundation, this grant aims meet the basic needs of low-income immigrants and refugees, promote health, employment and education equity in Western NY through incorporating health, education and career contents into a Hy-Flex English language classes offered at workplaces. Multilingual education graduate students at Warner provided students in-person class (2-3 hours/week for 20 weeks). It also aim to provide a training site for Warner language education programs to implement Community-based pedagogies.

This project was just launched this year So far workplace English courses have been launched at two sites. The curriculum covered a wide range of topics, from essential everyday phrases needed in their daily lives to more comprehensive sessions like mock interviews and resume writing. Students greatly enjoyed our lessons, resulting in the formation of a positive learning community. Offering both onsite and online English teaching formats has given students the chance for flexible learning. this dual approach has greatly assisted

students in improving their English for work and daily conversation. The project has also presented a valuable teaching practice platform for preservice multilingual education teachers.

GOAL #1b – Increase the number of successful transformative LiDA initiatives, with a focus on preparing high-quality online and blended instructors

- New graduates from Warner LiDA advanced certificates: (still to be updated)** In this time period, ## students completed the Advanced Certificate in Online Teaching and ## students completed the Advanced Certificate in Digitally-rich Teaching in K-12 Schools (see our up to date [list of LiDA Advanced Certificate graduates](#))
- Courses on digitally-rich teaching:** High-quality training in blended and/or online teaching was provided through the following graduate courses taught at Warner (see [brief descriptions](#) for each of these LiDA courses), which were all initiated and/or (co)designed by LiDA staff - for a total of 497 semester credits of instruction in the 2022-23 academic year (# in parenthesis indicates the number of students enrolled in each course):
 - EDE410: Learning in the Digital Age (*Lammers) (not offered)
 - EDE420: Introduction to Video Production for Education Research (**Textor) (not offered this year)
 - EDE421: Introduction to Video Editing for Education Research (**Textor) (not offered this year)
 - EDU446: Entrepreneurial Skills for Educators (*Miller) (Su22=20; Sp23=9)
 - EDE470: Topics in Online Teaching (for UR faculty only) (**Brown) (not offered this year)
 - EDE472: UR Faculty Online Course Development (for UR faculty only) (*Fredericksen) and **Brown) (special offering for Simon faculty in June 2022) (Su22=9)
 - EDU481: Integrating English & Technology (Rosen+) (Su22=3)
 - ED482: Technology & Higher Education (*Fredericksen) (not offered this year)
 - EDU483: Integrating Mathematics & Technology (Rosen+*Borys) (Su22=0)
 - EDE484A: Digitally-Rich Teaching & Learning in K-12 Schools (*Borys) (F22=7)
 - EDE484: Online Teaching & Learning (Instructor: **Brown) (Su22=12; F22=9; Sp23=8)
 - EDE486: Designing Online Courses (*Fredericksen) (F22=10; Sp23=8)
 - EDU481: Integrating Science & Technology (Rosen+**Luehmann) (Su22=2)
 - EDF488: Online Teaching Practicum (*Fredericksen & **Brown) (Su22=2; F22=0; Sp23=4)
 - EDF490: K-12 Digitally-Rich Teaching Practicum (**M.Daley & *Miller) (~8 students for the year)
 - EDE492: Integrating Technology in Teaching Content Areas (Rosen) (Su22=4)
 - EDU497: Teaching & Learning in Higher Education & Health Care Settings (*Borasi & *Miller) (Su22=11; F22=29)
 - EDU499: Integrating Social Studies & Technology (Rosen) (Su22=1)
 - *EDE545x: Leadership Seminar in Digitally-Rich STEM Teaching (**Callard, **M. Daley & Kruger) (21 students for the year)
 - EDU581: Clinical Teaching in Health Care Professions Education: Teaching and Instructional Methods (*Fredericksen, Tara S., Lang) (Sp23=39)

NOTE: Noyce MTFs, who took the leadership seminar, contributed 63 of these credits (see Goal 1a, #3 for more information about these projects).

3. **Professional development [PD] for K-12 teachers:** This year, all the PD we offered was part of the newly awarded grants from NYSED, and included both programs to improve digitally-rich teaching and to begin the implementation of the NYS Computer Science and Digital Fluency standards released in December 2020:

- *(Strategic Initiative D)* **Computer Science strand of the WFL BOCES Smart Start grant (CS):**

PROJECT DESCRIPTION: This 5-year NYSED Smart Start grant was awarded in 2021 to the Wayne-Finger-Lakes (WFL) BOCES to better prepare K-8 teachers in their region to implement the new NYS Computer Science and Digital Fluency Standards for K-12 schools. Several rural and small city districts from this region are participating in this project. Each year up to 60 K-8 teachers from these districts are eligible to participate in the year-long fully online professional learning offered by this grant, and includes a 3-day-equivalent Summer Institute followed by two 2.5 Zoom sessions over the school year for all participants (for a total of about 24 PD hours), and additional work within a mentored Professional Learning Community (PLC) for Tier 2 teachers; all participants are also expected to create online materials based on their classroom implementations, to be publicly shared with other teachers on the [project website](#). WFL BOCES awarded a subcontract to the LiDA Center and the Center for Professional Development and Education Reform to design and deliver this professional learning. The Computer Science strand of this project is led by *Borasi and *Borys, and has involved *Miller, *Carson and other Warner doctoral students, graduates and Noyce Fellows.

In this second year of the grant, we have been able to essentially repeat the successful plan (see the [public description](#)) developed in year 1, and benefit from the cadre of mentors that served in year 1 (*Cynthia Carson, Michaela Marino, Seth O'Bryan, and Marie Rice) while also transferring leadership of the PD program to *Borys. The biggest challenge has been recruiting participants – a phenomenon experienced by all professional learning programs in the region. To address this challenge, we offered three “Kick-off Institutes” – one in May-June, one in July and one in October – and were able to recruit a total of about 30 participants. Online materials created by the participants can be found in the [project website](#) (created by Gordon Baxter, the program coordinator, with support from *Borys).

