

A National Agenda for Action Analytics

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This White Paper presents the outcomes from the ***National Symposium on Action Analytics***, held September 21-23, 2009, in St. Paul, Minnesota, USA. This Symposium was sponsored by the Minnesota State Colleges and Universities and Capella University. The White Paper addresses four goals:

- Defines ***Action Analytics***, a new imperative for higher education;
- Describes the program and conversations at the ***National Symposium on Action Analytics***;
- Presents a ***National Agenda for Action Analytics*** that emerged from the Symposium; and
- Suggests ***Next Steps*** for advancing this National Agenda.

These elements are described below in the four sections of the White Paper.



Action Analytics: A New Imperative for Higher Education

Analytics are processes of data assessment and analysis that enable us to measure, improve, and compare the performance of individuals, programs, departments, institutions or enterprises, groups of organizations, and/or entire industries.

Today, leaders in higher education are using analytics to understand the performance of K-20 education, workforce organizations, transitions between learning and work and back again, and related issues. Improving the performance of education and workforce development in ways that are financially sustainable is critical to America's continued global competitiveness. This is imperative today, as we reimagine post-recession financial stability for higher education.

What Are Action Analytics? The term ***action analytics*** refers to analytics capabilities and practices that are powerful, immediate, and lead to outcomes that are useful to a wide variety of stakeholders. But most important, action analytics' highly beneficial outcomes can only happen in enterprises and environments that are genuinely committed to measuring and improving key aspects of productivity, innovation, and performance. Organizations must actively build the capacity and cultivate the behaviors necessary to take full advantage of enhanced productivity, innovation, and performance. Achieving action analytics is more about leading and navigating significant changes in organizational culture and behavior than acquiring technology solutions.

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Action Analytics Demand Action and Reimagination. In environments dedicated to measurement and performance, action analytics do not just enable actions, they **demand** actions that:

- take form in wise judgments, decisions, choices, interventions, and fresh visions;
- shape, enhance, and refine policies, processes, procedures, practices, and, ultimately, performance;
- express themselves through innovations whose successes can be scaled across entire educational and workplace enterprises;
- continuously improve value and performance in education, training and workforce development; and
- make the route to improved performance transparent to stakeholders, including learners and their families.

Action analytics are not just about measuring outcomes and holding institutions accountable for them. They are also about using analytics to guide and enable aggressive, proactive reimaging of academic and administrative practices. The goal is to achieve previously unattainable levels of productivity and performance, providing fresh value propositions for learners and institutions that match the changing times. This is another important facet of the action in action analytics.

Action Analytics Require a Vibrant Culture of Performance Improvement and Analytics for the Masses. Action analytics are made possible by combinations of technology and tools, processes, skills, and organizational culture. The state of organizational culture is a useful indicator for understanding the state of analytics development in higher education.

Today, higher education is in the process of evolving from a culture of reporting, to a culture of evidence, to a culture of performance measurement and improvement, eagerly pursued. Higher education is also evolving from its traditional practice: analytics being performed by a small cadre of so-called “power users” and then utilized by a small cohort of decision makers. The new model is to have more pervasive applications of user-friendly analytics, available to everyone from top decision makers to front-line knowledge workers, faculty, advisors, and even students, as determined by authenticated roles and levels of authorization. This future is characterized as “analytics for the masses.”

Action Analytics Require Capacity Building at the Institutional, State, and National Levels. To succeed, action analytics require substantial enhancement of organizational capacity at the institutional level. Such capacity building efforts for analytics will require the deployment of new tools and reach into every aspect of institutional technology: enterprise technology infrastructures; identity management and security advances; data warehouse, online analytic processing (OLAP), business intelligence tools and analytic applications; statistical analysis, predictive modeling, and large-scale data sets; and enhanced visualization and data discovery tools. Ultimately, institutions will extend these approaches dramatically through new forms of Web 2.0 data mash-up and visualization tools and practices that have not yet been invented.

