

OCTOBER 2013

Research Agenda



iNACOL's publishing of a research agenda is an ongoing and integral part of our work in field-building, capacity-building and knowledge-building.

IN 2013, INACOL SURVEYED THE FIELD TO IDENTIFY RESEARCH NEEDS RELATED TO BLENDED AND ONLINE LEARNING toward the ultimate goal to transform the education system from a traditional model to a learning system that is personalized, student-centered and competency-based. iNACOL is dedicated to an important student-centric mission: that all students have access to a world-class education and quality blended and online learning opportunities that prepare them for a lifetime of success.

The development of a research agenda involves:

1. Developing a research agenda that is done collaboratively with the experts in the field, including the iNACOL Research Committee and Research Special Interest Group, leadership experts across iNACOL's membership, and communities of practice in the field;
2. Identifying research needs for the field; and
3. Creating the final national research agenda report.

The purpose of the research agenda is to evaluate broad needs across the field and prioritize future research needs.

The mission of the International Association for K-12 Online Learning (iNACOL) is to ensure all students have access to a world-class education and quality blended and online learning opportunities that prepare them for a lifetime of success.

iNACOL is a non-profit organization focused on research; developing policy for student-centered education to ensure equity and access; developing quality standards for emerging learning models using online, blended, and competency-based education; and supporting the ongoing professional development of classroom, school, district and state leaders for new learning models.

iNACOL hosts the iNACOL Blended and Online Learning Symposium — the premier K-12 blended and online learning conference. The 2014 conference will take place in Palm Springs, CA, November 4-7, 2014. For more information: inacol.org.

Keep up with latest news stories, reports, research and information on blended and online learning, competency-based pathways, education technology and policy. Subscribe to **Plugged In:** inacol.org/news/plugged-in/.

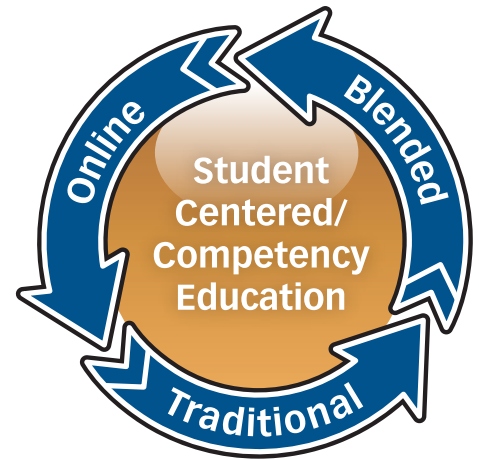
Background

The field of blended and online learning holds tremendous potential for improving the learning and achievement of all students. By removing instruction from the confines of a physical classroom, digital learning helps to address many critical challenges facing today's education system, including teacher shortages, the need for out-of-school-time learning, and the geographic and economic barriers limiting many students' access to high-quality instruction.

The ultimate power of blended and online learning, however, lies in its ability to transform the education system and enable higher levels of learning through competency-based instruction. Technology-based models allow for rapid capture of student performance data and personalized instruction tailored to the specific needs of individual students. By adapting instruction to reflect the skills and knowledge students have mastered, blended and online models have the potential to keep students engaged and supported as they learn and to help them to progress at their own pace, leading to dramatically higher levels of learning and attainment.

There is much to be done to achieve this promise. While enrollment in blended and online models is growing rapidly, the research is still nascent, and there is great diversity in the effectiveness of courses, content and programs available today. Student access is uneven from state to state and district to district. Increasing access alone will not lead to better outcomes for students. In order for blended and online learning to transform the education system, it is essential that the models available are high-quality, effective, research-based and successfully increase student achievement. Fulfilling the potential of a student-centered, competency-based system will require that the field of blended and online learning and the policy environment in which it operates evolve to demand models that are not only different, but more effective, than traditional schooling. To understand effectiveness requires significant research in the areas of policy and practice.

Researching innovative education models, let alone entire educational systems, is complex. The variety of components and influences upon outcomes related to new models of teaching and learning are numerous; yet the adoption of advanced learning technologies, learner analytics, and the ability to fine-grain observation provides great promise not only to understand new models of next generation learning – but to rethink our research and designs for continuous improvement. Research approaches need to include holistic examinations of the variety of implementations of blended and online learning approaches and designs, as well as the impact of policies. This requires accounting for all of the components of systems, from school models to funding formulas, to instructional models, approaches at the school-level or course-level, to competency-systems, grading systems, teacher quality, to student characteristics and considerations beyond. While recognizing the complexity, we offer a set of priorities for research needs for the field. We believe there are particular areas of focus and open questions that are priorities for researching new learning models using blended and online learning that deserve immediate attention in the next five years. iNACOL looks forward to working with the research community, governments, educators, philanthropists and others in the field to examine these important research questions.



Research Agenda 2013-2018

PRIORITY 1: Research is needed to identify the most effective learning environments for different groups of students, with different characteristics.