- *(Strategic Initiative F)* **Transforming Teaching with Technology (T3) - GST BOCES Smart Start grant:**

PROJECT DESCRIPTION: This 5-year NYSED Smart Start grant was awarded in 2021 to the Greater Southern Tier (GST) BOCES to better prepare K-8 teachers in their region to leverage technology in their teaching. Several rural and small city districts from this historically under-served region are participating in this project. Each year up to 60 K-8 teachers from

these districts are eligible to participate in the year-long fully online professional learning offered by this grant, which is equivalent to 30 hours of PD and includes a 3-day-equivalent Summer Institute, followed by monthly Zoom meetings and support from a mentor, and culminating in the creation of online materials to be publicly shared with other teachers. GST BOCES awarded a subcontract to the LiDA Center and the Center for Professional Development and Education Reform to design and deliver this professional learning. This project is led by *Borasi, *Borys, *Miller and *Carson.

In this second year of the grant, we have experienced major challenges recruiting participants – as only 11 teachers attended the program, despite offering two additional sessions on the “Kick-off Institute” (one in October and one in January-February, in addition to the originally planned August Summer Institute), and substituting most project-wide follow-up Zoom meetings with PLC meetings (which would be easier to schedule at the participants' convenience). Leadership for this PD program was assumed by *Carson, supported by **Tiffany LaPrade, **Kim Saccardi, **Heather Boyle, and **Keirah Comstock as PLC mentors (benefitting from the experience they developed in year 1 in this role). Except for holding Zoom follow-up meeting in PLCs rather than project-wide, the program remained essentially the same as what we implemented in the first year (see [public description](#)). The online materials prepared by participants can be found in the [GST Smart Start website](#).

- *(Strategic Initiative F) **Re-Imagined and Systemic Educational Transformation through Technology (RESET) - GST BOCES Learning Technology grant***

PROJECT DESCRIPTION: This 3-year NYSED Learning Technology grant was awarded in late 2021 to the Greater Southern Tier (GST) BOCES to better prepare high-school teachers (grades 9-12) in their region to leverage technology in their teaching. Several rural and small city districts from this historically under-served region are participating in this project. Unlike the Smart Start grants, this grant supports a “system-change” project, so a key component is the development of teacher leaders to lead and sustain efforts to leverage technology to improve teaching, in addition to offering a year-long fully online professional learning program (equivalent to about 30 PF hours) to other teachers. Therefore, each year of the project has a different design (see a description of the [original plan](#) submitted as part of our original application). GST BOCES awarded a subcontract to the LiDA Center and the Center for Professional Development and Education Reform to design and deliver all the professional learning offered by this grant. This project is led by *Borasi, with other members of the project team including LiDA staff *Borys and *Miller, Center staff **Michael Occhino, Kelly Pearson, Marla Iverson, and **Cindy Callard, and Warner faculty Valerie Marsh and Kevin Meuwissen. The original design for this grant had to be significantly revised this year due to challenges in recruiting participants, and districts other than Elmira deciding to withdraw as a result. It was decided to focus Year 2 of the project on continuing the development of teacher leaders – consisting of 6 of the 9 teachers who joined in Year 1, plus 4 additional teachers. This included a 3-day equivalent “Kickoff Institute” for the new teachers, followed by monthly Zoom meetings in PLCs and one-on-one coaching for all classroom teachers

in the group, as well as a final "Showcase" virtual event. The online materials prepared by participants can be found in the [RESET website](#). This year we also were requested to redesign the plan for Year 3, which now will involve just another 8-10 new teachers, working alongside with 6 teacher leaders (who participated in the programming previous years), as well as meetings with administrators to develop a sustainability plan that will build on the capacity developed by this project.

- ***(Strategic Initiative F) Increasing Advanced Courses Access for High School Students (ACA) - w/GST BOCES***

PROJECT DESCRIPTION: Although the proposal for this 2-year project was submitted before the beginning of the pandemic, NYSED awards for this project were not announced until late 2021. This grant, awarded to the Greater Southern Tier (GST) BOCES, is intended to support collaborative efforts across school districts in the region to offer greater opportunities to their high school students to attend AP, IB and dual credit courses by offering them online and allowing students to attend courses that may be offered by a different school district. GST BOCES awarded a subcontract to the LiDA Center and the Center for Professional Development and Education Reform to design and deliver all the [professional learning program](#) offered by this grant, which is all offered online and includes a 3-day equivalent "Kickoff Institute" about designing and facilitating online courses, a 2.5 hour Follow-up PD while participants are implementing their online advanced courses, as well as a series of 1-hour Zoom "Touch-Points" to provide opportunities for sharing and discussion. This project is led by *Borasi, *Borys and *Miller, and also involves as small group facilitators **Occhino (from the Center for Professional Development and Education Reform), and two Warner graduates from the Advanced Certificate in Online Teaching - **Nick Lind and **Nikki Weaver. The plan for the second and final year for this project was adapted to serve both the 9 teachers who participated in Year 1 and 5 new teachers, along with some "touch-base" meetings open to all teachers and site coordinators. A 3-day equivalent online Summer Institute was offered to the new participants. A 2.5-hour Zoom PD and four 1-hour "touch-base" Zoom sessions were also open to all teachers and site coordinators throughout the year.