In addition, institutions must also enhance the sense-making skills of institutional leadership, staff, faculty, students, and other users of action analytics, the better to drive decision making, interventions, and action shaped by analysis. Analytics for the masses will require greater ease of use, which will require input from more professionalized, higher skilled staff. Institutions must also align their business processes and practices in support of analytics to both empower leaders, faculty, staff, and students and hold them accountable for enhanced performance. Institutions must also build proficiencies in achieving efficiencies, nurturing innovations and process reinventions, and rediscovering financial sustainability.

Action analytics also require capacity building at the state and federal levels. Already, states are developing longitudinal data systems to improve student success, P-20, and related analytics capabilities. Other capacity building efforts will include the ability to generate and utilize comparative analytics focusing on outcomes, performance, productivity, and value, generated at the institutional level and aggregated to state and national levels. Institutions and states will also need to demonstrate how funded innovations improve outcomes and performance. These critical accountability tools will be essential to state and federal policy makers. Other critical tools will include comparative research on “what works” in enhancing student success and institutional productivity and value, plus demonstrated insights on how to diffuse and scale successful innovations.

These capacities must be developed at state and federal agencies and the constellation of other organizations that play key roles in supporting and sustaining performance improvement in learning and workforce development. These include major foundations that fund the demonstration and dissemination of performance innovations and public advocacy organizations that push for enhanced learning and workforce attainment.

In addition, enhancements are needed in the capacity of international analytics to enable benchmarking, comparison, collaboration, and innovation across global learning and workforce enterprises and agencies

Action Analytics’ Initial Killer App: Student Access, Affordability, and Success. Action analytics that focus on improving student retention and success have been the first areas of breakthrough achievement. Leading-edge institutions have deployed longitudinal data analysis, predictive modeling, and dynamic analysis of current student progress to enhance the practice of strategic enrollment management and retention improvement efforts. Institutions will continue to invest significantly in these areas because they yield a rapid and substantial return on investment and are clearly understandable to our publics and stakeholders.

Institutional efforts to improve student success can benefit from leveraging the substantial state- and national-level initiatives to “Serve the Underserved” and “Halve the Gap” sponsored by groups such as the National Association of System Heads (NASH) and the foundation community (Bill and Melinda Gates Foundation, Lumina Foundation, Carnegie Foundation, and others). Moreover, the workforce connection is the most underemphasized, broken link in the student success equation. It needs to be re-examined and reimagined if we are to better serve our adult learner population while restoring our competitive position, globally.

Next Steps: Improving Academic and Administrative Performance, Focusing on Value. Most institutions first get serious about action analytics by focusing on student access, affordability, and success. But there are substantial opportunities for institutions to improve their value propositions by using action analytics to improve administrative and academic productivity and performance, measured using key indicators. It also requires attention to improving the value propositions expected by learners in response to changing conditions in the 21st Century economy. Such improvement requires not just achieving efficiency and effectiveness measures, but undertaking innovations and transformations that truly extend or change the combinations of learning outcomes, experiences, and costs available to learners. These improvements must also include greater attention to infusing courses, certificates and degree programs with the competences identified by employers.

Action analytics require a cultural jump shift. Higher education leaders must evolve from William Bowen’s famous characterization of university leadership that “raises all the money it can, and spends all the money it raises,” to a more refined perspective that “optimizes value in an environment of resource scarcity.” This requires a culture of performance measurement and improvement and a jump shift from a focus on quality alone, to a focus on quality *and* value, all in an environment of greater transparency, accountability, and heightened expectations.

Value is the new touchstone in higher education. It consists of a combination of three elements: 1) the quality and nature of outcomes (in the context of stakeholders’ expectations); 2) the experiences through

which they were achieved (convenience and customization are key factors); and 3) cost/price. Today's outcome expectations include the capacity to out-compete counterparts in other countries by perpetually learning and in other ways continuously improving faster and more effectively than the competition. These competences are required to maintain employability in a changing world.

