

Increasing Academic Rigor Through Comprehensive, Ongoing Professional Development in Rural Special Education: A Description of the SPLASH Program

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Abstract

SPLASH is a 3-year professional development program designed to work with classroom teachers of students with moderate and severe disabilities. The program targets new teachers and employs methods aimed at supporting rural classrooms. The training content focuses on evidence-based practices in English language arts, mathematics, and science, as well as support for overall classroom practices that allow for academic rigor. Each teacher is paired with a coach for the duration of the 3-year participation and, in addition, receives observation support from university personnel with bug-in-the-ear intervention and ongoing support through virtual professional learning communities. Coaches also receive training and ongoing support throughout the program. This article describes the design, application, and outcomes of the SPLASH program. Implications and considerations for future directions are discussed.

Keywords

program description, moderate and severe disabilities, rural teachers, academics

In 2012, the Kentucky Department of Education (KDE) was awarded a State Personnel Development Grant (SPDG) through the Office of Special Education Programs (OSEP). One goal of the SPDG focused on how to address achievement gaps for students with low incidence disabilities by focusing on college and career readiness (CCR), academic readiness, and transition opportunities. A 3-year professional development program called SPLASH, focusing on training and supporting educators who teach students with moderate and severe intellectual disability (MSD), was harnessed to target the plan's focus on increasing academic rigor. This program description is a report of the work of SPLASH to achieve that aim.

The background of the struggle to meet the needs of teachers of students with MSD will be presented, with focus on the unique needs of teachers in rural areas. We will describe the state of education for this population of teachers in Kentucky, the context for SPLASH. Next, the structure and components of SPLASH will be explained, along with an outline of the course of all 3 years of the program, and how SPLASH serves key personnel within each year. Then, the tools for evaluating outcomes will be detailed, followed by current outcomes. Finally, the next steps for the program will be shared, with a subsequent look at some of the limitations of the program.

Background

Throughout the United States, 27% of all public schools are classified as rural (U.S. Department of Education, National Center for Education Statistics, 2016). Although there are advantages to education in rural America, research highlights the unique needs created by these geographical settings. Hill (2015) observed that teachers in rural areas are isolated, served in schools that are removed from access to academic research institutions, and are often high in poverty. He also argues that talent is often undercultivated and underutilized in rural areas. Moreover, state policies are frequently designed to support the many needs in urban centers, creating gaps for teachers in rural areas, specifically in areas of teacher training, state leadership, and online resources. Teachers are asked to fill a myriad of educational roles (e.g., oversee paraprofessionals, implement specialized interventions; Abell, Collins, Kleinert, & Pennington,

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2014; Hill, 2015). The task of filling so many roles leaves little time to perfect and specialize their skills, as is often the case in urban centers; however, the demands for outcomes remain the same.

Just as rural teachers have unique needs, so, too, do teachers of students with MSD. For teachers of students with MSD, the unique and complex needs of the population require special care in choosing effective practices (Courtade, Test, & Cook, 2015). A perception study of special education teachers in the southeastern United States investigated causes of low retention rates, and results indicated that the two most critical areas of impact on a teacher's sense of effectiveness were (a) classroom management and (b) student gains as an effect of intervention (Andrews & Brown, 2015). Areas of additional concern were teacher workload requirements, administration support, parent demands, lack of resources, and relationships with colleagues. Collins (2007) also stated that there is a lack of peer support among teachers for students with MSD. Shurr, Hirth, Jasper, McCollow, and Heroux (2014) reported that teachers of students with MSD often struggle to develop self-efficacy or fail to know whether their work is effective, due to a lack of externally validated student achievement and a lack of appropriate administrative support. In short, the vulnerabilities of any teacher are heightened and compounded among this special population of educators.

The struggles felt by teachers of students with MSD appear to be intensified in rural settings. According to Shurr et al. (2014), accessing materials and information are areas of difficulty, as are struggles in bridging the research to practice gap and heightened professional isolation as interactional susceptibilities. Collins (2007) recommended distance education as a crucial area of impact for supporting teachers in rural settings to address their need for professional development.