4. **Professional development [PD] for higher education [HE] instructors:**

- *(Strategic Initiative F)* More than 38 free 1-hour workshops were offered by *Fredericksen and **Brown (each attended by 15-30 UR faculty and staff) throughout the year - see complete lists for: [Summer and Fall 2022](#), [Spring 2023](#)

5. **Noyce Digitally-Rich Scholarship grant project:**

PROJECT DESCRIPTION: This 5-year \$1.2M grant from the National Science Foundation [NSF] provides full scholarships to a total of 29 pre-service math and science teachers who also complete

an Advanced Certificate in Digitally-Rich Teaching in K-12 Schools and commit to teach for at least two years in high-need schools after graduation. This project ([see brief description](#)) was launched in Spring 2018; the leadership team includes Choppin (as PI), *Borasi, *Borys, **M.Daley, and *Miller. As of now, a total 25 scholarships have been awarded, 17 students have graduated and 19 are currently teaching in high need schools. We have requested a 1-year no-cost extension to award the remaining scholarship.

GOAL #1c – Increase the number of successful transformative LiDA initiatives, with a focus on influencing educational leaders' decision-making about digitally-rich innovations

1. PD for K-12 school leaders:

- A two-part Zoom conversation on “online professional learning” was held with representatives of the K-12 Digital Consortium districts, and recordings for each session ([January 11](#) and [January 31](#)) were posted on the Consortium website.
 - A half-day in-person retreat for leaders within K-12 Digital Consortium was also organized and held on May 24- involving over 50 participants from 18 consortium districts (see [Session Navigator](#) for an agenda links to selected artifacts).
-

GOAL #2a. Advance LiDA scholarship, with a focus on studying transformative uses of technology for teaching and learning

1. Scholarship around the consequences and implications of the pandemic for K-12 schools (Strategic Initiative F):

- Over the past year, *Miller has continued to collect information about long-term implications on the pandemic for K-12 schools through Zoom conversations with school leaders
- *Borasi, *Miller, and *Han are analyzing data collected from interviews with 78 high school students about their experiences during the pandemic, towards a publications for K-12 school leaders about the need to prepare future high school graduates to be effective online learners

- *Borys and *Carson are working on a manuscript, co-authored with **Cindy Callard, Nicole Charles, and Angela Messenger about changes in their teacher leadership from their involvement with the Noyce MTF DR program. We expect to generate one more manuscript from this project as well.

2. **Scholarship around the consequences and implications of the pandemic for higher education** (*Strategic Initiative F*):

- During this unique time period, *Fredericksen has continued to conduct studies of the online learning experiences of graduate and undergraduate students at the University. The specific study in Spring 2023 focused on the faculty and student experiences related to an Educational IT Innovation grant project with Harmonize, a new online, multimedia interaction tool.

3. **CHLOE Report:**

PROJECT DESCRIPTION: *Fredericksen has been one of the author of the annual report on the state of online education in higher education since 2018, and builds on his national studies of online learning leadership in US Higher Education in 2016 and 2017.

The Changing Landscape of Online Education (CHLOE) 7 report was published in Summer 2022 and covered widely in the higher education press and media and was followed by several national presentations that bring unique visibility to our institution. The CHLOE8 study started collecting data in January 2023 and is currently in the data analysis phase. It will be released to the public in August 2023.

4. **Future of Work at the Human-Technology Frontier projects** (*Strategic Initiative D*):

- **Mini-grant on Automatic Rendering of Augmented Effects in Immersive Concerts:**

PROJECT DESCRIPTION: This 1-year \$20,000 mini-grant was awarded by the Goergen Institute for Data Science to develop a prototype solution to help musicians be more self-sufficient in creating and delivering "immersive concerts" - where listening to music is augmented by other media such as text, lighting, images, animations, sounds, vibration, water fountain and robot movements, provide audiences with holistic aesthetic experiences. The key to creating successful immersive experiences is to coordinate the music precisely with the multimedia. Up to date, this is achieved in real time either by employing a conductor to ensure that the music follows the other media or by requiring an operator to manually trigger the multi-media events to follow the music in real time. Both strategies limit the complexity of these augmented experiences and constrain many small artist groups who cannot afford to hire conductors and operators for their concerts. The project develop a prototype of a computational system to automate the coordination between the music played on stage and the prescribed media, and also study the

process as an example of artist-technologist collaboration. The project team includes Zhiyao Duan (Computer & Electrical Engineering; PI), Matthew Brown (Eastman, co-PI), Borasi (Warner, co-PI), Chris Winders and Christos Benetados.

This project, started in November 2021, was concluded this year, culminating with a presentation at the Frameless conference in November 2022. A prototype of the proposed system was successfully created and demoed both with students in Brown's class and at the Frameless conference. For more information, see the [write-up](#) prepared for the Frameless conference.

- **Developing UR Capacity to Competitively Engage in Future of Work Projects**

PROJECT DESCRIPTION: Recognizing the importance of Future of Work projects for the future of the UR (and other higher education institutions), this project aims to develop interdisciplinary teams of faculty and staff across the UR that will work together to develop the needed cross-disciplinary expertise to collaboratively pursue external funding opportunities around implications of artificial intelligence (AI) and other new technologies for the preparation of future workforces. The project has been supported to date by a \$40,000 mini-grant from the Warner School as well as additional funding from the Goergen Institute for Data Science and the Ain Center for Entrepreneurship.