Addressing P-20 and the Workforce Connection. Action analytics also requires leaders to broaden their perspectives beyond individual institutions and even postsecondary education. Many of the performance and competitiveness challenges facing education today require policy makers to take a systemic perspective of P-20 education as a single system, rather than separable enterprises and budgets for elementary, secondary, and postsecondary education. Policy makers also must improve student success through addressing the broken linkages between learning and work. Most states have serious P-16/P-20 initiatives and workforce transition initiatives underway that must be part of any serious action analytics activities.

Many of the systemic and systematic changes in education will require initiatives that reach beyond institutional boundaries to encompass the long, winding, intertwined pathways of work and learning. The new generation of analytics, based on Web 2.0 capabilities, facilitates information sharing and so-called "mash-ups" across enterprise and sectoral boundaries, making it easier to connect P-20 and workforce initiatives in a seamless approach.

Leveraging the Dislodging and Disruptive Events Facing Higher Education. Educational leaders and their stakeholders are facing their own version of the "Perfect Storm:" 1) the resource jolt caused by the current Great Recession, 2) the affordability crisis faced by learners and parents, and 3) the changing competitive environment of the global economy and its impacts. Just as every other industry (healthcare, financial services, agriculture, energy, governmental services, manufacturing, retail) is facing fundamental realignments post-recession, so is higher education. Traditional resistance to change likely will be dislodged by these imperatives.

Institutional leaders have spent 2008-2009 in "staunching the flow," addressing the traumatic resource problems caused by the Great Recession. Their attention is now turning to the future. Most education leaders realize that they need to aggressively leverage stimulus funding in 2009-2012 to pursue efficiencies, innovations, and transformations that will enable them to achieve reimagined visions and financial sustainability for their institutions by 2020. Robert Zemsky's new book, *Making Reform Work: The Case for Transforming Higher Education*, describes a series of "dislodging events" that will disrupt our normal patterns and cadences of practice. Action analytics provides a mechanism for leveraging these disruptive events to good effect.

Action analytics will support aggressive institutional efforts to find efficiencies, innovations, and transformations so they can rediscover post-recession financial sustainability. Action analytics provide mechanisms necessary to grapple with the national imperatives requiring decisive action – increasing the number of graduates, closing achievement gaps between minority and majority groups, reestablishing America's competitive position, providing special funding for community colleges, establishing new green career pathways, reimagining financial aid - so that our students are fully prepared for college-level work and armed with the necessary knowledge and skills to compete in the world of work. Action analytics also support the discovery of new approaches to affordability – reducing the total cost of learning for learners and their families and recognizing the extent of the affordability crisis.

Action Analytics Are Fundamental to Achieving the Nation's Education, Workforce, and Economic Development Agendas and Initiatives. For these reasons, action analytics feature prominently in President Obama's initiatives, which require performance metrics, accountability, fresh funding tied to innovation, and reimagined solutions:

- **P-12 reinvention**, \$5 B in funding for "Race to the Top" provides funding for which states can compete, based on their commitment to alignment of state data systems, reaching out to struggling schools, building teacher quality, and achieving alignment with national standards of

excellence.

- **Online courseware initiative.** \$500 M in funding for open courseware, which can be made available to schools and institutions across the nation and internationally.
- **Financial aid increases.** Pushing for gains in size of Pell grants, proposed tax credits for tuition, other means of meeting financial need.
- **Funding for community colleges.** Substantial federal funding and designation of community colleges as a special focal point for improving college attainment.
- **Goals to increase college-going.** Proposal to raise levels of degree attainment to #1 in international comparison by 2020 will require reimagination of pathways/programs to degree attainment.
- **Stimulus funding for states and for colleges and universities.** Provided short-term and transition funding for many states and institutions.
- **Use weatherization training and workforce funding as a start to legitimate occupational certificate and degreed green careers.** Substantial weatherization funding to community action programs and plans to leverage funding in creating green career pathways must be encouraged in every state.

