Journal of Educational Research and Innovation

Volume 11 *Issue 1* Article 3

2023

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Cover Page Footnote

Special thanks to Jody M. Bartz for her assistance in developing this manuscript during her time at Montana State University.

Journal of Educational Research and Innovation
2023, Vol. 11, No. 1

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Commonly referred to as Big Sky Country, Montana is the fourth largest state in the union but barely has over one million residents, with public school enrollment PreK-12 in 2021-2021 at 149,198 (Montana Office of Public Instruction, 2022). Spread out over 147,040 square miles of prairie, rivers, lakes, and mountains are more than 400 school districts, consisting of 825 schools—nearly all of them very small. Montana is also home to 10 Educator Preparation Providers (EPPs) who have worked together for decades to prepare new teachers for Montana's schools. In 2012, several entities came together to launch the Montana Collaborative for Effective Educator Development, Accountability and Reform (MTCEEDAR) – a partnership of the Montana Higher Education Consortium, Office of Public Instruction, University of Montana, University of Montana Western, Montana State University, Montana State University Billings, and University of Providence. This collaborative was made possible through federal funding and coordination by the CEEDAR Center housed at the University of Florida (https://ceedar.education.ufl.edu/). The mission was to increase the commitment and capacity of all Montana educators to maximize the learning outcomes of every student. Central to this work has been an emphasis on ensuring that all pre-service and novice educators acquire a core set of highly effective instructional practices through their various EPPs and continuing through in-service professional development available across the state.

The Promise of High Leverage Practices

Teacher Preparation for Inclusive Classrooms

Previous research has demonstrated that high quality teachers play important roles in student learning (Sanders, et al., 1997; Maynes & Hatt, 2015; Nye, et al., 2004; Rockoff, 2004). Well-prepared teachers—teachers who have completed teacher-preparation coursework and at least a semester of supervised teaching (student teaching or internship)—have been shown to be more effective, producing a greater impact on student learning (Ingersoll, et al., 2014; Carver-Thomas & Darling-Hammond, 2017; Sutcher, et al., 2019). Well-prepared teachers are also 2.5 times more likely to continue teaching beyond their early years in the profession. One key element in preparing teachers to be ready for and stay in the classroom is to help them build the skills and practices needed to provide inclusive instruction. High leverage practices have emerged over the last decade

as skill-sets that promote well-prepared teachers of inclusive classrooms.

Teaching Works High-Leverage Practices

In recent years, teacher and leader educators at the University of Michigan, through a project known as TeachingWorks (Ball, 2016), have identified a critical set of nineteen essential practices that can be used in any content area and that research shows improve student learning and behavior. These practices can be taught to and learned by teacher candidates through their coursework, and clinical field experiences can reinforce those practices (Ball, 2016). These critical practices are known as High Leverage Practices (HLPs) and are defined as "a set of practices that are fundamental to support K-12 student learning, and that can be taught, learned, and implemented by those entering the profession" (Windschitl et al., 2012, p. 880). They represent a "common core of professional knowledge and skills that can be taught to aspiring teachers across all types of programs and pathways" (Ball & Forzani, 2011, p. 19). These highly-effective instructional practices should be frequently used by all teachers, regardless of curriculum or content areas.

High-Leverage Practices in Special Education

High leverage practices have also been identified for special educators by the Council for Exceptional Children (CEC) (Maheady, et al., 2019). The twenty-two HLPs for special educators fall under four intertwined components: collaboration, assessment, social/emotional/behavioral practices, and instruction (McLeskey, et al, 2017). The authors of this comprehensive guide clarify that HLPs for special educators can be used by general educators, but a primary difference between the *TeachingWorks* HLPs and the *CEC* HLPs is the depth professionals must go into assessment and instruction. More specifically, the assessment expectations for special educators are much more comprehensive. Also, instruction and behavioral interventions tend to be more explicit and systematic to address the needs of students with disabilities. Consequently, the more-prescriptive *CEC* HLPs should be part of special education teacher preparation and induction processes. While distinct in some ways, both sets of HLPs, combined, provide a framework of practices that can be utilized to serve all children.