The five Working Groups launched in 2021 (Arts, Humanities, Health Care, Climate Economy and Higher Education Student Services) continued to work during this year in different ways. The Arts group essentially reconstituted itself as the project team for the awarded NSF research grant on music and AI (TEAMuP). A subgroup also worked on the previously mentioned GIDS mini-grant on "Automatic Rendering of Augmented Effects in Immersive Concerts". The Humanities group, under the leadership of Jonathan Herington, worked on and submitted a \$400,000 grant proposal to the NSF Innovations in University STEM Education (IUSE) program around [leveraging ChatGPT in College STEM Writing classes](#), which was submitted in January 2023 and unfortunately denied; they also launched a Study Group on ChatGPT implications for college writing courses, which has been meeting every other week. The Health Care group has been reconstituted under the leadership of **Peyre, and has begun to identify possible areas of focus in collaboration with the UR Health Lab. The Climate Economy group, under the leadership of **Daley, completed their analysis of opportunities in that area, and concluded that there were none worth pursuing at the moment. The Higher Education Student Services group, under the leadership of *Borasi, has engaged in a set of interviews with student services staff at the UR, and also submitted a proposal for a \$1.8M research project about

"Leveraging Large Language Models for Higher Education Admissions", which was submitted to NSF Future of Work at the Human-Technology Frontier program in March 2023 (and is still pending). Although a working group on Optics was never formally launched as part of the mini-grant, in Fall 2022 Nick Vamivakas led a large interdisciplinary group of UR faculty (which included *Borasi, *Miller and *Luehmann) in preparing a pre-proposal for an NSF Engineering Research Center focused on applications of Augmented Reality; while this proposal was declined, several of the interdisciplinary research ideas that were generated may be pursued for other grant opportunities. A 2-hour [touch-base event](#) was held in Fall 2022 to share progress made and lessons learned across working groups.

- **NSF Proposal on Cybersecurity Education**

PROJECT DESCRIPTION: The main goal of this project is to leverage the collaboration between cybersecurity experts and LiDA Center staff to develop two parallel yet interrelated innovative professional learning programs for Cybersecurity Analysts and Cybersecurity Engineers, respectively, to develop the needed mindset, knowledge, and skills to effectively develop and use AI/ML in their work, while also promoting life-long collaboration between these two professions.

*Miller, *Borasi and *Borys have partnered with RIT faculty Jay Yang and Justin Pelletier to prepare an [NSF grant proposal](#) to support the development of the program described above, which was submitted in May 2022 but was only recently awarded. Work on this project will start in Summer 2023.

5. **Study of new technology-rich post-secondary options and factors affecting their adoption** (*Strategic Initiative F*)

PROJECT DESCRIPTION: A team of faculty from RIT College of Business and the UR Warner School of Education (*Borasi, *Miller, Harris and Rubenstein) have come together under Richard DeMartino's leadership to better understand the new post-secondary education options currently available given the advances in online teaching technologies, along with the factors affecting their adoption. The team is also exploring how the situation may have been changed due to how high school students experienced online learning during the pandemic.

The team has continued to work on the \$100,000 grant awarded by the Charles Koch Foundation to RIT in February 2021 to conduct a pilot study (titled "Moving Towards the Tipping Point: Exploring Shifting Demands for New Higher Education Approaches Post-COVID-19") focusing on secondary students and their influencers' perceptions about alternatives to traditional college (and the changes that may have occurred due to the pandemic), with special attention to how this may affect their post-secondary education decisions (see excerpts from the [proposal](#) for more detail) has continued this year. The 90+ interviews with

students and their influencers from various schools serving a high percentage of disadvantaged students - East, Greece Arcadia, Honeoye, some BOCES programs, The Eagle Academy program in New York City, and also a group of home-schoolers – were analyzed to identify key themes and lessons learned. A first presentation to the Charles Koch Foundation, highlighting key results from this study, was made in April 2023, and the team is working on several other publications and presentations.

6. Implications of machine learning for scientific inquiry and science education:

PROJECT DESCRIPTION: Since early 2019, *Borasi, *Miller, and **M.Daley have collaborated with Computer Science faculty **Zhen Bai to explore how machine learning may provide new ways to generate as well as to test hypotheses as part of scientific inquiry – and the implications this may have for how we teach about scientific inquiry in schools and college. This work is intended to leverage and complement ML-powered learning environments **Bai has been developing to make the use of machine learning more accessible to students with limited math and coding background.

The revised proposal submitted last year for a 2-year \$300K [EAGER grant](#) to the NSF program on “Research on Emerging Technologies for Teaching and Learning” (RETTL) was awarded, with a starting date of July 2022. The team has been developing a first version of the prototype of a software that will enable students and teachers to leverage machine learning algorithms for clustering in scientific inquiries.

7. Case Study of the East Irondequoit digital conversion.

PROJECT DESCRIPTION: The East Irondequoit Central School District has been a pioneer in the Rochester region, since it started its journey towards digital conversion in 2012 under the leadership of Superintendent Susan Allen and Chief Information Officer Joe Sutorius. The LiDA Center has committed to conduct a case study of this experience, as a way to document key decisions made, challenges encountered, and lessons learned that could benefit other districts embarking in similar 1:1 initiatives.

*Borys and *Carson have proposed a contribution to a book on teacher leadership that will focus on the “problem of practice” activity some East Irondequoit teacher leaders who are also MTF fellows have been engaging in.

