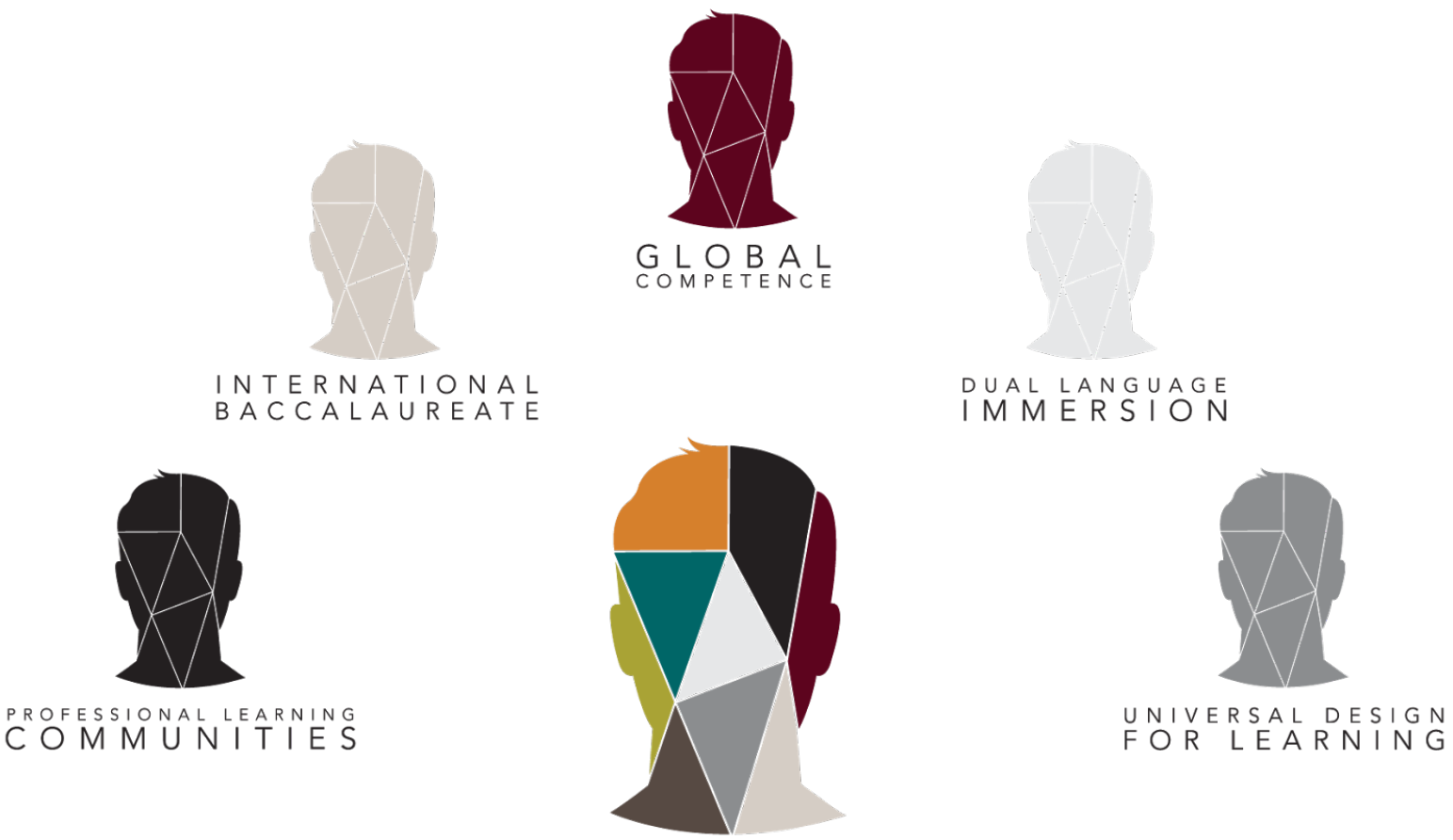

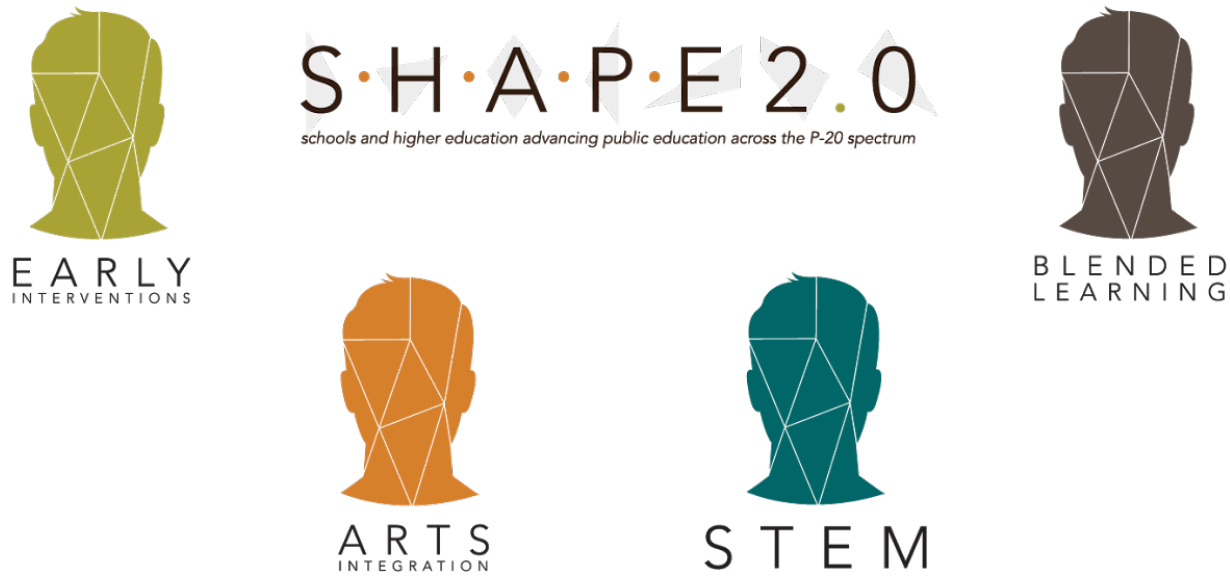

Year 1, Quarter 4 Report

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

The International Baccalaureate initiative continues to be especially active in the fourth quarter. Both UM faculty and students have worked extensively with MCPS faculty to develop and implement a robust set of offerings at the University and within the District, all of which are evaluated on a continuous basis toward improvement.

The inaugural cohort of UM graduate students in the IB certificate program continues to learn from seasoned IB teachers at the University, in MCPS, and at the Missoula International School. During the fourth quarter, UM students have participated in field experiences at Lewis and Clark Elementary, and one Master's student has collected data for her thesis at Big Sky High School. The ongoing growth in IB at these MCPS campuses as well as those of Hellgate High School and Franklin Elementary School serve both as sites of instruction for K-12 students, teacher candidates, and teachers in service. This collaboration has afforded Dr. Rudge the opportunity to study the implementation of UM's IB certificate program as it is rolled out and adjust it along the way. During the fourth quarter, Dr. Rudge taught C&I.536.Assessment and Learning in International Baccalaureate Programs in concert with Cameron Johnson of Big Sky High School and Jeff Kessler of the Missoula International School.

Within the elementary schools, refinement—at Lewis and Clark—and initial development—at Franklin have been the primary focus for this quarter. At Lewis and Clark, faculty continue to implement and refine their IB curriculum, focusing on its alignment within and across grades and with the IB standards more generally. In the process, faculty have developed a