Purpose of the Paper

The purpose of this paper was to describe the process MTCEEDAR undertook to identify a set of high leverage practices which pre-service teachers could be expected to implement at a proficient level by the completion of their preparation program (Initial HLPs). This first step to identify Initial HLPs was followed by recognizing a second set of high leverage practices novice teachers could master during their induction years (Induction HLPs). We engaged a wide variety of stakeholders to select five initial HLPs that educator preparation programs in Montana could introduce to preservice teachers and expect to see demonstrated with proficiency by the completion of their final clinical experiences. Additionally, we hoped to inform in-service induction and professional development by indicating which HLPs could be the focus of induction programming for new teachers entering the field.

The Inception of the *Big Sky Five*

In 2015, as part of an effort to fulfill its mission to increase the commitment and capacity of all Montana educators to maximize the learning outcomes of every student, the MTCEEDAR team along with

other MT EPP professionals undertook the alignment of statewide and locally-used instructional frameworks throughout Montana, such as the Danielson Framework for Teaching (Danielson, 2013), the Marzano High Reliability Teacher Program (Marzano & Rains, n.d.), and the Daggett System for Effective Instruction (Daggett & Partner, 2011). Those frameworks were then crosswalked with Teaching Works HLPs and the CEC HLPs. This work resulted in a document referred to as the MTCEEDAR Matrix that shows the alignment between these highly-utilized frameworks in Montana, the Teaching Works HLPs, and the CEC HLPs. Although all the practices in the MTCEEDAR Matrix were deemed important for Montana educators, guidance recommends that professional development providers and preparation programs focus on a subset of those practices at different points in the career of a teacher. To this end, we began the process of establishing which critical practices could and should be introduced and demonstrated during a teacher preparation program and the induction period.

Procedures

The MTCEEDAR team undertook a two-year process to engage with stakeholders, including K-12 educators, tribal partners, and EPP faculty, across the state to systematically determine which high-leverage practices were considered most important for new teachers to know and be able to do upon exiting their respective EPPs and thus, be well-prepared for teaching in the range of Montana's classroom settings. In order to collect actionable data which accurately reflected the values and beliefs of as many groups of Montana stakeholders as possible, the MTCEEDAR team elected to create a modified Q-sort data collection protocol. The Q-sort technique is a research method which has been used for over 80 years in the social sciences (science education, educational psychology, political science, rural sociology, communication, public policy, public heath, etc.) to study people's viewpoints (Zabala, et al., 2018), organization of concepts (Neufeld et al., 2004), priorities (Lang & Carstensen, 2002), or to test theoretical models (Jahrami, et al., 2009). The technique was originally developed by William Stephenson in 1935 (Stephenson, 1935) as a way to produce a systematic study of participants' viewpoints about a topic and was referred to as Q-methodology due to the type of factor analysis used to analyze the data.

In Q methodology, variables—typically presented as statements printed on small cards—are sorted by participants according to specific instructions. The use of sorting, rather than simply rating agreement with individual statements, is designed to reveal how people consider ideas in relation to other ideas, rather than in isolation. The advantages of this methodology also include "ease of administration, low susceptibility to demand biases, ability to handle large numbers and types of stimuli, and grounding within a theoretical framework" (Whaley & Longoria, 2009, p. 105). In this study, the team created a closed card sort (Paul, 2008) where participants were asked to sort cards into preexisting categories. Previous research suggests that this method can be used "to add new content to an existing information architecture or to test an information architecture by scoring participant results with the existing structure" (Paul, 2008, p.8).

Data Collection

The data collection process consisted of two major activities. The first activity involved groups of stakeholders at state-wide meetings. At these meetings participants were asked to engage in the Q-

sort activity. The second activity was the implementation of a survey with stakeholders at a large state-wide conference. In total, there were 203 P-20 stakeholders involved in data collection.