8. LiDA-related doctoral dissertations:

In this section we are listed all “active” UR Ph.D./Ed.D. dissertations on topics related to LiDA, where either the student is part of the LiDA community, or at least a member of the dissertation committee is a LiDA staff or LiDA community member:

- Aliedim, Riham, *Can We Walk a Mile in Our Patients' Shoes? A Mixed Methods Study on the Educational Potential of Immersive Virtual Reality in Empathy Training for Medical Students* (committee: **Peyre [co-chair], *Borasi [co-chair], DeAngelis, Nofziger) - dissertation defended in Fall 2022
- *Borys, Zenon, *Teachers' Curriculum Practices in the Digital Age* (committee: Choppin [chair], Hursh, Otten) - proposal defended in 2019; data collection and analysis completed; expected to defend in summer 2023.
- **Carson, Cynthia, *Coaching from a Distance: Exploring Coaching Practices of Video-based Online Coaches* (committee: Choppin [chair], Luehman, Roth-McDuffie) - proposal defended in 2019; data collection and analysis completed, dissertation to be defended in Summer 2023.
- **Comstock, Keirah, *ESOL Teachers' Technology Integration While Working with ITLs* (committee: *Lammers [chair], Ares, Nogueron-Liu - UC Boulder) - proposal defended
- Duan, Xueyan, *Investigating language learning opportunities provided by out-of-school online EFL courses for Chinese K-12 students* (committee: *Borasi [chair], Shang-Butler, Osburgh) - dissertation defended in Fall 2022
- **Textor, Kristana, *Motivation and Minecraft: A Mixed Methods Study on Digital Recreations of College Campuses During the Covid-19 Pandemic* (committee: *Lammers [chair])
- Buholtz, Kim. *A Program Evaluation of the University of Rochester Medical Center Simulation for Operating Room Safety Program* (committee: Kawakyu-O'Connor, **Peyre, *Miller) - proposal defended 10-02-2020.
- Herbert, Paul. *Using Augmented Reality to Enhance Learning and Motivation for Anatomy Students* (committee: *Borasi, *Luehmann, Burke) - proposal defended in May 2023
- Zhang, Yadi. *Title* (committee: *Shang-Butler, *Borasi, Ting Zhang) - working on the proposal

GOAL #2b. Advance LiDA scholarship, with a focus on leveraging digital technologies to more effectively disseminate new knowledge

9. **LiDA Center website** (part of Strategic Initiative B):

- **On-going posting on the redesigned [LiDA Colloquium Series](#) page:** Selected recordings and other online materials from each LiDA Colloquium have continued to be posted on the LiDA website, as a way to enable interested people to benefit from these events even when they may not have been able to attend the live session.

10. “Entrepreneurial Skills for Educators” Open Education Resources (OER) project:

PROJECT DESCRIPTION: A mini-grant from the UR Libraries is supporting the creation of a set of Open Education Resources (OER) for “Entrepreneurial Skills for Educators,” and course designed and taught by *Borasi and *Miller. This set of OER resources will include at its core an open-access and updated version of the manuscript created as part of an Entrepreneurship Education grant funded by the Kauffman Foundation in 2004, that students could use and also contribute to for specific sections. It will also include a companion website for course instructors who may want to access more information about the design of possible assignments as well as other resources. See this [excerpt from the proposal](#) for more details.

Informed by pilots conducted in Summer 2022 and Spring 2023, the final version of the [Pressbook](#) has been completed and will be made public in May 2023. We have also been working on a companion website, which we expect to complete in Summer 2023.

11. Teachers' online materials created from the NYSED Smart Start grants:

Building on the format created last year to report on “[lessons learned](#)” by MTF2 fellows during the pandemic (supported by the supplement received from NSF), we develop and implement a format to help participants in the NYSED Smart Start grants create online materials that could be inspirational and useful for other teachers - as illustrated in the websites created for each of these grants:

- [Computer Science - WFL BOCES Smart Start grant website](#)
- [T3 - GST BOCES Smart Start grant website](#)
- [RESET](#)

12. Other innovative dissemination products:

- Online materials about “[Leveraging Online Technologies for Professional Learning](#)” created based on the January 2023 Zoom Conversations on this theme among representatives of the K-12 Digital Consortium, and posted on the K-12 Digital Consortium website.

GOAL #2c. Advance LiDA scholarship, with a focus on developing research methodologies to effectively and ethically make use of digital data

1. Developing research methods to study learning in online spaces

PROJECT DESCRIPTION: *Lammers, along with other colleagues and Warner students, has been working on identifying methodological and ethical issues presented by conducting educational research in online spaces, and also offering some solutions and research innovations.

Nothing to report

GOAL #3. Achieve visibility for LiDA Center's work

1. Awards and other recognitions:

- *Borasi is continuing to serve on a university-wide committee developing a proposal for a new Ph.D. in Data Science

2. Publications, presentations and internet presence:

- This year, LiDA staff have produced a total of # publications and # presentations; in addition to those listed elsewhere in this annual report, these also included:
 - **Borays, Z.** (2022). *Moving Professional Learning Online: Features of High-Quality Remote Professional Development* (NYSCATE 2022)
 - **Borasi, R.** (2022). *High-Leverage Teaching Practices to Succeed in Remote and Online Teaching*. (NYSCATE 2022)
 - **Han, Y. J.** (Apr 30, 2023). *Exploring artificial intelligence (GPT-4) in TESOL: How the field should be ready* [Workshop]. Korea TESOL International Conference & PAC2023, Seoul, Korea.
 - **Han, Y. J.** (Apr 29, 2023). *Asset-enriching pedagogy for Interest-driven language learning: Tapping into students' fannishness* [Individual paper session]. Korea TESOL International Conference & PAC2023, Seoul, Korea.
 - **Han, Y. J.** (Mar 21, 2023). *ELT classroom as affinity space: Designing an interest-driven learning space* [Individual paper session]. American Association for Applied Linguistics 2023 Conference, Portland, OR.
 - **Han, Y. J., & Gong, Y.** (Mar 4, 2023) *Progress or Crisis?: Generative AI and Its Impacts on Academic Writing* [Workshop]. The 44th NYS TESOL Annual Applied Linguistics Winter Conference, New York, NY.