In the Commonwealth of Kentucky, a state that is 41.9% rural (Johnson, Showalter, Klein, & Lester, 2014), the struggles for rural teachers of students with MSD are not avoided. In the report, *Why Rural Matters 2013–2014: The Condition of Rural Education in the 50 States*, the authors indicated that Kentucky is classified as “critical” and in need of intervention in rural education (Johnson et al., 2014). Students in special education are overrepresented in Kentucky at 16.1% compared with the national average of 12.8%. Abell et al. (2014) stated that in-school training in Kentucky needs more consistency among supervisors and awareness of the tools available to them. The authors pointed out the critical need to end the professional isolation of rural teachers of students with MSD and recommended professional learning communities (PLCs) and the use of technology through online courses and virtual coaching as potential areas to explore.

In addition to more collaboration and less isolation, teachers in rural areas must increase fidelity to evidence-based

practices (EBPs) and academic rigor that allows progress in an academic curriculum. In many cases, past curricula for students with MSD focused on teaching daily living skills; however, the implementation of Individuals With Disabilities Education Improvement Act (2004) and the No Child Left Behind (NCLB) Act (2001) placed a greater emphasis on teaching academic content to students with MSD. In addition, changes in federal policies and research have required that students with disabilities have access to and make adequate progress in the general curriculum (V. Knight, Browder, Agnello, & Lee, 2010). The NCLB Act (2001) mandated scientific research in instructional practices. This, in turn, caused the identification of instructional EBPs (Courtade et al., 2015). The Every Student Succeeds Act (ESSA, 2015) continues the expectation that educators use evidence-based instruction; however, many teachers of students with disabilities continue to use “practices that have shown little effect on student outcomes” (Spooner, Browder, & Mims, 2011, p. 94). In 2014, Courtade, Jimenez, and Delano identified research and EBPs for teaching students with MSD. They found the following practices to be the most effective per content domain. In literacy, massed trial training, time delay, and picture supports proved to be the most efficacious forms of instruction/instructional supports (Browder, Ahlgrim-Delzell, Spooner, Mims, & Baker, 2009; Browder, Wakeman, Spooner, Ahlgrim-Delzell, & Algozzine, 2006). In mathematics, the researchers recommended in vivo instruction, systematic and explicit instruction, opportunities to respond, graphic organizers, and the concrete–representational–abstract (CRA) model (Browder, Spooner, Ahlgrim-Delzell, Wakeman, & Harris, 2008; Courtade et al., 2014) as key instructional methods/supports. In science, the use of task analysis, prompting systems, systematic instruction, and concept instruction (Courtade et al., 2014; Courtade, Spooner, & Browder, 2007; Spooner, Knight, Browder, Jimenez, & DiBiase, 2011) supported a natural and inclusive instructional environment.

As outlined, the literature highlights the struggles of teachers of students with MSD, especially in rural settings. Kentucky teachers are not exempt from the vulnerabilities of this population. Research provides insight for the necessary steps to address these concerns by focusing on closing the research to practice gap, using technology to provide access, and using research and EBPs. The remainder of this article focuses on the structure of one initiative of the Kentucky SPDG, SPLASH, as well as current outcomes and future directions the initiative may take.

Program Structure

The OSEP-funded Kentucky SPDG consists of two overarching goals. The first goal focuses on closing the achievement gap for students receiving high-incidence special education services, and the second goal concentrates on

initiatives addressing the needs of classrooms for students with MSD. Within the second goal, there are three programs: (a) the CCR Initiative—an initiative focusing on post-high school transitions; (b) SPLASH—the academic initiative focused on providing EBPs in the areas of English language arts (ELA), mathematics, and science; and (c) Teaching Age-Appropriate Academic Learning via Communication (TAALC)—the communication initiative. To give guidance to efforts across all three initiatives of Goal 2, the Kentucky Institutes of Higher Education Consortium—Moderate and Severe Disabilities (IHE-MSD; a group of state experts in MSD), the Office of Vocational Rehabilitation, the Kentucky Autism Training Center, and the Kentucky Special Parent Involvement Network (KY-SPIN) are consulted. The structure of SPLASH is further outlined next.