method of amending the school's Program of Inquiry, in turn, deepening their understanding of the curriculum. In addition, faculty have begun to integrate the Next Generation Science Standards and Project Lead the Way modules (see the STEM section below) into their Units of Inquiry. At Franklin, a candidate school for IB's Primary Years Programme (IB-PYP), faculty have continued to craft their first Units of Inquiry with an IB assigned consultant, and they have introduced attributes of a curious and effective learner to students, other school staff, and families. The faculty at Franklin is working toward recognition as an IB-PYP school in 2017-2018.

Within MCPS' Hellgate and Big Sky high schools, faculty continue to study and implement effective teaching practices, resulting in more robust understandings of what inquiry-driven teaching and learning looks like in practice and within a student learner. As part of their professional development, five Hellgate High School teachers visited Flathead High School to

observe the IB program and its implementation there, strengthening the collaboration between the two schools. Teachers at Big Sky High school have begun to incorporate signs and posters of the IB curriculum throughout the building.

Both MCPS and UM are in the initial planning stages for the IB Summer Institute, which will be offered in August 2017. The Institute will focus on four-five primary years and diploma programme courses geared toward effectively implementing the curriculum in each building. All four MCPS schools will be sending their IB coordinators and teacher leaders to trainings outside of the state. As each school continues to hone its program, faculty and administrators have stepped up outreach to families, hosting informational meetings and open houses to share information about their IB offerings.