- Garrett, R., Simunich, B., Legon, R., & **Fredericksen, E.** (2022). CHLOE 7: Tracking Online Learning from Mainstream Acceptance to Universal Adoption, The Changing Landscape of Online Education, 2022.
- **Fredericksen, E.** (2022) The Future of U.S. Higher Education with Online Learning—Two Steps Forward or One Step Back? The EvoLLution. (August 9, 2022) https://evollution.com/programming/program_planning/the-future-of-u-s-higher-education-with-online-learning-two-steps-forward-or-one-step-back/
- **LiDA Center website:** Between May 1, 2021 and April 30, 2022, website traffic included 3037 unique users for 4279 sessions and 7648 page views.
- **K12digital.org:** Between May 1, 2021 and April 30, 2022, website traffic included 134 unique users for 161 sessions with 554 page views.

3. LiDA staff's participation in conferences and events:

- 2022-23 NSF virtual PI meeting for the *Future of Work at the Human-Technology Frontier* (*Borasi)
- 2022 NYSCATE conference (*Borasi; *Borys)
- 2022 AMTNYS Conference (*Carson, O'Brien)
- 2022 OLC Accelerate (*Fredericksen)
- CHLOE Executive Briefings - July 2022 (*Fredericksen)
- EDUCAUSE Webinar – February 2023 (*Fredericksen)
- 2021 Literacy Research Association (Lammers)
- 2022 CHLOE Executive briefings (*Fredericksen)
- 2022 DSPSA Conference (organized by the Warner Student Association) (*Borys; *Carson)
- 2022 National Council of Teachers of English - Assembly for Research (Lammers)
- 2022 American Educational Research Association (Lammers; King)
- 2022 New York State Association of Teacher Educators (King)
- 2022 New York State Association of Foreign Language Teachers (King)
- 2022 American Council on the Teaching of Foreign Languages (King)
- 2022 Association of Mathematics Teachers of New York State (Carson)
- 2022 National Council of Supervisors of Mathematics (Callard, Carson)
- 2023 National Association for Bilingual Education (King)
- 2023 American Educational Research Association (King)

- 2023 New York State TESOL Annual Applied Linguistics Winter Conference (Han)

4. **Contributions to increasing the LiDA Center's visibility within the University of Rochester:**

- In his role as **Associate Vice-President of Online Learning** for the entire university, *Fredericksen organized a Symposium on November 4, 2022, where four UR faculty shared their experiences with online teaching (*Dr. Nahoko Kawakyu-O'Connor, Assistant Professor, Director of Program Evaluation, Warner Graduate School of Education and Human Development, Dr. Michael Rosario-McCabe, Assistant Professor of Clinical Nursing, Director of RN-BS Completion Program School of Nursing, Dr. Michael Anderson, Professor and Chair of Musicology, Eastman School of Music, Daniel Keating, Senior Lecturer in Computer Science, Simon School of Business*). Video recordings of each of these presentations are available at <https://www.rochester.edu/online-learning/symposium/index.html>
- The 6 LiDA Colloquia offered this year were advertised across the University of Rochester through @rochester (the UR daily e-newsletter).
- The Future of Work UR Capacity Building project and TEAMuP grant, led by LiDA Director Borasi, when combined involved over 30 team members across the University, with representatives from Eastman School of Music, College of Arts, Science and Engineering, Medical Center, Georgen Institute of Data Science, Ain Institute for Entrepreneurship, and Greene Center for Career Education and Connections.

5. **Contributions to increasing the LiDA Center's visibility in the region:**

- LiDA Colloquia
- The two presentations at the 2022 NYSCATE conference, held in Rochester, have increased the visibility of our work in the region
- K-12 Digital Consortium May 24, 2023 event

6. **Contributions to increasing the LiDA Center's visibility nationally and internationally:**

- *Fredericksen is serving as Associate Editor of the Online Learning Journal, a top research publication in the field of online education. (Sept. 2020)
- *Fredericksen continued to serve on the Board of Directors of OLC, the Online Learning Consortium, the premiere national organization focused on online learning.
- *Fredericksen is serving on the OLC Fellows Selection Committee, the highest level of individual recognition for the OLC organization

7. **LiDA Communication Plan** (*Strategic Initiative B*): Working on a major update of the LiDA Center website, as well as a social media plan.
-

GOAL #4. Create a vibrant and collaborative "LiDA Community"

- **LiDA Colloquium Series**

PROJECT DESCRIPTION: Featured LiDA program aiming at creating opportunities for sharing and dialogue about topics related to learning in the digital age for educators across fields.

This year, we chose to focus the LiDA Colloquium Series mostly on the very current theme of implications of AI for education (see <https://www.rochester.edu/warner/lida/programs/lida-colloquium-series/> for recording of the conversation starters for each of these sessions):

- **Fall 2022 season:** During the Fall 2022 season, a total of 102 people registered and 79 attended the following sessions.
 - *LiDA Projects Showcase and Connections*
 - *Rethinking Professional Learning in the Digital Age*
 - *Managing and Leveraging Technology to Support Socio-emotional Learning*
- **Spring 2023 season:** During the Spring 2023 season, 128 people registered and 99 attended the following sessions.
 - *Promises and Perils of AI-generated Texts for Education*
 - *Using AI-tools to Support Students Outside of Courses*
 - *Online Tutoring: New Opportunities, Challenges and Solutions*

- **Growth in LiDA community members:** Reached a total of 45 current members (as listed in the [LiDA Community page](#) on the LiDa website).
- **Active LiDA Working Groups this year:** The following working groups (and individuals identified in parenthesis) have been meeting regularly and/or working on unfunded collaborative projects over the current year:
 - **AI & Education** (*led by *Borasi, and including *Borys; *Carson; *Miller; *Han; Raschid; Gama, Yamin Zhang; *King; *Love*): Since January 2022, this team has

met weekly to work towards the NSF grant proposal described under goal #2a.4.