Key Components of SPLASH

SPLASH is a 3-year professional development program for teachers in classrooms that serve students with MSD across the Commonwealth of Kentucky. The current grant cycle has supported approximately 52 SPLASH teachers, 312 students, and 13 coaches in three cohorts, representing 16 counties and 20 school districts across Kentucky. The students and teachers are almost evenly split between elementary and secondary schools. In the following sections, the key components of the program are discussed, beginning with key personnel, followed by an outline of the program design and an in-depth explanation of each component.

Key personnel

To offer comprehensive support, SPLASH focuses on three audiences: (a) coaches, (b) administrators, and (c) teachers.

Coaches. Coaches are a vital part of the SPLASH model. The SPLASH coaches are low incidence consultants (LICs) from Regional Educational Cooperatives around the state, along with a few specially trained additional coaches from geographically larger regions. SPLASH currently maintains 13 coaches to support SPLASH teachers statewide. The coaches conduct training and provide support to SPLASH teachers on an ongoing basis for all 3 years of the program. In addition to implementing many of the components of SPLASH, the coaches also receive ongoing training and support. The coaching design follows the combined structures provided by the Participatory Adult Learning Strategies (PALS) framework (Dunst & Trivette, 2009), the instructional coaching constructs of J. Knight (2007), and the coaching research of Fixsen, Naoom, Blase, Friedman, and Wallace (2005). Annually, coaches complete a participant survey for SPLASH personnel (i.e., SPDG co-PIs and program manager) to make data-based decisions in their

support of the coaches. Coaching reports are submitted three times per year per teacher (see the Appendix), following the recommendations of Fixsen (2015) that reports should be submitted and analyzed three to four times per year. A special education faculty member from the University of Louisville provides supplemental coaching and training based on the analysis of each report cycle.

Administrators. Administrators provide support to the SPLASH teachers and work collaboratively with the coaches. SPLASH requires administrator approval for teachers to participate in the program and also provides them with support. At the present time, administrators are welcomed to trainings provided by SPLASH, but SPLASH personnel are currently examining ways to provide focused support for this group of SPLASH stakeholders. This will be further discussed in the “Next Steps” section.

Teachers. Any public school teacher in a Kentucky K–12 classroom with MSD certification (or working toward MSD certification if already certified in another area), serving students with MSD, can apply for the SPLASH program, with the exception of first-year teachers. In the state of Kentucky, all first-year teachers are a part of the Kentucky Teacher Internship Program (KTIP) designed to provide assistance to new teachers, with the main goal to help new teachers experience a successful first year in the classroom. Priority is given to teachers in the second and third years of teaching; however, more veteran teachers are also welcome to apply.

Applications for SPLASH are sent to district Directors of Special Education (DoSE), making them aware of the SPLASH program and inviting them to identify teachers who may want to participate in the 3-year professional development program. The application stipulates the requirements of qualified teachers, namely, (a) the teacher has or is working toward MSD certification (if certified already in another area), (b) the teacher is not involved in KTIP, (c) the teacher is able to attend monthly virtual PLC trainings and yearly face-to-face trainings, and (d) the teacher is willing to receive monthly job-embedded coaching and fidelity checks from SPLASH personnel. The application also details the requirements of the administrators (DoSE and principal), which include (a) providing district and building-level support, (b) purchasing/providing access to software that will create picture communication symbol-based boards and activities (e.g., Boardmaker Software), (c) completing online surveys, (d) allowing release time for professional development, (e) working with the coach for teacher success, (f) providing travel expenses for trainings in Years 2 and 3, and (g) purchasing curriculum as stipulated by SPLASH.