DUAL LANGUAGE IMMERSION

During the fourth quarter, Paxson Elementary School has begun to polish the structure of its truly dual language immersion curriculum. In response to the emerging program's success and family demand, Paxson's new principal, Peter Halloran, and its faculty have worked with Dr. Kate Brayko and MCPS leadership to make the dual language immersion program standard for the entire kindergarten class. To do this, Halloran and the third and fourth grade teachers have systematically evaluated the school's immersion model, underscoring the need for equitable access to the program as it continues over the coming years. Faculty across grades have also deconstructed content area standards and developed a clear scope and sequence for each for the remainder for the 2016-2017 academic year from kindergarten through fourth grade. In their research, Drs Brayko and Sun have shown that early literacy learning outcomes continue to be promising for students enrolled in the immersion program. A paper they have co-authored, "Examining the Impact of Spanish Immersion on Young Native English Speakers' English Literacy Skills," has been accepted for presentation at the International Conference for the Society of Scientific Studies of Reading in Halifax, Nova Scotia in July 2017. Drs Brayko and Requena at UM have met with Halloran to plan for an upcoming professional development experience for Spanish immersion teachers; and, Brayko and Requena have collaborated to plan professional networking opportunities for P-12 language teachers regionally.

In addition to the structural work with the school's curriculum, Paxson has highlighted third graders' dual language learning by planning a bilingual play to be staged at the Missoula Children's Theatre. As Paxson students in the upper grades prepare for middle school, Halloran and the MCPS Executive Directors have discussed how dual language students from Paxson might transition to Washington Middle School.

As the Global Competence initiative has developed over the past three quarters, a clear confluence has surfaced with the International Baccalaureate initiative. Dr. Paulo Zagalo-Melo presented on the Global Leadership Initiative (GLI) at the International Baccalaureate Organization Symposium in Boston this quarter, highlighting innovative partnerships with K-12 schools and institution of higher education. Underscoring this, UM and MCPS have worked collaboratively to reach out to prospective students through open houses, showcase nights, classroom visits, and the like. During the fourth quarter, the Global Learning Initiative (GLI) at UM has actively advised local high school students on their academic goals, how they might benefit from the GLI, how they can access enrollment materials, and how they can interact with UM faculty before and after admission to the program. Through these joint efforts, students' and their families' exposure to the GLI has increased—and so has their interest. In this quarter, seventeen juniors enrolled in the program (five from Big Sky and 12 from Hellgate High School). To build on this momentum, UM and MCPS staff are working to create a two-week GLI Summer Institute for eighth grade and high school students, which will be run collaboratively with MCPS and UM faculty and will focus on solving real world problems.

The STEM initiative has made significant headway in implementing existing programs, such as Project Lead the Way (PLTW) and Expanding Your Horizons (EYH) for girls; it has likewise continued to create and grow new programs in computer science and design thinking. Across MCPS and within the Elementary Education program at UM, PLTW has expanded noticeably: 43 teacher candidates at UM and all teachers at MCPS elementary schools have been trained. In fact, eight of the nine elementary schools in MCPS are using PLTW modules in their classrooms as part of their science curriculum. Lewis and Clark, for example, is embedding PLTW modules in its IB Units of Inquiry. This comprehensive integration of PLTW in elementary schools has had significant effects—Hawthorne Elementary students have outscored their peers in the district on the state's Smarter Balanced assessment. Dr. Lisa Blank and her doctoral student Kory Johnston, who is also a teacher at Chief Charlo Elementary, have been the PLTW primary trainers for teachers in MCPS and around the state. They are currently studying the process of how an innovative curriculum like PLTW is implemented within a district and its schools.

UM and MCPS are simultaneously rolling out programs in computer science. As noted in the last quarterly report, UM submitted a proposal for a computer science teaching license that was approved by the Academic Standards and Curriculum Review Committee and the Faculty Senate. It has since been discussed at the Board of Regents meeting in November and the Board of Public Education meeting in early October. Both bodies have recommended a vote in favor of the proposal. Similar moves have occurred in MCPS. Middle schools have launched a new PLTW module in computer science, and teachers from each of the three middle schools will be trained in the spring to implement these modules. At the high school level, Sentinel continues to implement STEM-PLTW pathways in engineering and computer science successfully. This quarter, computer science students created an app called Classroom Assistant, which was selected as the best in Montana for the Verizon Innovative Learning App Challenge out of 1800 entries.