- **AI/GPT Study Group** (led by *Han & **Gong, and including *Borasi, Gama, Raschid, *Yamin Zheng) This is a study group that aims to create hands-on experiences and discussions on emerging generative AI applications. The group meets three times each semester to keep knowledge up-to-date.
 - **Data Visualization Study Group (led by Han & Zhang):** Since Oct. 2022, this doctoral student-led study group has been meeting weekly to work towards the qualitative/quantitative data visualization certification.
 - **Other on-going active collaborations:** The following existing collaborations were maintained and/or expanded:
 - **Ain Center for Entrepreneurship - Romania Fellowship program:** *Borasi and * Miller have continued to support the Ain Center's project of hosting a group of Romanian faculty members in Rochester for a semester to learn from current initiatives related to entrepreneurship, by sharing lessons learned about teaching online as well as launching new university programs; this year this involved a new group of Fellows, 4 in Spring 2023.
 - **WFL BOCES:** We worked closely with Gordon Baxter for the recruitment of the Computer Science strand of the Smart Start grant awarded to BOCES, and plan to continue to collaborate for the implementation of the new Computer Science Standards.
 - **GST BOCES:** In addition to working with the coordinators of the three NYSED PD grant writers for recruitment and redesign of these projects' PD programs, we also collaborated around the recruitment of fellows for the new Noyce MTF BeAJEDI grant.
 - **Dr. Cesare Wright** (President of the Kino-Eye Center for Visual Innovation) has participated in the design and implementation of a section of the Computer Science Summer Institute, and continues this collaboration in Year 2 of the project. We also continue to explore other potential collaborations.
 - **[Warner's Doctoral Student Peer Support Association \(DSPSA\)](#)** (a self-organized student group for Warner doctoral students): *Borys has continued to be our liaison to this group.
 - **New collaborations:** New collaborations were explored with the following individuals/groups:
 - Meghan Plate, in her new position with UR Health Lab, has facilitated visits from Egyptian doctors that visited in Fall 2022
-

GOAL #5. Assure the resources needed to sustain and expand the Center's work and its impact

1. New LiDA staff positions:

- **Yu Jung Han**, after her Ph.D. graduation in May 2022, has join the LiDA Center in a part-time position as "Research Assistant" for the 2022-23 academic year; she has also just accepted a renewable post-doc position with LiDA for the 2023-24 academic year – the first post-doc position for LiDA.

2. Piloting the new LiDA Affiliated Faculty role: This year we piloted the role of LiDA Affiliated Faculty, as described in [this document](#), with Warner faculty Nathan Harris, Nicole King, Kristen Love, April Luehmann, Scott McGuinness, Hairong Shang-Butler, and Carol St.George.

3. Partnership with the Center for Professional Development and Education Reform: The LiDA Center and the Center for Professional Development and Education Reform (CPDED) have continued to partner in the professional development grants from NYSED as well as the two active NSF-funded Noyce Master Teaching Fellowship (MTF) grants.

4. LiDA Center staff working on unfunded infrastructure and core initiatives:

- LiDA Director (R. Borasi): 10% FTE
- LiDA Associate Director for Higher Education (E.Fredericksen): 5% FTE
- LiDA Associate Director for K-12 Education (D. Miller): ~10% FTE
- LiDA Assistant Director (Z.Borys): ~30% FTE
- LiDA Associate (C.Carson): 5% FTE
- LiDA Research Assistant (Yu Jung Han): ~30% FTE
- Additional RA support:
 - Elham Tajik: ~12% FTE (5 hours/week)
 - Mamunur Raschid: : ~25% FTE (10 hours/week)
 - Adma Gama: ~12% FTE (5 hours/week)

5. Personnel working on funded LiDA-related initiatives:

- **LiDA Staff & RAs:**
 - *Borasi: 12% FTE on Noyce MTF-DR grant; 10% on Noyce MTF BeAJEDI grant; 6% FTE on Future of Work TEAMup grant; 3% FTE on Moskowitz Foundation grants; 2% FTE on EAGER grant; + NYSED PD sub-contracts (*covered in summer*); + co-teaching 2 LiDA courses, directing HPE program, supervising LiDA dissertations & research (*covered by Warner*)
 - *Fredericksen (*besides his role as Associate Vice-President for Online Learning for the University, covering 80% of his time*): 5% FTE on supporting online teaching at Warner + teaching LiDA courses & supervising online teaching practicum, directing Online Teaching program, supervising LiDA dissertations & research (*all covered by Warner*)
 - *Miller: 10% FTE on Noyce MTF-DR grant; 6% FTE on Future of Work TEAMup grant; 2% on NYSED PD sub-contracts + teaching 2 LiDA courses & some digitally-rich practicum supervision, directing Digitally-Rich Teaching program & program advisor for Digitally-Rich Teaching and Online Teaching programs + HPE, supervising LiDA dissertations & research (*covered by Warner*)
 - *Borys: 20% FTE on Noyce MTD-DR grant; 10% on Noyce MTF BeAJEDI grant; 6% FTE on Future of Work TEAMup grant; 13% on NYSED PD sub-contracts; + Teaching some LiDA course (*covered by Warner*)
 - *Carson: 10% on NYSED PD sub-contracts; 15% on Noyce MTD-DR grant; 40% on SYNC-ON 2
 - *Han: ~10% FTE on Moskowitz projects
 - Mamunur Raschid: ~5% FTE on Moskowitz projects (Spring only)
 - **Anlun Wang (RA): ~5% FTE on Moskowitz projects (Fall only)
 - Elham Tajik (RA): ~10% FTE on UR Capacity Building project
- **Other personnel :**
 - **Lisa Brown: Teaching 3 LiDA courses & online teaching practicum (*covered by Warner*)
 - **Callard (Center for Professional Development and Education Reform - CPDER) : on Noyce MTD-DR and BeAJEDI grant
 - Jeff Choppin: on Noyce Scholarship grant
 - **Daley (CPDER): on Noyce MTF-DR & BeAJEDI grants & two Noyce Track 4 grants;
 - **Luehmann: on Noyce Scholarship grant; COVID-19 unit grants from NSF
 - **Occhino: on Noyce MTF-DR & BeAJEDI grants
 - **Melissa Staloff: on Noyce MTF-DR & BeAJEDI grants
 - **Jen Kruger: on MTF-DR & BeAJEDI grants
 - Kelly Pearson: MTF-DR & BeAJEDI grants + RESET & T3 Smart Start grant
 - **St.George: on Moskowitz projects