Once the DoSE, principal, and teacher agree that SPLASH is a good fit for them, the application is sent to KDE where a decision is made based on two measures: (a)

a selection rubric aligned to the requirements of the SPDG and (b) the input of the regional SPLASH coach to ensure that the caseload demand can be met for 3 years. The recommendations from Fixsen (2015) are used to guide coaches for caseload numbers (i.e., four teachers per coach).

The current grant cycle has served or is serving 52 teachers across the Commonwealth of Kentucky. Of the 52 teachers, 50 are women, 21 are elementary school teachers, 31 are secondary school teachers, and 48 teach in schools in counties labeled as rural. Teachers are provided with ongoing coaching and training to implement research and EBPs for students with MSD. Fidelity checks of instructional practices based on the trainings are provided throughout the school year. Further details about interventions provided for teachers follow.

Program Design

During the first year of SPLASH, teachers are provided with training and support across nine key areas. In the second year, training is provided for ELA instruction, as well as maintenance of Year 1 practices. In the third year, training is provided for math and science instruction. Again, intentional maintenance of advances made in the first and second years is monitored.

Preprogram. Prior to the start of the current program, the IHE-MSD consortium created a list of competencies for the LICs supporting teachers in MSD classrooms. From this list of competencies, a needs assessment was created and administered. The LICs were asked to rank themselves in accordance with the level of training they desired for core competency knowledge and skills in six key areas: (a) challenging behavior, (b) instructional programming, (c) communication, (d) specialized services for students with complex needs, (e) professional coaching, and (f) transition. The results of the needs assessment were used to guide discussions about how to structure SPLASH to benefit from LIC strengths and how to support and provide training where LICs identified needs.

Year 1. In the first year of SPLASH, teachers are trained on nine modules: (a) scheduling; (b) visual supports; (c) prompting systems; (d) working with paraprofessionals, (e) transition; (f) assistive technology; (g) complex needs; (h) communication; and (i) functional behavior assessments. These nine areas were identified in two ways—first, by a set of training modules used by KDE in the precursor to SPLASH and, second, from the conversations held with LICs after the needs assessment was conducted. SPLASH personnel coordinated to provide teacher training in areas where LICs felt their knowledge base was not expert (see Table 1 for results of the LIC needs assessment). Those modules carried over from the previous grant were

Table 1. Results of Low Incidence Consultants Needs Assessment.

Core competency	M
Transition	2.52
Specialized services	2.29
Professional coaching skills	2.17
Communication	1.98
Instructional programming	1.77
Challenging behavior	1.57

Note. Scores ranged from 1 (coach felt competent) to 4 (coach did not feel competent). Any score above a 2 was given attention.

updated, and new modules were created or adopted to cover the areas identified in the needs assessment. Two experts in related fields from across the United States vetted each updated or newly created module. This resulted in five new or updated modules vetted by 10 experts. The exceptions were as follows: (a) the communication module is provided by TAALC (Kearns, Kleinert, Page, & Land, 2015), (b) the transition module is provided by the CCR initiative (Hall, 2015), (c) the Functional Behavior Assessment module (Pennington & Szakacs, 2014) is provided by the Ohio Center for Autism and Low Incidence through the Autism Internet Modules (<https://www.autisminternetmodules.org>), and (d) the Prompting Systems module is provided by through the Modules Addressing Special Education and Teacher Education (MAST; Mims, 2011). Four of the modules considered most crucial for starting the school year, as determined by the LICs (i.e., scheduling, visual supports, communication, working with paraprofessionals), are trained at a 2-day, mandatory “kick-off” in person professional development during the summer. Pre- and posttest data are collected from each teacher for each module to measure degree of change in knowledge. The coaches train the teachers in the other five modules throughout the school year. Teachers and coaches design goals aligned with the needs discerned during module training and as proposed by the teacher. In addition to the nine training modules, SPLASH provides Year 1 teachers with ongoing monthly coaching, PLCs, and pre-/post-assessments using the Autism (and Low Incidence) Classroom Observation Tool (A-COT), which is discussed further next.

