



*Center on Online Learning
and Students with Disabilities*

Quarterly Report



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Center Overview

The Challenge

To date, online learning reaches millions of K-12 learners, with its continued growth inevitably leading to dramatic changes in the educational landscape. While online learning holds great promise, there is a paucity of research addressing the pedagogical implications for students with disabilities. Researchers urgently need to conduct investigations that demonstrate how online instruction should be designed and delivered to improve student outcomes.

The challenge of the Center is to address learner variability by conducting research to make online learning more accessible, engaging, and effective for students with disabilities, for whom traditional forms of education have been only moderately successful and the precipitous growth in online instruction threatens to exclude. To address these issues, the Center will assume a leadership role in conducting research and building a network of research collaborators representing a wide array of disciplines whose expertise impacts learner outcomes.

Our Mission

To research how online learning can be made more accessible, engaging, and effective for K-12 learners with disabilities by investigating approaches that address learner variability within the range of conditions under which online learning occurs.

Our Goals

- Identify and verify trends and issues related to the participation of students with disabilities in K-12 online learning in a range of forms and contexts (e.g., virtual schools, online courses, expository, interactive, etc.). Research topics will include accessibility and delivery of content, patterns of student participation, learning needs and supports, and emerging forms of online learning and their potential impact on accessibility and outcomes for students with disabilities.

- Identify and describe major potential positive outcomes and negative consequences of participation in online learning for students with disabilities, and analyze the available evidence on these outcomes and consequences. Positive outcomes may include a range of academic, social, career, and functional achievements associated with college- and career-readiness. Negative consequences may include reduced access to social or extra-curricular activities, a narrowed curriculum, a reduced alignment of instruction with academic standards, or the failure of instructional designs to be responsive to learner attributes.

- Identify and develop promising approaches for increasing the accessibility and potential effectiveness of online learning for students with disabilities. These approaches may involve designing accessibility and support features for online learning, providing supplementary off-line resources, individualizing online learning, identifying and addressing student learning problems as soon as possible, and training students, teachers, tutors, parents, and others involved in online learning on ways to support student learning.

- Test the feasibility, usability, and potential effectiveness (or promise) of one or more key approaches using appropriate research designs such as quasi-experimental, single-subject, qualitative, and experimental research. This research will involve actually trying the approach(es) with the intended populations in authentic settings. The research will produce detailed descriptions of the approaches and their key components, evidence that the approaches can be successfully implemented in authentic settings, and evidence of the promise of the approaches for achieving their intended outcomes for students with disabilities.

Our Activities

1. Carrying out high-quality research and development that will result in validated practices that inform the design and development of new approaches and innovations.

2. Establishing principles for the design, development, and validation of online instruction effective for all students, including K-12 learners with disabilities, via the application of learning analytics that take advantage of the inherent capabilities of online learning technologies to provide faster, more accurate, more informative assessment and progress monitoring, and impact learner outcomes.

3. Highlighting and amplifying existing resources that have been validated as promising and developing new online learning solutions that support K-12 learners with disabilities.

4. Developing a dynamic network of online learning stakeholders including but not limited to education agencies, business and industry, innovators, researchers, and parents for the purposes of validating and implementing online learning solutions that are appropriate and effective for K-12 learners with disabilities.

5. Informing stakeholders (SEAs, LEAs, developers, and others) on how to identify and implement high-quality online learning solutions that are effective for K-12 learners with disabilities.

6. Disseminating research findings and evidence-based principles for guiding the design, development, and use of online learning resources that address the needs of K-12 learners with disabilities.

October 2014

Major Activities and Accomplishments

RESEARCH STUDIES

STUDY: Social Skills

- The Center received formal approval from two districts to begin conducting the study, and researchers began active recruitment of teacher, student, and parent participants.
- Researchers finalized study materials, including the pre-test and survey instruments, teacher training resources, scenario overviews, and the script for the virtual coach.
- Researchers began working with first round of identified teacher participants to distribute and install the virtual modeling software that will be utilized by the treatment groups.
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STUDY: MW1

- Researchers continued refinement of data collection instrument for observations of blended learning environments.
- Researchers worked with participating teachers to schedule meetings and observations.