There is concern in some quarters that these initiatives, alone, will not be sufficiently transformative or sustainable. For example, access to open courseware may not of itself change practices in colleges or improve the employability or global competitiveness of students. The National Symposium on Action Analytics was staged to address the need for action and reimagination and to frame a National Agenda for Action Analytics that will drive needed innovation in higher education and workforce development.



The National Symposium on Action Analytics

On September 21-23, 2009, the Minnesota State Colleges and Universities (MnSCU) and Capella University hosted **Action Analytics: Setting a National Agenda**. This is the first national conference dedicated to the examination of action analytics breakthroughs, the practicalities of winning the support of institutional leaders, and proven methods to enhance student access, affordability, and success. The perspective of the Symposium spans P-20 and links to workforce and economic development.

This National Symposium began with a core of state and institutional leaders and practitioners from the state of Minnesota including representative from MnSCU, Capella University, the University of Minnesota, and the Minnesota Department of Education and Department of Employment and Economic Development. In addition, the organizers invited a cadre of internationally recognized thought leaders, researchers and authors, analytics practitioners, institutional trustees and leaders, representatives of foundations and non-government organizations, policy makers and representatives of national organizations, participants from P-20, and workforce organizations and community leaders.

The National Symposium began with a full day of presentations, panel discussions, demonstrations of analytic applications, and conversations about future directions. These activities provided a framework for participants to use in considering the elements of a National Agenda for Action Analytics. During the second day of the National Symposium, participants engaged in facilitated conversations through which they crafted the outlines of a National Agenda and Next Steps. Their outline has been developed further for this White Paper. The following describes the participants and topics covered in the first day.

Why Action Analytics for Higher Education? Linda Baer of the Minnesota State Colleges and Universities and Donald Norris of Strategic Initiatives, Inc., presented the basic thesis for the Symposium. Their framework was expressed in two background White Papers, ***Why Action Analytics for Higher Education?*** and ***Linking Analytics to Lifting out of Recession***. The first section of this White Paper summarizes their definitional framework, as embellished by the conversations at the Symposium.

Best Practices in Building Analytics Capacity. Donald Norris facilitated a cadre of seasoned practitioners who presented examples of the current state of exemplary analytics practice. The presentations covered a range of institutions and showcased the perspectives of CIOs, institutional researchers, faculty, academic researchers, and modelers and their contributions to the advancement of action analytics.

John Campbell from Purdue University demonstrated Purdue's approach to using predictive modeling and other analytics to improve student success. This included the Signal System, which provides students with real-time guidance on their relative performance in individual courses and warnings when they are in jeopardy. Purdue uses predictive modeling extensively in its strategic enrollment management activities in recruitment, admission, and policy formulation.

Michael Dillon described how Institutional Research professionals at the University of Maryland, Baltimore County, leverage predictive modeling and data warehouse-based analytical applications to facilitate effective use of analytics by decision makers. This is reflected in specific applications in improving the first-year experience for students, redesigning courses, intervening with struggling students, and performing cost-benefit analysis on applied masters programs, a key growth area for UMBC. He also described the efforts of the university to integrate a data warehouse-based analytic application with an upgrade of the institution's enterprise resource planning system

Jeff Grann and Alex Ushveridze demonstrated Capella University's use of cognitive tools and predictive modeling, which are key elements in its approach to continuous performance improvement in achieving student success. Capella utilizes its online environment to monitor, study, and understand learner engagement and behavior. Using its tools and practices, Capella can predict grades, early withdrawal, and drops early on, and launch very early alerts and interventions when student behavior suggests a problem, and generally "tune" student performance.

Ken Moore presented Sinclair Community College's success in building a comprehensive business intelligence capability, through which they have increased the user community from 100 to 1,100. He described the creation of a consolidated business intelligence competency center which provides customized services to users and a wide range of data mining and predictive modeling applications applied to improve student success. Throughout this presentation, Moore provided a CIO's perspective on how to bring together the functional offices in a successful business intelligence operation.

