



# Year 1, Quarter 2 Report

## The Context of SHAPE

The Schools and Higher Education Advancing Public Education (SHAPE) program began in 2012 with the goal of creating a collaborative model between public schools and universities to improve learning and teaching across the preschool to doctorate spectrum. The second round of SHAPE extends this goal with an emphasis on 21st century learning and teaching through the following initiatives: International Baccalaureate, Dual Language Immersion, Global Competence, Early Interventions, STEM, Arts Integration, Universal Design for Learning, Professional Learning Communities, and Digital Learning. Innovation through each of these initiatives is helping to shape the picture of what twenty-first century learning and teaching looks like from preschool through doctoral level education.

As SHAPE evolves, four hallmarks of twenty-first century learning in MCPS and at UM are surfacing. Each of those 21st century learning hallmarks and the SHAPE initiatives that support them are listed in the table below.

21 Century Learning Hallmarks	SHAPE Initiatives
Inquiry-based learning that helps solve problems in novel, creative ways	International Baccalaureate STEM Arts Integration Professional Learning Communities Blended Learning
Blended learning	Blended Learning STEM Universal Design for Learning Early Interventions
Expanded cognitive flexibility through dual language learning and global awareness	Dual Language Immersion Global Competence International Baccalaureate
Equity	Early Interventions Universal Design for Learning Professional Learning Communities Blended Learning International Baccalaureate

## Initiative Updates



### INTERNATIONAL BACCALAUREATE

Since our last report, several significant developments have occurred in the International Baccalaureate (IB) initiative. In early May, the International Baccalaureate Organization (IBO)

conducted a site visit at Lewis and Clark Elementary School; in late June, IBO recognized Lewis and Clark Elementary as an authorized IB Primary Years Program World School—the first public elementary school in Montana to earn such recognition. Joining Lewis and Clark, Franklin Elementary School will be developing and its Primary Years Program. IBO has recognized Franklin Elementary as a candidate school.

IBO also conducted a site visit at UM in May for its proposed IB certificate in Teaching and Learning for pre- and in-service teachers. UM has earned unconditional recognition. During the site visit, representatives from IBO evaluated the courses and certificate program that Dr. Lucila Rudge developed in collaboration with IB teachers in MCPS. After a series of interviews with Dr. Rudge, Dr. Adrea Lawrence, Cameron Johnson (MCPS IB coordinator at Big Sky High School), Brad Chumrau (MCPS IB teacher at Lewis and Clark Elementary School), Ryder Delaloye (MCPS IB coordinator at Hellgate High School), and Jeff Kessler (IB teacher from the Missoula International School), IBO unconditionally recognized the Primary Years Program, the Middle Years Program, and the Diploma Program certificate coursework in Teaching and Learning at UM. In fact, because of the combination of the program's hybrid design with an intensive summer course and two online courses over the proceeding academic year, as well as its location in Missoula, the IBO evaluators believe that Missoula could become a regional—and international—hub for teachers seeking IB certification. The first cohort of teachers began the IB certificate program at UM this quarter and will complete the program in the Spring of 2017. Dr. Rudge is in the process of submitting a proposal to the university and Montana University System for two new IB strands in the M.Ed. and M.A. programs that UM currently offers.

The expansion of the dual efforts at UM and in MCPS are a result of close collaboration between the two organizations and their shared vision of robust, inquiry-driven learning opportunities for students in a variety of settings. As MCPS extends its IB programming to Franklin Elementary School and expands its IB enrollments at Hellgate High School and Big Sky High School in the 2016-2017 academic year, teachers from MCPS and faculty from UM's Department of Teaching and Learning will participate in curricular and assessment training at the university in August 2017. Twenty-seven individuals outside MCPS and UM have registered for the training, scaling the implementation of IB regionally.