PLCs. SPLASH participants are involved in monthly PLCs for all 3 years of the program. PLCs are an EBP that uses collaborative and collective inquiry focused on student learning (DuFour, Eaker, & Many, 2010). All the PLCs are virtual, using GoToMeeting software. Teachers are offered a variety of days and times to participate. SPLASH personnel facilitate the PLCs for the Year 1 teachers, whereas the teachers themselves facilitate the meetings for Years 2 and 3.

Year 2. During the second year of the program, teachers are trained on ELA instruction using two scripted curricula. In addition, they receive training on story-based lessons (SBLs; Browder, Mims, Spooner, Ahlgrim-Delzell, & Lee, 2009; Browder, Trela, & Jimenez, 2007), an EBP for promoting literacy skills for students with extensive support needs (Hudson & Test, 2011). Elementary teachers are trained on the *Early Literacy Skills Builder* (ELSB; Browder, Gibbs, Ahlgrim-Delzell, Courtade, & Lee, 2007), and secondary teachers are trained on the *Teaching to Standards: English Language Arts* (TTS: ELA; Mims, Lee, Zakas, & Browder, 2013) curriculum. In addition, teachers continue to receive ongoing coaching and peer support through the PLCs. An added component to Year 2 is the use of bug-in-the-ear (BIE) immediate feedback intervention during fidelity checks from SPLASH staff. BIE is further detailed next.

At a minimum, two fidelity checks are conducted in the fall on the implementation of ELA curricula and use of SBLs. A minimum fidelity score of 80% must be obtained by the end of October. If a minimum score is not recorded, additional support is provided and a third fidelity check is conducted in November. In the Spring, starting in February, a minimum fidelity score of 90% must be obtained. If this minimum score is reached, no further fidelity checks are necessary. If this score is not obtained, additional support and up to two more fidelity checks are provided.

Year 3. SPLASH maintains the same structure for Year 3 as for Year 2 but focuses on science and math training. In science, elementary teachers are trained to use the *Early Science* curriculum (Jimenez, Knight, & Browder, 2011). Secondary teachers are trained to use the *Teaching to Standards: Science* (TTS: Science) curriculum (Courtade, Jimenez, Trela, & Browder, 2008). For secondary teachers, mathematics training is provided using the *Teaching to Standards: Math* (TTS: Math) curriculum (Trela, Jimenez, & Browder, 2008). Two mathematics content experts from the University of Louisville, Drs. Karen Karp and Amy Lingo, provide training for elementary math, focusing on the foundations of mathematic instructional methods. Their work is based on equitable mathematics instruction for all students as posited by Van De Walle, Karp, and Bay-Williams (2016). Ongoing coaching and PLCs continue, as well as BIE interventions during fidelity checks.

Evaluating Interventions

Teachers

SPLASH uses multiple methods and instruments for monitoring fidelity and assessing teacher progress. A brief description of each follows.

A-COT. The A-COT (Pennington, 2017) is a 34-point observation tool investigating six domains: (a) environmental supports, (b) instructional supports, (c) instruction, (d) communication instruction, (e) behavior management, and (f) staff interaction. The purpose of the tool is to capture information about programming for students with autism and low incidence disabilities and to identify areas of strength and potential areas for improvement for classroom teachers and support staff (Pennington, 2017). Once teachers are admitted to SPLASH, but prior to the initial kick-off training, a baseline A-COT score is collected on each teacher. A second mid-year A-COT observation is conducted in the winter, and a third end-of-year observation is made in May to monitor overall program effectiveness and to guide supplemental interventions for summer SPLASH trainings. In addition, individual A-COT scores are available to coaches for specific teacher support. In Years 2 and 3, A-COT scores continue to be collected in the winter and May, and program progress continues to be monitored.