Craig Schoenecker of the Minnesota State Colleges and Universities demonstrated MnSCU's executive dashboard, which presents an array of strategic measures that relate to the System's four strategic directions. These measures include both system-wide comparative statistics and visuals, as well as drill downs to individual campuses. This dashboard capability features prominently in the System's performance and accountability system for executive leadership. The dashboard capability also supports the strategic planning, continuous improvement, and accreditation efforts at individual MnSCU campuses.

Keynote Address – Martha Kanter, Undersecretary for Education. Dr. Kanter delivered the keynote address to the Symposium. She expressed strong support for the work in action analytics and noted the significant national/international brain trust that had been assembled for this Symposium. She indicated that she needed help from the Symposium’s participants in making a difference for learners. In addition, she encouraged more collaboration and has committed to more integrated work with the Department of Labor.

Dr. Kanter quickly focused on the challenges and a sense of urgency presented by America’s underachievement in educating our people and its implications for our international competitiveness:

- There are 75 million adult Americans, ages 18-64, with no college education;
- In 1971, 77% of adults had some formal college-level education/degree; today it has slipped to 67%;
- Of students holding GEDs, only 3% ever complete two-year degrees; of low income populations, only 25% graduate from two-/four-year institutions; every 26 seconds a child drops out of high school;
- 40% of adults have two-/four-year degrees and these numbers have remained the same for the last decade, while other nations have moved ahead of us;
- More investment will be made to improve the quality of teaching in K-12; we must reinvent teacher education as part of a holistic approach to maximizing learning opportunities and achieving improved student success; and.
- We need the best research from action analytics to accelerate student achievement.

The Obama administration is addressing these deficiencies by investing \$128 B in the next five years to graduate five million more students. We are focusing on target populations: 1) former students within striking distance of graduation, 2) the millions of adult learners with little or not college experience, 3) the current seventh grade population who will be on the threshold of college in five years. Charles Miller, Congressman from California, has sponsored AB 3221 focused on building language capacity in early childhood/daycare. Many other elements of the initiatives address these issues directly or indirectly. We need students who are ready for college-level work and are work ready, as well.

There are many promising practices that can support student learning, persistence, competences, and success. We need to focus on what works and get those programs to more students. Federal efforts will include investments in early learning, teacher quality, local school capacity, access and completion grants, and a major investment in innovation. Dr. Kanter called for far more involvement with businesses and communities to expand internships, apprenticeships, and on-the-job experiences.

Many things are necessary to support these efforts. Systems research is needed on what works in elevating student success, capacity building to achieve five million more graduates, and the leadership to mobilize our energies in pursuit of these goals. The capacity and capabilities this National Symposium describes as “Action Analytics” will be an essential element in advancing America’s ability to raise its educational attainment and the competence of its workforce to the level of international leadership, again.

What Information, Reports, and Dashboards Are Needed? Michael Offerman, Capella University, facilitated presentations by a panel of distinguished leaders from associations whose members represent institutions and state-level agencies deeply involved in data sharing, accountability, and decision support.

George Boggs, American Association of Community Colleges, described the many ways in which a myriad of current federal and state initiatives were providing unparalleled opportunities and challenges to

community colleges. He suggested the key roles that accountability, data, and analytics would play in achieving community college and national goals.

John Hammang, American Association of State Colleges and Universities (AASCU), explored “Accountability and Assessment – Getting Beyond Reaction.” As the leading staff person for AASCU’s Voluntary System of Accountability (VSA) College Portrait, Hammang described AASCU’s efforts to orchestrate the development of a constellation of measures for learning outcomes, public good outcomes, the college experience, and costs.