## DUAL LANGUAGE IMMERSION

This was a critical quarter in many ways for the dual immersion team. In anticipation of retirements of key administrators (Paxson's Principal Kelly Chumrau and

MCPS Executive Regional Director Roberta Stengel), a concerted effort was made to solidly position Montana's first dual immersion program for sustained success in the upcoming years. This meant hiring a new principal, who is a licensed Spanish teacher, and three new Spanish-proficient teachers, as well as working through pressing issues in the Paxson community, such as an ardent demand from families to expand the Spanish immersion (SI) program and to ensure equity for all students. Paxson staff, immersion teachers, parent groups, MCPS administrators, and Missoula School Board members spent hundreds of hours contributing to collaborative policy brainstorming and development planning sessions and community education meetings across stakeholder groups. In May, MCPS announced that Paxson will expand the immersion program to the entire incoming kindergarten class this fall. Further, there will be adjustments in the learning arrangements for grades 3-5 to ensure that all students benefit from Paxson's commitment to being a language intensive school. MCPS staff and parents created a [video](#) to explain these changes in the context of Paxson's SI goals and history.

Parent satisfaction and SI student learning outcomes continue to look strong. Spanish reading assessments showed that the vast majority of SI students were meeting or exceeding reading proficiency goals. The inaugural roll out of a comprehensive oral proficiency assessment (Early Language Listening and Oral Proficiency Assessment/Student Oral Proficiency Assessment (ELLOPA/SOPA)) was an exciting success; the analysis of outcomes is in process, but SI teachers reported very positive experiences. One teacher described the SOPA administration as the "highlight of my teaching year and perhaps of my teaching career." Drs. Kate Brayko and Jingjing Sun are continuing their investigation of SI's impact on English literacy outcomes.

Family engagement was particularly robust during this quarter. Eight parents were regularly involved in a task force focused on refining equitable policies; six parents contributed to the design of a survey distributed to all Paxson parents. Dr. Brayko has been meeting with a parent group that is strategizing for the upcoming roll out of SI into middle school. One hundred parents participated in conversations about policy developments. Many parents also participated in Spanish learning opportunities themselves, such as a parent/child Spanish class (taught by a Paxson paraeducator) and language classes at the Dickinson Lifelong Learning Center.

Continued collaboration and outreach is underway with partners at Washington Middle School, the Blackfoot language immersion program at Bergan Elementary in Browning, and a fledgling immersion program in Crow Agency.

The Global

Competence initiative, headed by Dr.

Paulo Zagalo-Melo, UM's Associate

Provost for Global Century

Education, and MCPS have worked

in the second quarter to develop a comprehensive strategy to reach out to the growing number of counselors, teachers, students, and parents affiliated with International Baccalaureate schools in order to highlight the connections between International Baccalaureate programming in MCPS high schools and the [Global Learning Pathways](#) (GLP) program at UM. The GLP program offers IB students the opportunity to engage with the University through a series of extracurricular activities while still in high school, the opportunity to study abroad for a year between high school and college, and the opportunity to gain automatic entrance into UM's signature Global Leadership Certificate program. In May, members of Zagalo-Melo's team presented the GLP program to Big Sky High School sophomores who are planning to pursue the IB diploma. Currently, Zagalo-Melo's team is planning activities for the third quarter to: 1) broaden the partnership with Flathead Valley IB schools; to expand the GLP to Malaysia; 2) work with new administrators and IB coordinators in MCPS, including Kelli Higgins (IB Coordinator, Hellgate High School) and Julie Robitaille (Executive Regional Director, MCPS); 3) present on innovative partnerships between K-12 schools and higher education at the IBO Higher Education Symposium in Boston; 4) present the GLP at the IB summer training for MCPS teachers and UM faculty in August; and, 5) attend the IB diploma induction day at Big Sky and Hellgate High Schools.

\*Since schools are not in session there are no new numbers to report.

In the second quarter, the Science, Technology, Engineering, and Mathematics (STEM) initiative has met its goals: UM has hosted and facilitated two conferences, and faculty

are currently developing curricula and training opportunities in computer science and design thinking in MCPS and in the region. The [Expanding Your Horizons \(EYH\) conference](#) was successfully held on 23 April 2016 at the Phyllis J. Washington College of Education and Human Sciences. 139 middle school girls participated in the conference, coming from seventeen schools



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in western Montana and one school from the Blackfeet Reservation. The keynote speaker at the conference was Margaret Mead Hill, a Boeing engineer, and participants also heard from a high school sophomore who has done cancer research with UM Prof. Mark Grimes. Presentations and exhibits from eight Big Sky High School girls as well as from spectrUM and local STEM companies, including two software engineers from Workiva in Bozeman, were featured. Dr. Lisa Blank, who leads the STEM initiative, is currently analyzing two years of data from the EYH conferences that will provide the basis for a research article for publication.