STUDY: MI2

- Researchers began planning for data analysis of the Student Grit/Self-Regulation survey (deployed to approximately 7500 preK-12 students) and the Teacher Grit/Self-Regulation survey (deployed to approximately 35 teachers).
- Researchers made refinements to the research plan regarding classroom observations and teacher measures for the self-regulation study.

STUDY: Audio-Supported Reading (ASR)

- Researchers completed data collection with 4 new students, including the use of a software recording video of face (attention & affect), screen (cursor move-ment, highlighted text), and audio.
- Researchers continued recruitment efforts to identify remaining participants.

STUDY: Discipline-Specific Graphic Organizers (DSGOs)

- Researchers developed initial drafts of the simulated lessons, content pre/post-tests, and interview protocols for teachers and students.

STUDY: Stakeholder Forums

- The Center invited the previously identified State Directors of Special Education to attend the first in a series of stakeholder forums, “Practices and Challenges in Online Instruction for Students with Disabilities”, to be held in November.
- Researchers finalized forum agenda and materials, including topics and questions for discussion, and shared introductory materials with attendees.

EXTERNAL RESEARCH PARTNERSHIPS

VENDOR: EdTech

- Researchers continued work on the research report for the NE1 descriptive study.
- Researchers began analysis of data from the EdTech (NE2) descriptive study.

VENDOR: LearningCo

- Researcher worked with LearningCo contact to finalize teacher interview protocol and discuss recruitment of teacher participants.

VENDOR: Project Inspiration

- Researchers collaborated with Project Inspiration to finalize the survey measures and classroom observation tool.
- Researchers worked with Project Inspiration and GA1 staff to plan site visits to the four participating middle schools in early November.

OUTPUT

CONFERENCES/PRESENTATIONS

- Center researchers conducted a session titled “Making Online Learning Work for Students with Disabilities” at NASDSE’s 76th Annual Conference & Business Meeting in Denver, CO.

November 2014

Major Activities and Accomplishments

RESEARCH STUDIES

STUDY: Social Skills

- Data collection and intervention activities began in two districts. Researchers conducted initial training with teachers, administered the pre-test and surveys, and structured the 2-3 week intervention based on the completion of the pre-packaged video modeling intervention.
- The Center continued to recruit teachers and participants in two additional districts. At the end of the month, the Center received notification from the largest district that researchers could begin training and send packets out to participants for parent review and approval.

STUDY: MW1

- Center researchers conducted a number of observations in various classrooms, and continued to facilitate the implementation of the self-regulatory design features. One school team is further ahead than the two other teams in implementation; based on various sources of information, this is likely due to the school principals. Because of predicted ease, all teams decided to focus on math prior to any other subject areas. For example, one teacher indicated she went from teaching one single lesson in math to teaching multiple (between 5–7) lessons daily in math.

STUDY: MI2

- Center researchers conducted a joint session with MI2 at iNACOL's 2014 Blended and Online Symposium.
- Researchers traveled to MI2 (Nov. 17-20) for classroom/site observations and project implementation. Met with administration & staff at one of the three project's target Middle Schools to initiate self-regulation activities.
- Initial analysis of S-R/Grit student survey (app. 3500 respondents) was completed.
- Acquired initial data from "New Teachers" survey (35 respondents).

STUDY: Audio-Supported Reading (ASR) - TextHelp

- Researchers worked with students at sites in 2 states to collect data for this exploratory study. Researchers worked with each student individually to use ASR tools to read 2 passages and answer basic questions. Students then responded to several questions from the researcher regarding their perceived use of ASR, why they used ASR, how they may use it in the future, and what training or assistance may they request recommend for ASR in the future.
- Data collection in first state was completed with 8 students, meeting the goal N for this exploratory study. Data collection in the second state was completed with 5 out of 8 students, with the goal of 16 total subjects across the 2 sites.
- Demographic information for participants from both states has been collected and compiled.