Charles Lenth, State Higher Education Executive Officers (SHEEO), described SHEEO’s continued efforts to support analytics efforts such as “voluntary” institutional reporting, state-level accountability frameworks (i.e. Kentucky’s “Five Goals”, “Minnesota Measures,” and Ohio’s Strategic Plan that contains three specific economic measures), and state-level comparative data that shape decision making in states across the nation.

Building Analytics to Support Institutional and Public Policy. Mark Milliron, Catalyze Learning International, orchestrated conversations among a panel of practitioners deeply involved in ongoing policy analysis and support efforts, both in the United States and internationally. In these conversations, they described the interconnections between data, analytics, and policy-shaping among the intertwined organizations and agencies shaping institutional and public policy.

Jill Wohlford of the Lumina Foundation described the efforts of Lumina to use analytics to demonstrate and disseminate effective practices. Lisa Petrides of the International Society for Knowledge Management in Education discussed knowledge sharing practices and other aspects of these issues. Paul Lefrere of the UK Open University and the University of Tampere in Finland described a variety of European initiatives such as Bologna and European Union-funded projects designed to advance the state of knowledge sharing and communities of practice. Aimee Guidera, Director, Data Quality Campaign, described the Campaign’s substantial and orchestrated efforts to create integrated P-20 data sets in all states, ensure their accessibility, and build the capacity of all stakeholders to use longitudinal data for effective decision making. The Campaign also aims to change the culture of data use and is promoting 10 actions state need to take to ensure that key stakeholders can use data effectively.

Building the Next Generation of Educational Technology Tools to Support Action Analytics. Linda Baer facilitated a set of presentations highlighting the next generation of action analytics tools. These ranged from prototypes of new student success platforms in a multi-campus system, to a fully realized competency-based learning and assessment system, to a view of new tools and techniques in Web 2.0-based analytics.

Alfred Essa of Minnesota State College and Universities, Cesar Brea of Force Five Partners, and Mark Milliron of Catalyze Learning International described the efforts of MnSCU to develop a next generation analytics system. They provided screenshots of a prototype of the Student Success System (SSS), which will deploy predictive modeling, feedback loops, and collaborative tools to support the roles of faculty, advisors, counselors, and other authorized staff in monitoring, supporting, intervening, and enhancing student success.

Jeff Grann and Kim Pearce of Capella University provided a demonstration of Capella’s fully integrated approach to combining the intellectual and technical elements of their competency-based learning system. Capella operates a seamless system for learning, grading, and competence demonstration that is totally transparent and based on templates and rubrics that are understandable to learners and faculty. Their system enables easy drills downs to determine current competence attainment. Grann and Pearce also discussed Capella’s participation in Transparency by Design, an outcomes-sharing effort involving seventeen prominent on-line learning providers, including public, private not-for-profit, and for-profit schools.

Donald Norris, Strategic Initiatives, and Paul Lefrere, UK Open University, concluded the session with a look into the future of action analytics. They suggested the continued development of analytics for everyone – not just power users – and the growth of desktop applications; continuing changes in the analytics vendor marketplace; institutions pursuing varied combinations of build, buy, and mash-up applications; and aggressive seeking of quick victories and value analytics at lower price points than offered by first-generation business intelligence tools. In the future, these innovations suggest the integration of analytics into social networks as they evolve into true knowledge sharing networks. Social network-based communities of practice, richly supported by embedded analytics, will be critical to tomorrow's learning environments.

Summarizing the Day and Preparing for Tomorrow. Linda Baer facilitated a panel of practitioners at the conclusion of the day's agenda to react to and explore the issues that had been presented throughout the day: Michael Feldstein, Oracle Academic Enterprise Solutions Group; Ann Hill Duin, University of Minnesota; Mark Milliron, Catalyze Learning International; and John O'Brien, Minnesota State Colleges and Universities. They touched on the issues raised by Martha Kanter and then considered related needs such as using action analytics to highlight opportunities to rethink education and direct scarce resources to people, courses, and programs most likely to benefit from them.