The first annual statewide [Project Lead the Way conference](#) was held at the Phyllis J. Washington College of Education and Human Sciences on 19-20 May 2016. At this conference, fifty-six Big Sky High School students presented on biomedical innovations, twelve Meadow Hill Middle School students presented on green technologies, while teachers and administrators presented on a range of topics. Dr. Blank is in the process of planning for the Project Lead the Way Launch Training to be held 8-10 August 2016. So far, teachers from Whitefish School District, Cle Ulm, Washington, Glasgow School District, and Nampa, Idaho have registered. Fifteen middle and high school teachers from MCPS will be attending the August training.

Dr. Blank has been working with faculty in Computer Science, Teaching and Learning, and Missoula College to develop a computer science teaching license at UM as well as more professional development offerings for teachers in the region's schools. Despite recent increased awareness and attention to the importance of providing students with exposure to computer science topics in K-12 schools and institutions of higher education, the public high schools in Montana's larger cities provide a limited set of computer science classes. For example, Missoula, which has a population of 70,000 people—or 7% of Montana's population (<http://quickfacts.census.gov/qfd/states/30/30063.html>)—has only one of three high schools offering courses in computer science. To open the possibility for more schools to offer computer science classes, Dr. Blank has been working with Dr. Yolanda Reimer in UM's Computer Science department, Dr. Tom Gallagher at Missoula College, and Mr. Daniel Lande, a computer science teacher at Sentinel High School in Missoula, to create a computer science teaching licensure area at UM, which would help grow a cadre of teachers who could instruct in high school and dual enrollment courses, and to develop computer science curriculum for high school teachers. A state-level proposal for the computer science license is currently in process through the Montana University System. If it is approved by the Board of Regents in the Spring of 2017, it will blow open the field of computer science for high school students in Montana, and it will position UM as a regional hub for teacher training in computer science.

Finally, Dr. Blank continues her efforts to advance robotics and maker spaces. As an extension of the robotics program she began in SHAPE P-20, Dr. Blank purchased EV3 robotics equipment for local schools. Lolo Elementary hopes to launch an after-school robotics club for 4th-6th graders. Frenchtown Elementary now has a growing robotics program beginning in kindergarten due to the leadership of a UM K-8 teacher candidate (now Frenchtown teacher) trained in Blank's K-8 science methods course using robotics equipment purchased with SHAPE funding. Dr. Blank has also developed a National Science Foundation project proposal to create

a mobile makerspace that will travel around Montana, bringing design thinking to schools. The proposal has been recommended for funding.



During the second quarter, the Arts Integration initiative created a video documentary, hosted an Arts Integration Think Tank, and developed two new Creative Pulse courses for

teachers. Karen Kaufmann, UM's Director of the Creative Pulse program for teachers, worked in collaboration with MCPS' Hatton Littman and Chris Neely of SPARK! to create a [three-minute video documentary](#) about the SPARK! dance project. The video highlighted SPARK!'s arts integration program through student learning and teacher engagement, demonstrating the possibilities teachers and students have in integrating the arts throughout the curriculum when teachers are highly trained. The video was filmed in elementary and middle schools throughout March and April and is the first of several planned videos documenting the SPARK! Ignites Learning program in Missoula.

The Arts Integration Think Tank was conducted on 15 April 2016 on UM's campus to scale up arts integration throughout the region. Karen Kaufmann organized the think tank to bring UM arts faculty and MCPS staff together to examine the current state of arts integration in the Missoula area and explore possible professional development opportunities for teachers and administrators. On 25 April 2016, MCPS conducted two half-day workshops with teachers, which were facilitated by the Kennedy Center for the Performing Arts.

Finally, two new courses for the Creative Pulse program for teachers in arts integration: Integrating the Arts in K-5 Classrooms: Art, Dance, Drama, and Music and Clay for the K-12 Classroom. The Creative Pulse program also offered its existing courses this summer. It should be noted that SHAPE 2.0 was able to fund 7 teachers for the Creative Pulse program.