STUDY: Stakeholder Forums

- The Center conducted the first in a series of stakeholder forums in Alexandria, VA. The first forum was held with state department of education staff in a face-to-face gathering. Participants included staff members from six state departments of education (AZ, FL, GA, MA, OH, VA) and one AZ local district administrator. These states were selected based on three factors: (1) Each state has a relatively detailed state policy on online learning. (2) Each state has state-level activity in special education and online learning. (3) Each state is geographically diverse.
- The following eight topics were discussed in the context of students with disabilities in online instruction:
 - Enrollment, persistence, progress, and achievement;
 - Parents' preparation and involvement in their child's online experience, including promising practices to support parents' roles;
 - IDEA principles in the online environment (e.g., FAPE, least restrictive environment, parental notification, due process protections);
 - Access to student data, including privacy concerns, sharing, integration, and instructional usage among the parties involved in online instruction (e.g., instructional setting, instructor, administrator, provider, and vendor);
 - Teacher preparation -- both preservice and inservice -- for the online learning environment;
 - Integration of optimal evidence-based instructional practices; availability of skill/strategy instruction in online environments;
 - Utilization of the online environment's unique properties and affordances (i.e., those features that would not be possible or practical in the offline environment) in the areas of collaboration, personalization of instruction, and multiple means of demonstrating skill mastery; and
 - Differential access to online learning across the state (e.g., computer or tablet access, connection speed, district restrictions to material access and assistive technologies).
- In the coming months, reports containing findings for each of the eight topics listed will be posted to the Center website.

STUDY: Discipline-Specific Graphic Organizers (DSGOs)

- Researchers worked to finalize study materials. Refined written drafts of each of the simulated online lessons were completed, video training segments were produced, content tests for each lesson were finalized, and interview protocols to examine design features were finalized.
- Decision was made to change from a web-based online template that was designed to mirror LearningCo to a Powerpoint template for purpose of this initial design study. This decision was made because the web-based template was found to lack the robustness and stability needed for consistent and smooth navigation by students. The Powerpoint template design simulates an online environment and provides the stability needed for use with students.
- The school district that initially agreed to participate withdrew as participants. An alternative school district was identified.

EXTERNAL RESEARCH PARTNERSHIPS

VENDOR: EdTech

- Researchers continued work to finalize the research report for the NE1 descriptive study.
- Researchers resumed data analysis for the EdTech (NE2) descriptive study (reviewing interview transcripts, identifying themes), and began drafting research proposals for next steps.

VENDOR: Project Inspiration

- Researchers traveled to the four project middle schools to meet all of the teachers, and observed in all 11 classrooms. Revisions were made to the data observation tool based on initial observations. Researchers then used the observation tool in each of the classrooms to ensure that proper coding of the observed behaviors could be conducted.
- Due to varied access to technologies in the four buildings, researchers decided to administer student surveys with paper and pencil rather than online.
- Researchers refined the student survey items to ensure content coverage of the domains of interest: self-efficacy, goal setting, engagement, and locus of control.
- District provided the student rosters from middle schools so that the students could be entered into the NWEA system for completing the MAP assessment.
- Schedule further school visitations for data collection in January of observations and surveys.
- Reviewed computer and tablet alternative applications for collecting the observation data.

VENDOR: LearningCo

- Center researchers worked with LearningCo primary contact to develop and refine a set of questions to ask a sampling of teachers within the LearningCo systems.

OUTPUT

CONFERENCES/PRESENTATIONS

- Center researchers conducted three sessions at iNACOL's 2014 Blended and Online Symposium in Palm Springs, CA:
 - The Powerful Impact of Blended, Student-Centered Learning on Students with Special Needs: Lessons from the Field
 - Online Learning and Students with Disabilities: Practitioner Perspectives, Research Results, and the Legal Landscape
 - Determining Whether All Means All: Research On Improving Access to Online Learning for All Students

December 2014

Major Activities and Accomplishments

RESEARCH STUDIES

STUDY: Social Skills

- Researchers began work with the three study groups (Control, Treatment 1, and Treatment 2). The Control groups completed their packets and were offered directions on the steps that would follow for the completion of their involvement. The Treatment 1 groups received training and a portion of the sampled treatment 1 participants completed their treatment. Trainings for most Treatment 2 teachers were scheduled for completion in January. Researchers worked on logistics for Treatment 2, including where it would take place (a number of teachers move throughout the day), what technology would be needed, and testing all buildings (room by room) for reliable Skype access.
- Researchers completed collection of schedules, room assignments, technology needs, and Internet needs, and a preliminary study schedule based on this information was shared with all participating teachers.