Q-Sort Activity

During spring of 2018, the modified Q-sort activity was conducted with 12 groups of educational leaders including: the Montana Council of Deans of Education (MCDE)—consisting of the lead faculty from each of the state's ten EPPs, the Montana Advisory Council for Indian Education (MACIE)—consisting of tribal education leaders, the faculties of nine educator preparation programs in Montana—consisting of full time EPP faculty, and the attendees of a P-20 Education summit (EPP faculty and P-12 administrators and staff). There were 47 total participants across these 12 groups. In preparation for these card-sorting activities, randomly assigned small groups of 3-6 participants from various stakeholder groups were provided with a guiding protocol and explicit instructions (see Figure 1), and a deck of cards with each card listing a single HLP (see the list of HLPs that were included on the cards in Figure 2). Groups were prompted to sort the cards into three categories indicating the development window in which a teacher could be reasonably expected to demonstrate proficiency: (1) at the completion of student teaching, (2) at completion of year one of teaching, or (3) at completion of year three of teaching. The results of the sorted cards were then recorded in a database. Each small group was recorded as a single decision for the placement of the indicated HLP, thereby equating the groups' decisions to a total of 12 scores that are reflected in the results.

Figure 1
Card Q-Sort Activity Instructions

Card Q-Sort Activity Instructions

- Form small groups of 3-5 people
- Each group receives a set of High Leverage Practice cards – one HLP per card
- Each group discusses the meaning/parameters of each HLP
- Each group sorts each HLP into one category that represents their expectation of proficiency:
    - Career Point #1: By the end of student teaching
    - Career Point #2: By the end of Year 1
    - Career Point #3: By the end of Year 3
- Use this link to submit your responses https://tinyurl.com/y...7
- Results are tallied to identify points of agreement and/or disparity

Survey

teachers and leaders to cast their votes regarding new teachers' HLP Proficiency during a state-wide teachers' conference. In order to engage as many K-12 educators as possible, we created a survey closely aligned Additionally, the MTCEEDAR team provided an opportunity for in-service with the card sort activity (see Figure 2). Each HLP was listed with options to select "by the end of student teaching," "by the end of the first-year teaching," or "by the end of the third-year teaching." Survey

participants were asked to select the point at which they thought an individual should be able to implement each HLP with proficiency. The survey was conducted at a booth in the vendor area of the teachers' conference via iPad and hard copy, depending on participant's preference. One hundred fifty-six (N=156) K-12 school district administrators and staff completed the survey. In total, the MTCEEDAR team collected card sort and survey data from 203 Montana educators and stakeholders, across all levels and areas of Montana's educational landscape.

Figure 2

MT Core Effective Practices Survey

Sort the following 19 Teaching Works high leverage practices into the career point category that best represents your expectation for proficiency.

High Leverage Practice Proficiency	By end of student teaching	By end of teacher's 1st year	By end of teacher's 3rd year
1. Leading a group discussion			
2. Explaining and modeling content, practices, and strategies			
3. Eliciting and interpreting individual students' thinking			
4. Diagnosing particular common patterns of student thinking and development in a subject-matter domain			
5. Implementing norms and routines for classroom discourse and work			
6. Coordinating and adjusting instruction during a lesson			
7. Specifying and reinforcing productive student behavior			
8. Implementing organizational routines			
9. Setting up and managing small group work			
10. Building respectful relationships with students			
11. Talking about a student with parents or other caregivers			
12. Learning about students' cultural, religious, family, intellectual, and personal experiences and resources for use in instruction			
13. Setting long- and short-term learning goals for students			
14. Designing single lessons and sequences of lessons			
15. Checking student understanding during and at the conclusion of lessons			
16. Selecting and designing formal assessments of student learning			
17. Interpreting the results of student work, including routine assignments, quizzes, tests, projects, and standardized assessments			
18. Providing oral and written feedback to students			
19. Analyzing instruction for the purpose of improving it			

Tell us about your role (circle one): K-12 Administrator, K-12 Staff, Post-Secondary Instructor, Pre-Service Teacher

Findings

The Big Sky Five: Initial HLPs

Results from the stakeholder data were analyzed and categorized by the MTCEEDAR team and the Higher Education Consortium, which consists of faculty members from all ten EPPs in the state. This process consisted of determining how participants prioritized the HLPs into one of three time periods: (1) end of student teaching, (2) end of the first year of teaching, and (3) end of third year of teaching. These findings provide an outline of realistic HLP implementation expectations for early-career educators. The results of the combined card sort activities and the survey can be found in Figure