To address the persistent problems in education, advanced learning technologies enable blended and online learning with instructional models that are built around differentiated instruction, provide teachers and students with immediate feedback on student-level proficiency data on the learning objective or unit, and offer customizable interventions supported by teacher-led technology tools and adaptive content.

For breakthrough learning models using competency-based, blended and online learning, there is little research on understanding the complexities involved with course learning environments and interventions that are most effective for different groups of students.

- What is the most effective learning environment at the course-level for each student (students with disabilities, English Language Learners, at-risk, over-age/under-credited students, mobile, migrant youth, etc.)?

PRIORITY 2: Research is needed to understand what designs are most effective when it comes to data systems and technology infrastructure.

Across the country, educators are struggling to understand how to best personalize the learning process for students. In order to understand the needs of each student, the design of effective data systems is essential. Learner analytics are collected via these data systems, but a better understanding of what the design and functionality of these systems looks like is extremely important to move the field forward. Additionally, the technology infrastructure that encompasses the data systems is important as well since this infrastructure has the potential to allow for depth of function of learner analytics and interoperability between systems.

- What data are relevant, telling and actionable when it comes to tracking individual student’s mastery-based and personalized learning?
- What designs would allow for a deeper function of learner analytics that can provide feedback for all stakeholders, including parents, teachers, students, administrators, other education professionals?

PRIORITY 3: Continued research is needed into promising practices for preparing all education professionals to support learners in K-12 blended and online learning environments.

Research shows the support services and education professionals that learners interact with have a direct correlation to their success in the learning process. In preparation for new learning models, exploration of the promising practices for leadership development — preparing administrators, teachers, counselors, school psychologists, educational technologists, school librarians — is needed.

- What are promising practices for preparing educators to support learners in K-12 blended and online learning environments?

PRIORITY 4: Research for understanding what change management practices are most effective when implementing breakthrough models in K-12 blended and online learning?

As reported by educators time and time again, one of the most difficult processes for creating a breakthrough model in K-12 blended and online learning, is creating a culture of change. In order to plan for this, it’s important to research change management and what practice is most promising in implementing breakthrough models in K-12 blended and online learning.

- What change management practices are effective when it comes to implementing breakthrough models in K-12 blended and online learning?

PRIORITY 5: Research is needed to explore the teaching strategies that are most promising in K-12 blended and online learning models.

With a change in the learning environment going from traditional to blended and online modes of learning, research is needed into what teaching strategies are most promising in a variety of K-12 blended and online learning models. These teaching strategies include but are not limited to co-teaching, team-teaching, and cross-curricular instruction.

- What teaching strategies are most effective in K-12 blended and online learning models (including co-teaching, team-teaching, cross-curricular instruction, etc.)?

PRIORITY 6: There is a need for research in the area of instructional design when it comes to discovering the promising practices for designing courses for student learning.

Design and development of blended and online courses is a critical process in providing quality learning environments for students. Various combinations of technologies and learning management systems (and their design elements) play an integral part in this process as well. The placement of assessments and curriculum is an important consideration. Specifically, questions around how to personalize, communicate, differentiate, support, interact, collaborate, and socialize are important to address.

- In terms of instructional design, what are promising practices for designing courses for student learning (when it comes to personalization, communication, student-centric learning, differentiation, support, interaction, collaboration, socialization, providing multiple pathways for success)?

PRIORITY 7: Research is needed into what course and program design elements are necessary when it comes to providing access and equity to all K-12 learners in blended and online learning environments.

Across the United States and around the world, there is a dire need for education to transform in order to provide access and equity for all K-12 learners. No matter a students' socio-economic background, location, learning or physical disability, all students should have equal access to high-quality learning. Researchers need to explore what design elements within courses and programs enable the provision of accessible and equitable learning to all K-12 learners in blended and online learning environments.

- What course and program design elements are most effective for enabling accessibility and equity for all learners in K-12 blended and online learning environments?

PRIORITY 8: Research is needed on the type and frequency of assessments that are most promising for competency-based learning.

Competency-based education is an extremely important foundation of next generation learning. Within competency-based education, research needs to focus on the type and frequency of assessments that are most promising.

- What type and frequency of assessments is most effective for competency-based learning in K-12 blended and online learning environments?

PRIORITY 9: Research needs to be expanded regarding the human capital needs in K-12 blended and online learning environments.

A limited amount of research has been done into the shifting roles for educators in new learning models. Therefore, research is needed to explore the human capital needs in K-12 blended and online learning environments.

- What changes in educator roles and human capital needs emerge in new learning models?
- What are effective strategies for addressing changing human capital needs in K-12 blended and online learning environments?

PRIORITY 10: Research is needed to explore the effect of policy (national, state, and local) on quality assurance in K-12 blended and online learning environments.

Policy drives decision-making processes in K-12 education. In terms of assuring that K-12 blended and online learning environments are of high quality, it's important to explore the national, state, and local policy and the impact of policy related to quality assurance of learning.

- What effect does policy (national, state and local level) have on quality assurance in K-12 blended and online learning environments?