STUDY: MW1

- Researchers worked to revise and finalize the Blended Learning Observation Form.
- Researchers conducted a number of classroom observations (for the primary purpose of refining the observation form), but also gathering qualitative data throughout the observations.
- Researchers continued to facilitate the implementation of the self-regulatory design features.
- Two separate meetings were held: the first with the entire MW1 team of teachers and the second with district administration. The teachers have developed some impressive implementation products and structures within their rooms.

STUDY: MI2

- Researchers worked with on the ground MI2 preceptor to lay out research implementation & visitation schedule for 2015, and conducted weekly teleconferences with MI2 site-based staff.
- Worked to revise & finalize the Blended Learning Observation Form.
- Set up data exchange protocols & worked with MI2 for data upload. Data acquired:
 - GRIT/S-R surveys HS, MS, EL 3-5, EL K-2, PreSchool
 - Demographic data as of Fall, 2014
 - Scantron Performance series data as of Fall, 2013
 - New Teacher Blended Learning survey
 - Initiated survey summary analysis & cross dataset correlation studies

STUDY: Audio-Supported Reading (ASR) - TextHelp

- Researchers transferred data from one state into analysis software, explored capabilities of analysis software, and began developing preliminary analysis coding structure.

STUDY: Discipline-Specific Graphic Organizers

- Researchers successfully recruited an alternative district to participate in the study.
- Researchers further refined study materials, including: the pretest, the intervention videos (e.g., editing, structuring for the length of attention time for the student), the intervention, and the posttest.
- Developed a series of questions for the follow-up interview and constructed a set of questions for related teachers. Finalized a study protocol.

STUDY: Vocabulary

- Researchers revised proposal for phases of Vocabulary study. Received OSEP approval to move forward.

STUDY: Stakeholder Forums

- Researchers began drafting the outline and reports on the findings from the State Education Agency Forum held in November, and worked on the synthesis of the participants' comments.

EXTERNAL RESEARCH PARTNERSHIPS

VENDOR: EdTech

- Researchers worked to finalize the NE1 report, and began research plan for next phase of work with NE1.
- Researchers continued EdTech (NE2) data analysis and report writing.

VENDOR: Project Inspiration

- Completed data check of files received from the middle schools. Conducted preliminary analysis and developed variable names, labels, and value labels for these data. Merged data files from the middle schools.
- Checked for comparability among the schools on test scores. Researchers judged that the scores were comparable on all potential academic covariates.
- Researchers worked to locate missing data from school district files, which may be due to inconsistency of rosters between the school district files and the local school files.
- Scheduled conference call with NWEA staff to review the MAP (Measure of Academic Progress) reports and interpretation of scores.
- Met with computer programmer regarding tablet application for collecting classroom observation data.
- Worked on revisions to student surveys, finalizing format, and item wording. 43 items in the final survey.

VENDOR: LearningCo*

- Researchers worked with LearningCo Director of Special Education to finalize the interview questions. Initial set of teachers to interview was identified based on the initial sampling that took place with Special Education Directors and related Administrators in the initial phase of this work, but realized the number of teachers we wanted to access and the type of sampling desired would be problematic. Developed a second alternative that would not align with a true sampling, but would be representative of the teachers available for the interviews. Developed a subsequent survey that would be given to all teachers including those that are being interviewed. LearningCo proposed that interviews would take place in January.

OUTPUT

PUBLICATIONS

- The Center's article "Online Learning and Students with Disabilities: Parent Perspectives" was published in the Journal for Interactive Online Learning (JIOL).
- The Center published three blog posts on its website:
 - Parent Survey Findings
 - What's Important to State Departments of Education?
 - What State Directors of Special Education Need to Support Students with Disabilities in Online Education