Figure 3

Combined Results of Card Sorts and Survey Data Collection

High Leverage Practices	End of StTchg	End of Year 1	End of Year 3
1. Leading a group discussion	135*	24	11
2. Explaining and modeling content, practices, and strategies	79	43*	27
3. Eliciting and interpreting individual students' thinking	33	52	45*
4. Diagnosing particular common patterns of student thinking and development in a subject-matter domain	20	35	65*
5. Implementing norms and routines for classroom discourse and work	102	55*	12
6. Coordinating and adjusting instruction during a lesson	67	41	22*
7. Specifying and reinforcing productive student behavior	80	44*	16
8. Implementing organizational routines	109*	51	12
9. Setting up and managing small group work	93	36*	12
10. Building respectful relationships with students	159*	19	6
11. Talking about a student with parents or other caregivers	48	66*	12
12. Learning about students' cultural, religious, family, intellectual, and personal experiences and resources for use in instruction	57	47	34*
13. Setting long- and short-term learning goals for students	62	45	38*
14. Designing single lessons and sequences of lessons	162*	23	4
15. Checking student understanding during and at the conclusion of lessons	128*	30	2
16. Selecting and designing formal assessments of student learning	84	33	30*
17. Interpreting the results of student work, including routine assignments, quizzes, tests, projects, and standardized assessments	57	53*	22
18. Providing oral and written feedback to students	103	36*	9
19. Analyzing instruction for the purpose of improving it	71	48	29*

*Note: * indicates the highest ranking HLPs for each point in time.*

Findings revealed that the following five high leverage practices were deemed the most important areas to focus on across Montana preparation programs, in coursework and through clinical experiences:

1. Building respectful relationships.

2. Implementing organizational routines.
3. Designing single lessons and sequencing of lessons.
4. Leading group discussions.
5. Checking for student understanding during and at the conclusion of lessons.

Once these HLPs were identified, they were referred to as The Big Sky Five. As will be discussed in more detail, efforts were taken to encourage all EPPs to take steps to ensure all program completers have obtained these skills upon the completion of their student teaching experience. Next, we describe the HLPs that were determined the most appropriate for the end of the first year of teaching.

Novice Teacher Proficiency: Induction HLPs

From the onset of our MTCEEDAR efforts, we were informed by the scholarship of Ball and Forzani (2011) and recognized that, while we would be able to introduce all HLPs to our preservice teachers during their preparation, these practices would need further development during induction. Our data collection identified five HLPs for pre-service instruction, coaching, and evaluation, and fourteen HLPs for focus during in-service professional learning. During the card sort, we specifically asked participants to indicate which of the HLPs they believed would be appropriate for new teachers to demonstrate proficiency by the end of the first year of teaching. Typically, this window of time from preparation completion to end of one's first year teaching is aligned with some sort of induction process. The HLPs that stakeholders identified for implementation with proficiency by the end of the first year of in-service teaching were (See Figure 2 and 3):

1. Explaining and modeling content, practices, and strategies.
2. Implementing norms and routines for classroom discourse and work.
3. Specifying and reinforcing productive student behavior.
4. Setting up and managing small group work.
5. Talking about students with parents or other caregivers.
6. Interpreting the results of student work, including routine assignments, quizzes, tests, projects, and standardized assessments.
7. Providing oral and written feedback to students.

With these findings, we began to develop a scaffold of proficiencies spanning the completion of a teacher education program through the first year of teaching. It is beyond the scope of this paper to determine the concurrent validity of these two independent groups of HLPs, but it is apparent the group of HLPs for the end of the first year of teaching are more complex than the HLPs from those recommended for the end of the student teaching experience. Next, we share the HLPs determined to be the most appropriate for proficiency at the end of the third year of teaching.

Tenured Teacher Proficiency: Expert HLPs

The remaining seven HLPs were identified for implementation with proficiency by the end of the third year of teaching include:

1. Eliciting and interpreting individual students' thinking.
2. Diagnosing particular common patterns of student thinking and development in subject-matter domain.
3. Coordinating and adjusting instruction during a lesson.