- Valerie Marsh: RESET grant
- Kevin Meuwissen: RESET grant
- Irene: on MTF-DR & BeAJEDI grants

Faculty and staff outside of Warner:

6. Free lancers: This year, our sub-contracts on the four NYSED professional development grants have allowed us to begin to develop a cadre of free-lancers to help sustain and expand LiDA's professional development services for K-12 schools; the following individuals have participated as mentors in one or more of the PDs offered this year:

- Heather Boyle (*full-time elementary teacher & former Warner doctoral student*)
- Keirah Comstock (*ESOL teacher and coach & current Warner doctoral student and currently an)*
- Tiffany LaPrade (*full-time elementary teacher & MTF2 graduate*)
- Michaela Marino (*full-time middle school math teacher & MTF2 graduate*)
- Seth O'Bryan (*full-time STEM teacher & current Warner doctoral student*)
- Marie Rice (*full-time Kindergarten teacher, MTF2 graduate & Warner doctoral graduate*)
- Kim Saccardi (*full-time elementary teacher & MTF2 graduate*)
- Nikki Weaver (*ELA faculty member, Warner doctoral graduate & former ELA high school teacher*)
- Angela Messenger (*full-time STEM teacher & current MTFDR Fellow*)
- Fred Young (*full-time STEM teacher & current MTFDR Fellow*)

7. Gifts secured to support the LiDA Center's infrastructure and unfunded core initiatives: A total of about \$95,000 in gifts has been received to date during the 2022-23 fiscal year to date, including contribution directed to support the following core initiatives and positions:

- Support for the LiDA Assistant Director position
- Support for the pilot of the LiDA post-doc position in 2023-24
- Support for the LiDA Colloquium Series
- General support for the LiDA Center's infrastructure and unfunded initiatives

8. New grants and contracts awarded:

- NYSED: The CS Smart Start, T3 Smart Start and RESET NYSED grants have all been renewed for Year 3, although somewhat reduced in some cases due to recruitment challenges, for a total of about ~\$150,000 funding for the LiDA Center for next year

- NSF EAGER grant - ~\$300,000 for a 2-year period starting summer 2022
- Noyce MTF BeAJEDI - \$3,000,000 for the period 10/01/2022 – 9/30/2027
- NSF Future of Work TEAMuP - \$1,800,000 for the period 10/01/2022 – 9/30/2026
- Fulbright Distinguished Awards in Teaching (DAI) for Cultural, Pedagogical, and Linguistic Exchange (\$230,000) - accepted - to be implemented 8/15/2023-12/11/2023

9. **New grant proposals submitted** (and their status):

- NSF IUSE proposal for leveraging ChatGPT in College STEM Writing courses (IWRITE - \$400K) – *submitted January 2023; declined*
- NSF Future of Work for “Leveraging Language Models for Higher Education Admissions” (\$1.8M) - *submitted March 2023; PENDING*
- NSF: Cybersecurity Education (~\$500,000 total) - *submitted May 2022; awarded May 2023*
- NSF Concept Outlines for a special call for 1-year (\$200,000) research projects on AI and K-12 Education:
 - *Understanding and Supporting K-12 School Leaders’ AI-related Decision-making (PIs: *Dave Miller; Karen DeAngelis; Patricia Vaughan-Brogan, Jonathan Herington; Sharon Mason) (invited to submit a full RAPID proposal for ~\$200,000)*
 - *Using Generative AI to Learn the Language of STEM in Secondary Classrooms (PIs: *Nicole King; Kristen Love; Raffaella Borasi, April Luehmann) (invited to submit a full RAPID proposal for ~\$200,000)*
 - *Exploring Teachers’ Openness to Rethinking STEM Assessment Practices in the Age of ChatGPT (declined)*

10. **Developing Warner doctoral students’ capacity** (*Strategic Initiative E*):

- **Erqian Xu and Qinqin Xiao completed both their Advanced Certificate in Data Science and the special NSF-funded training program in AR/VR
- Yunfan Gong has been accepted and has started both the Advanced Certificate in Data Science and the special NSF-funded training program in AR/VR
- Yamin Zheng has been accepted in the Advanced Certificate in Data Science and will start this program in summer 2023
- Elham Tajik, Adma Gama, Mamunur Raschid, and Yamin Zheng have participated in the process of putting together the NSF Future of Work new proposal
- Two newly admitted Warner doctoral students, Mamunur Rashid and Adma Gama-Krummel, had a “jump-start” on their program by taking *EDE484: Online*

Teaching & Learning fully online in Summer 2022, before the official start of their program.

- Mamunur Raschid has done an “apprenticeship” to learn about the creation of multimedia products to disseminate LiDA work
- Mamunur Raschid has been accepted into and attended a 2-week intensive [Summer Institute in Computational Social Science](#) offered by the UR in May 2023 for doctoral students and recent graduates from across the campus