Finally, Dr. Blank continues to develop programming around design thinking. This has entailed a robust collaboration with spectUM, which includes a Making and Tinkering Workshop offered in September, securing funding for a permanent Maker Space in the new Missoula Public Library, and creating a culture making curriculum that fuses design thinking and Indian Education for All with cooperation from SciNation, a group that disseminates information about technological and medical advancements in knowledge.

ARTS INTEGRATION

In October, a series of leveled workshops were offered for teachers in western Montana that focused on the integration of movement and dance in elementary classrooms. A total of 39 teachers participated. In addition to these workshops, Karen Kaufmann worked with MCPS to develop a series of arts integration workshops that will be offered in the spring of 2017.

EARLY INTERVENTIONS

As noted in the last quarterly report, the Early Interventions initiative has moved in exciting new ways. As Dr. Atkins continues to work with MCPS in participating in early intervention studies for at-risk children entering kindergarten, Rattlesnake, Paxson, and Franklin Elementary Schools have moved provide amplified supports for students and their families. At Rattlesnake, kindergarten teachers completed 66 Parent Teacher Home Visits in the fourth

quarter. In these visits, teachers worked in pairs with graduate students in social work, meeting with families to learn more about their hopes for their student's learning and growth, expectations, and how families and the school might mutually work toward them. Teachers reported students' excitement about the visits, and parents expressed appreciation for teachers' interest in their children, establishing a foundational partnership geared toward each student flourishing in school. MCPS will train more teachers in the home visit process in the spring of 2017.

In parallel, kindergarten teachers at Paxson Elementary and first grade teachers at Franklin Elementary began implementing Academic Parent Teacher Teams (APTT), replacing traditional parent-teacher conferences with meetings oriented around students' initial screening for the year with games and activities to build children's skills. These meetings, coupled with collaborative, realistic goal setting, have helped build a supportive school community where parents and work together with each other and their child's teachers. APTT meetings will continue in early 2017 after which parents and teachers will complete surveys on their satisfaction with the model to help in planning for the 2017-2018 academic year.

As noted in the last quarterly report, Dr. Atkins is working with faculty at Stanford University's Center for Education Policy and Analysis to plan early intervention studies. Additionally, he has developed an initial agreement with ParentPowered/Ready4K to share materials in Montana and for research in implementing the framework and modules he has created over the course of the entire SHAPE grant program.

UNIVERSAL DESIGN
FOR LEARNING

Planning activities along with the purchasing of new, customizable technologies for learners have occurred during the fourth quarter in the Universal Design for Learning initiative. Dr. Morgen Alwell has been working on the research design for a qualitative study examining how professional development activities in Universal Design for Learning (UDL) impact teacher's professional practice and, in turn, their students' learning. Surprisingly, little such research has been done.

To offer multiple modes of instruction for their students, MCPS has purchased 380 individual Read&Write for Google licenses. Also, the District is developing a professional development workshop for middle and high school teachers, called Google Fest, on 24 April 2017. This professional development workshop will highlight how teachers can use tools like Read&Write for Google.

PROFESSIONAL LEARNING COMMUNITIES

The focus of the PLC initiative in the fourth quarter has been to deepen the implementation of its key components across MCPS. Upon returning from a PLC Summit Conference, during in the third quarter, seven MCPS principals have met bi-monthly, participating in an active book study group that has not only furthered our understanding of PLCs, but also enabled leadership to work together, truly embracing the "L" of PLCs and adult learning. Such learning has been reflected in weekly K-12 building principal PLC meetings in which all seventeen MCPS principals gather to plan strategically how to build capacity and sustainability for this initiative in their buildings. To better inform this work, Dr. Elise Guest, the Executive Director for Teaching and Learning in MCPS is conducting a district-wide PLC survey to determine the current status and scale of implementation and to inform future professional development targets for SHAPE in Year 2.

BLENDED LEARNING

Most of the activities in the fourth quarter for Blended Learning have been oriented around planning for teacher and administrator professional development and support. The Montana Digital Academy, for example, is in the final stages of recruiting teams for its Blended Learning class, which begins on 31 January 2017. To date, MCPS has hosted four Google Cadre sessions with school administrators, teacher, and staff. These Cadres will continue through the 2016-2017 academic year, culminating with Google Fest, which will be held at Sentinel High School on 24 April 2017. Middle and high school teachers in the district will be exposed to four distinct strands: assessment, Google tools, Universal Design for Learning with Read&Write for Google, and 21st century teaching spaces in conjunction with project-based learning. By the end of the 2016-2017 academic year, over 450 administrators, faculty, and staff in MCPS will have had training in digital learning.