4. Learning about students' cultural, religious, family, intellectual, and personal experiences and resources for use in instruction.
5. Setting long- and short-term learning goals for students.
6. Selecting and designing formal assessments of student learning.
7. Analyzing instruction for the purpose of improving it.

With this final set of findings suggesting the most appropriate HLPs for the end of the third year of teaching, a more complete scaffold of recommended proficiencies emerged. As with the comparison of the first two sets of HLPs, this third set is more advanced than the previous two. Once again, these findings allow stakeholders and policymakers to refine teacher education programs and establish professional development activities within an induction process. In sum, refining EPP programming and induction processes will increase the likelihood of educators becoming proficient in all HLPs in the most efficient manner possible.

Discussion

In this paper we have described a process for establishing state-wide HLPs and the subsequent results. This process has the potential to be replicated by other states interested in better aligning teacher education outcomes across multiple programs. Before discussing implications for future research and practice, we offer limitations to this research.

Limitations

One limitation was representation of varying demographics in the activities. While we were able to engage with a group specifically focused on Native American issues/concerns in education, no other specific demographic groups were targeted as participants. Along those same lines, there was not equal representation of individuals with different roles in teacher preparation. While university faculty account for only a small percentage of P-20 educators in the state, by having each EPP's faculty engage in the data collection, it could be argued that individuals serving in that role were over-represented in the sample. Additionally, because the survey was conducted at a large, teachers' conference, the random sampling only insures that "educators" participated in the survey without being able to control for grade level or content expertise. The two methods of data collection could also be viewed as a limitation in that small group card sort and the individual survey were conducted with different groups of participants and a system of weighting was used to examine all data together. This method, while allowing for larger analysis, may also lend itself to a greater margin of error.

Next, we share implications for action. These suggestions range from ideas for implanting HLPs through coordination through a range of entities. We provide ideas for the dissemination of these practices to a wide variety of stakeholders. Finally, we discuss policy consideration in a post-COVID era.

Coordinated Educator Preparation in Montana

While there are many plausible ways to identify a focused set of high leverage practices for pre-service teacher proficiency (Initial HLPs), novice teacher proficiency (Induction HLPs), and tenured teacher proficiency (Expert HLPs), the faculty from all ten EPPs in Montana chose to engage together in the work to identify the *Big Sky Five*. This collaborative process demonstrated one of the many ways that those of us working to prepare teachers in Montana are committed to working together

for quality and consistency. While we all strive to meet the same state/national accreditation standards, we also seek to align our work to answer the question, "*What should all teachers who are trained in Montana know and be able to do*?" Taking steps to embed the *Big Sky Five* in all ten EPPs is one way that we aim to answer this question.

The process of identifying the *Big Sky Five* allowed us to have shared conversations about our preservice teachers across the state, and in the years ahead will provide us with shared language to develop common coaching tools and utilize state-wide evaluations to guide data-informed decision making. For example, all the EPPs in Montana use the same completer and employer surveys as a tool to support our commitment to continuous improvement and collected data for our accreditation processes. Consequently, a possible future implication of the creation of the *Big Sky Five* would be longitudinal data collection about the proficiency with which employers observe the *Big Sky Five* being implemented and how completers regard their own competency implementing the *Big Sky Five*. We continue to maintain the *Big Sky Five* as a regular topic at the Montana Council of Deans of Education meetings, which take place four times a year, in order to advance the work at the state level, as individual EPPs implement the *Big Sky Five* in ways specific to their unique programs.

The Future of Statewide Teacher Preparation

The process of identifying a focused set of *Teaching Works* HLPs as Initial HLPs, Induction HLPs, and Expert HLPs has several implications for action. Reaching across the crucial areas of behavior, classroom management, instruction, and data use, the *Big Sky Five* represent practices that pre-service teachers can utilize from day one in their own classrooms. While accreditation bodies and administrative rule articulates the content and practices that need to be addressed by teacher preparation programs and demonstrated by completers, narrowing the focus to insure five critical skills will be mastered by all graduates from Montana's EPPs insures consistency and quality of novice educators for schools across our state.