Setting a National Agenda for Action Analytics

The second day of the Symposium addressed the related issues of Setting a National Agenda and Next Steps. Mark David Milliron of Catalyze Learning International facilitated a cascading series of group discussions that led to a set of basic elements for a National Agenda for Action Analytics, as presented below.

Clearly Articulate the Principles, Practices, and Promise of Action Analytics. Action analytics needs a manifesto. The National Agenda should clearly articulate the principles and practices of action analytics and the promise it holds to play a central role in the postrecession reimagining of higher education:

- describe the immediate killer app for action analytics: enhancing student access, affordability and success;
- aspire to leverage action analytics to enhance academic and administrative productivity, focusing on value, and
- frame action analytics as a key element in the disruptive/dislodging events that have the potential to facilitate the transforming of higher education.

Manage Both Short-Term and Long-Term Dynamics at Multiple Levels. Action analytics has many potentials, some immediate and others longer-term. Action analytics also affects multiple levels in the P-20 and workforce continuum. In order to avoid confusion and diffusion of effort, the National Agenda should manage all of these dynamics by:

- generating a shared vision and goals for action analytics;

- pursue tactical short-term efforts and experiments that align with the National Agenda and emphasize student success; and
- frame action analytics as a key element in P-20 and learning to work initiatives.

Leverage Existing Efforts and Forums for Engaging Faculty and Other Organizations. In order to succeed in its short-term and long-term goals, action analytics must win the support of faculty and other organizations that may oppose or be resistant to action analytics initiatives without active engagement.

- Start with a “water where the grass is green” approach: identify institutions that are deploying action analytics and find out how they have successfully achieved faculty buy-in;
- Utilize “enhancing student success” applications to engage faculty and build internal support;
- Focus on community and technical colleges, which are facing tidal waves of students, insufficient resources, and desperately need reimagined solutions in order to survive and thrive; and
- Find other venues, such as professional associations, to engage faculty and student services staff groups in improving student persistence, retention, and success and find common ground with K-12.

Create Communities of Practice/Action, Repositories, and Catalysts for National Action and Policies that Support the Effective Use of Analytics. To achieve rapid results across the USA, the National Agenda needs to establish then mobilize a community of practice of action analytics thought leaders, practitioners, policy makers, and advocates. This should be funded and formed with the following support:

- social network-based community of practice, including subcommunities on particular areas of focused interest;
- repository of “what works” in action analytics, provided in a searchable repository, chunked and meta-tagged (potential areas of focus: state-level data models; predictive models; student success analytics, course redesign; academic productivity, efficiency and effectiveness measures);
- observatory of emerging new ideas and competences in action analytics; and
- linkages to other networks and communities.

This community of practice should provide:

- common language for presenting analytics to the public and policymakers;
- proof of concept;
- scalable innovations; and
- the capacity to link to other communities and subcommunities, forming a national network.

Create Some Early Wins Using Existing Data Sources and Analytics Capabilities. Nothing is more important in action analytics than producing several immediate victories tied to existing data sources. Examples include:

- early warning systems and student retention strategies;
- capitalizing on Federal investments in statewide longitudinal data systems;

- student learning assessment practices; and
- institutional data sharing and transparency initiatives (VSA, Transparency by Design, others).

Address the Cultural and Process Challenges Inherent in Advancing Analytics. Increasing the widespread use of analytics faces a challenge: overcoming the distrust and fear of misusing student data. Institutional data stewards need to be heavily involved in analytics efforts:

- building trust and ethics in appropriate collection and use of data to support the need for transparency as well as trust within institutions on how data will be used;
- defining parameters for data privacy and access; and
- building analytics capacity in partnership with faculty as an area of common interest (relationships with national faculty organizations).

Frame Analytics as a Means for “Educational Assurance” and a Commitment among Policymakers, Providers, and Students. A number of participants at the Symposium spoke passionately about the potential to use analytics to ensure that learners and parents are receiving value and are having their expectations met. The various accountability movements such as the Voluntary System of Accountability and Transparency by Design are harbingers of the potential for analytics to provide educational assurance. This lofty goal should be part of the National Agenda for Action Analytics.