Fidelity checks on academic curricula. Fidelity checks of the trained curricula are conducted using immediate feedback via BIE, when possible, and via video without immediate feedback if not possible. SPLASH personnel collect all fidelity data. The SPLASH BIE coaching protocol is based on consultations with Dr. Wanda Wade from West Florida University (personal communication, April 25, 2014) and research and consultations from Dr. Mary Scheeler of Pennsylvania State University (personal communication, February 12, 2015). Each teacher is provided with an iPad Mini and Bluetooth-enabled headphones/microphone. Prior to instruction, the teacher and SPLASH personnel agree on two to three areas of intervention, based on research (Rock et al., 2013; Scheeler, McAfee, Ruhl, & Lee, 2006; Scheeler, McKinnon, & Stout, 2012; Scheeler, Ruhl, & McAfee, 2004) and recommendations from Scheeler (personal communication, January 28, 2015). Instruction is observed using FaceTime or a similar videoconferencing service. Only those areas identified are targeted for intervention, but fidelity data are collected on all instruction. A score meets fidelity when a teacher scores 80% accuracy by the end of the first semester and 90% accuracy by the end of the second semester. Teachers who do not meet fidelity within a given semester are given extra support from SPLASH personnel and coaches. Fidelity is assessed with fidelity forms during observing live or recorded instruction. The *ELSB* and *TTS: ELA* forms come from the research used to validate those curricula. SPLASH personnel created the *SBL*, *TTS: Math*, *TTS: Science*, and *Early Science* forms. Elementary math instruction fidelity is measured with the *Reformed Teaching Observation Protocol* (RTOP; Piburn & Sawada, 2000). After the fidelity check, a short conference is held between SPLASH personnel and the teacher, where

Table 2. SPLASH 2014–2015: A-COT Administration Analysis Sample.

Item	Spring 2014 (%)	Spring 2015 (%)
Students are not segregated from their peers (unless prescribed in the behavior plan)	67	100
Systematic instruction plans available for some objectives	8	58
Staff members use preference assessments to select potential reinforcers	8	58
All students have a functional communication system	25	79
Staff members provide students multiple opportunities to make choices	25	95
Staff members implement procedures planned and modeled by other members	42	82

Note. A-COT = *Autism (and Low Incidence) Classroom Observation Tool* (Pennington, 2017).

concerns, questions, and praise are discussed. A fidelity form is completed with feedback and suggestions and is provided to the teacher and coach via Moodle, an open-source learning platform.

Coaches

As a part of the support in coaching, the LICs received various trainings, including instructional coaching (J. Knight, 2007), the PALS framework (Dunst & Trivette, 2009), and targeted training from a faculty member at the University of Louisville. Prior to the initial training, the trainer requested that all coaches submit a current coaching report, which was then analyzed during training using a checklist of seven quality indicators. The seven recommendations from coaches to teachers should be (a) concise, (b) organized in stepwise fashion with clear timelines, (c) supported by rationale statement, (d) free of jargon or jargon clearly explained, (e) consistent with research-based practice, (f) accompanied by measurable outcomes, and (g) reflective of an understanding of systematic variables that might hinder consultee progress. Some coaches stated that they did not formally write recommendations to teachers; the report they analyzed at training was their approximation of their verbal suggestions. Of the plans submitted, approximated or actual, almost half did not demonstrate 50% of the seven quality indicators. After the training, the key principles from the instructional coaching training, and the targeted training were used to create a coaching report.

The SPLASH coaching report is submitted three times per school year (September, November, April), which follows the recommendations of Fixsen (2015) as set forth in *Coaching Competence* through the National Implementation Research Network. The report is designed based on the J. Knight (2007) instructional coaching training, PALS (Dunst & Trivette, 2009), and the seven quality indicators developed and trained by University of Louisville faculty and also captures the goals cocreated by teacher and coaches in each session (see the Appendix). The design of the report has gone through multiple iterations based on feedback from the coaches and the SPLASH evaluation team.

The first iteration of the report used a basic Individualized Education Program (IEP)-style outline with individualized goals. The coaches asked that the report be amended to include each element of the J. Knight (2007) instructional coaching cycle: (a) set goal and identify strategies, (b) learn how to implement the strategy, and (c) monitor implementation of practice. The report also includes questions to guide the coaching conversation, along with a self-check list for the coach based on training to ensure coaches are following recommended practices.