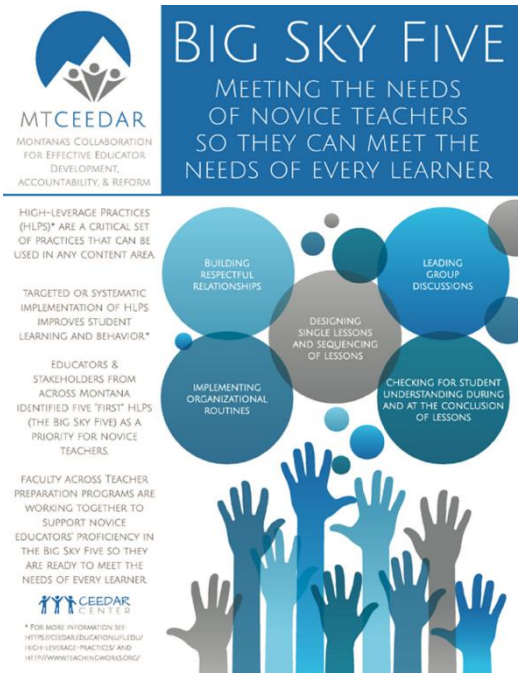
By maintaining shared expectations for what novice teachers can be expected to do, in-service teacher professional learning can be focused on the Induction HLPs that the survey results indicated are more advanced. Identifying and implementing *The Big Sky Five* builds consistency and clarity for educator preparation, while also clearly noting the HLPs that are not included as areas of focus for in-service professional development, both during and after induction. Targeting induction allows for more appropriate, relevant, and applicable in-service professional development.

Implementing the *Big Sky Five* in EPPs across Montana can serve to increase practice-based opportunities and prepare educators ready to: build relationships to support every student's social-emotional well-being; manage their classrooms; prepare and design effective lessons; support students' peer-to-peer engagement and academic language through discussions; and utilize formative data-informed techniques to check for student understanding. Every student deserves a well-prepared teacher, and the *Big Sky Five* can serve as a tool to insure teacher readiness. Certainly, the task of consistent integration of the *Big Sky Five* across Montana's ten EPPs will take commitment and effort, but the collaborative nature of the creation of the *Big Sky Five* indicates that this is work that can be accomplished.

Additionally, Montana stands as a model for what can be done when EPPs see themselves as colleagues and collaborators, rather than competitors. To support a state-wide and national effort for collaboration, MTCEEDAR will develop a collection of open-access resources that can be accessed by all Montana educators in teacher preparation programs and in-service settings, to support the use of these identified five HLPs. Resources that have been or will be developed include:

- An infographic that provides examples of the *Big Sky Five* (Figure 4);
- A self-paced module for the Office of Public Instruction Professional Development Hub where Montana teachers and leaders can interactively engage with the *Big Sky Five* on an asynchronous online platform;
- A state-wide rubric to consistently evaluate an individual's ability to implement the *Big Sky Five* in practice-based opportunities

Figure 4



***Big Sky Five* Infographic**

Policy Implications in a New Era

At the time this article was written the potential implications shifted significantly due to the impact of the global pandemic. Given the uncertainties now and in the future related to COVID-19, we must consider implications related to remote instruction. While it is beyond the scope of this article to provide those details, it is important to consider how remote instruction will impact high leverage practices and how high leverage practices will impact the best models of rem instruction.

Another implication that will require planning and careful implementation is the differentiation between what teacher education programs provide to their students and which of these high leverage practices are part of induction processes. It is possible

that modifications in teacher education programs will be achieved more quickly than modifications to school- and district-level induction practices. That is not to say the former is more important than the latter, however, putting induction practices in the place will require significant resources and coordination across all levels of the education system.

Conclusion

The time is right to undertake the endeavor of identifying the high leverage practices which need to be demonstrated with proficiency by pre-service teachers upon graduation from a teacher education program and which need to be the focus for development during the induction process. This article describes a process that other states might use to begin this work. As our profession experiences on-going shortages and decreases in those pursuing traditional teacher preparation pathways to enter the field, we recognize and prioritize the need to clarify, plan, and implement strategies to best prepare teachers for today's classrooms.

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