Engage Vendor Community to Drive Development toward Our Needs, Rather than Vice-Versa. The National Agenda should aspire to engage in an ongoing dialogue with the vendor community to articulate the needs of practitioners for affordable, flexible analytics capabilities. These conversations should occur within the community of practice and in open forums arranged by the community of practice.

Improve Standards for Better Data Exchange. Building on the long history of cooperative data exchange in higher education, we should strive to advance the state of the art and practice to enhance:

- cooperative agreements for data sharing across institutions, and
- the capacity to more easily achieve worthwhile data mash-ups of various kinds.

Bridge Analytic Capacity across Institutions to Align with Student Behavior and Related Disaggregation of Student Course Taking. Institutions could share their insights into student behavior, and into the attainment of key threshold concepts (the achievement of which improve student performance), and other aspects relating to student success. Ways should be explored to increase the “learnability” of open courseware, such as establishing a subcommunity of practice to share experiences in using the courseware plus an associated open database of key threshold concepts associated with mastering the courseware and its utilization.

Enhance Communication with Stakeholders to Address the Implications of New Analytic Capacity. The National Agenda must include a strong communications plan/focus, reaching out to the many stakeholders involved in analytics: trustees and institutional leaders, policy makers at the state and federal levels, foundations, faculty and staff, vendor community, and others.



National Agenda for Action Analytics - Next Steps

To pursue the elements of this National Agenda, we recommend the following activities as next steps.

Circulate and Refine the White Paper. We intend to circulate this White Paper to the attendees at the Symposium, seeking their input, and refining the White Paper so it can serve as a manifesto for Action Analytics and articulate the National Agenda.

Seek Foundation Funding. We intend to circulate this White Paper to several foundations that have expressed interest in these ideas. Through conversations with these foundations, we hope to determine areas of convergence between Action Analytics and their needs, craft and submit proposals, and receive funding to support the establishment of a National Analytics community of practice, repository, observatory, and social network-based community.

The level and direction of funding will determine the capacity to roll out the National Agenda, and the time frames. We will not proceed to form the community of practice until we have assured adequate funding.

Form a Community of Practice for Action Analytics, with Subcommunities. We shall build the community of practice on the core of participants in the National Symposium. This community of practice will be supported by a social-networking platform, repositories of resources, observatory of emerging competences, best practices, and support in mentoring and change management for the communities.

- **Social Networking Platform, Subcommunities.** The core team will develop a set of communities and subcommunities to support the community of practice. The subcommunities will correspond to particular areas of interest and will be developed in collaboration with symposium participants.
- **Repositories of Resources.** The core team will develop repositories of key resources relating to “what works” in action analytics. These materials will be chunked and meta-tagged in the searchable repositories.
- **Observatory of Competences.** Experts will be engaged to discuss emerging competencies important to the practice of action analytics; the participants in the social network communities will also offer their opinions.
- **Best Practices.** Best practices will be collected and shared as part of the repositories program.
- **Mentoring, Change Management.** The core team will provide mentoring to the members of the communities of practices/subcommunities on how to form up and create a genuine community of practice.

The platform and support services will not be launched until we are assured of adequate financial support for the venture.

Planning for Next Year’s Symposium. Capella and MnSCU have committed to supporting a second National Symposium on Action Analytics, in the Fall of 2010.

Staging Periodic Webinars. Should interest warrant it, we could stage Webinars every three months or so to keep the National Symposium attendees engaged in the conversation and the principle outcomes/initiatives alive and refined.

Develop and Execute a Communications Plan. The core team of the National Symposium on Action Analytics will develop and execute a Communications Plan for engaging thought leaders, policy makers, and other stakeholders who can help advance the National Agenda on Action Analytics.