Early Interventions initiative has encompassed two primary developments over the second quarter: the commitment of Rattlesnake Elementary School to the implementation of Parent Teacher Home

Visit Project (PTHV) over the next academic year with incoming kindergarteners and their families as well as Dr. Trent Atkins' ongoing presentation of the pre-K screener and early intervention modules in regional and national outlets.

In June, a number of administrators and teachers from MCPS were trained in the new Parent Teacher Home Visit program, which will be rolled out for all kindergarten students in the fall of 2016. In this program, a student's teacher and resource staff member visit each child's home to learn more about the child's family, their interests, their strengths, and what they would like to learn over the coming year. The family learns about specific programming and educational supports at the school as well as how the teacher and the support staff will work with their students. Nationally, such programs have proven very successful in students' academic and social development. This research along with additional training for Rattlesnake faculty and staff will take place in August, led by Carol Ewen of MCPS, Jennifer Calder of Montana Kids Count, and Carrie Rose, the director of National Teacher Home Visit Project.

Dr. Atkins continues to share his research on the early intervention models and pre-K screener he developed in the first round of SHAPE funding. He has presented at the Montana Data Use Conference in Bozeman and at the Collaboration for Effective Educator Development, Accountability, and Reform (CEEDAR) conference in Washington, DC. As a result of these conference presentations, Dr. Atkins was able to work with forty-five educators and teacher educators laying the foundation for a potential long-term partnership with the Oregon Department of Education. In addition, Dr. Atkins continues to work on the two publications he began earlier in the year. He anticipates submitting one manuscript for publication at the end of the third quarter. The Office of Public Instruction (OPI) is interested in possibly funding the expansion of the the early intervention module that he created in the first round of SHAPE. If OPI funds the project, Dr. Atkins will update the modules' videos, and the modules will be widely disseminated across the state. He likewise continues to work on a large-scale research project to scale up his pre-K screener and early intervention modules; this will be delayed if OPI funds the revision and dissemination of the modules, though the modules themselves will be improved.

In the second quarter, Dr. Morgen Alwell of UM, worked to deepen teachers' understanding of Universal Design for Learning (UDL) by training a group of teachers to work with their colleagues to expand their



UNIVERSAL DESIGN  
FOR LEARNING

pedagogical strategies to include students with a range of cognitive and physical abilities. This central purpose manifested in three ways. The first was an online UDL book group, co-facilitated with doctoral candidates Robert Squires and Marlene Zentz. Each book group member discussed their practice in relation to *UDL Theory and Practice*. The second manifestation was the creation of a UM-MCPS Cadre, a group of teachers with students of mixed abilities and backgrounds. Shirley Lundberg of MCPS and Dr. Tracy Missett of UM collaborative organized and ran this group with Dr. Alwell, helping participating teachers design projects to reach students in multiple ways. Finally, Dr. Alwell taught C&I.518. Inclusion and Collaboration, a core course offered online for in- and

pre-service teachers around Montana in Teaching and Learning's graduate programs. 30% of this course is focused on UDL applications.

As Professional Learning Communities (PLCs) have evolved from their initial implementation in SHAPE P-20, they have been approaching



## PROFESSIONAL LEARNING COMMUNITIES

structural equilibrium at the building level during SHAPE 2.0. The process will continue over the next academic year as MCPS has hired several new principals, a new Director of Teaching and Learning, and a new Executive Regional Director, all of whom oversee building-level PLCs. Currently, Dr. John Matt of UM is developing online PLC modules for faculty in MCPS with content that ranges from a very basic information about PLCs for new hires to specific information about how PLCs can be implemented in MCPS. These modules will be adaptive, initially assessing participants' knowledge and allowing them to tailor their learning for areas about which they are unfamiliar or have limited understanding. Dr. Matt is also in the process of laying out a "use case" study to examine how PLCs have been applied in MCPS. This study will help build a better understanding of the qualities that lead to success and to understand the lived experiences of PLCs.



## BLENDED LEARNING

Over the second quarter, the Blended Learning initiative expanded. Since the first quarter, two principals and one teacher joined the blended learning cohort group organized and run by Dr. Ryan Schrenk and Bob

Currie of the Montana Digital Academy. Participants met three times during the semester, orienting them to the approach of blended learning, reviewing their proposed topics for implementation in their schools, and sharing what they learned through the process.