Program Outcomes

The SPDG prescribes program outcomes. Each outcome for teachers and coaches is discussed in this section.

Teachers

A-COT. The SPLASH team used A-COT administration data to identify patterns across participants. They then used these patterns to refine individual coaching goals and SPLASH trainings. For example, in the 2014–2015 school year, the percentage of classrooms with available systematic instruction plans (SIPs) improved but still remained relatively low. As a result, the team implemented a summer training session for all SPLASH teachers around the use of SIPs and discussed coaching strategies with coaches to ensure use and implementation of SIPs. See Table 2 for sample A-COT data.

Fidelity checks on academic curricula. Data captured from fidelity-monitoring forms helped assess teacher growth on curricular implementation after training. For example, Table 3 displays data comparing the average ELA curricula fidelity scores of Cohorts 4 and 5 between the fall and spring semesters (2013–2014 and 2014–2015, respectively). Cohort 4 started the year with an average fidelity score of 88.7% on the ELSB and 87.2% on the TTS: ELA. In the spring, they ended the year with 94.3% and 94.8% fidelity, respectively. Cohort 5 demonstrated similar gains, starting in the fall with 88.6% fidelity on the ELSB and 87% fidelity on the TTS: ELA. In the fall, their scores showed growth at 95.3% fidelity on the ELSB and 92.4% fidelity on the TTS: ELA.

Table 3. Cohorts 5 and 6 ELA Fidelity Score Comparison From Fall to Spring.

Cohort and curriculum	Fall (M)	Spring (M)
Cohort 4		
ELSB	88.7%	94.3%
TTS: ELA	87.2%	94.75%
Cohort 5		
ELSB	88.6%	95.3%
TTS: ELA	87.5%	92.4%

Note. ELSB = Early Literacy Skills Builder (Browder, Gibbs, et al., 2007); TTS: ELA = *Teaching to Standards: English Language Arts* (Mims, Lee, Zakas, & Browder, 2013).

Table 4. PLC Postsession Feedback.

Statement	M
My PLC culture is supportive and nonjudgmental.	4.0
Student learning is always a core characteristic of our PLC.	3.9
Our discussions/debates lead to actionable next steps for our instruction.	3.7
No one in our PLC is neglected or allowed to self-isolate.	3.7
My PLC members and I do the work to try new things out before we meet (we come prepared).	3.6
The control over our work is a shared experience.	3.4

Note. Scores range from 1 (*teacher strongly disagrees with the statement*) to 4 (*teacher strongly agrees with the statement*). PLC = professional learning community.

PLCs. After each monthly PLC, teachers are asked to provide feedback to SPLASH personnel monitoring program effectiveness. After each meeting, teachers receive a link to an online survey designed by SPLASH personnel and the SPDG evaluation team for targeting research-based practices in PLCs and the needs of MSD teachers (see Table 4). On a four-point scale, with four indicating that the statement is something with which they always agree, teachers felt that their PLCs are supportive and nonjudgmental ($n = 11$). Collaboration and student orientation (Brody & Davidson, 1998; Wald & Castleberry, 1999) are a hallmark of PLCs, and the teachers had a mean score of 3.9, strongly agreeing that their PLCs are focused on student learning. The lowest score, with a mean of 3.4, was “the control over our work is a shared experience.” Overall, teachers felt the PLCs are an important part of the support they receive. One participant commented, “Our PLC group is always engaged in conversation with the sharing of personal stories, file sharing, and strategy sharing. My classroom has shown noticeable improvement based on things that I gained from our PLCs”; and another shared, “Love my PLC’s!! Nice to

be able to collaborate with other low-incidence teachers.” This element of the program is designed to eliminate professional isolation that is so prevalent among rural teachers of students with MSD.

Coaches

Triannual coaching reports are submitted to SPLASH personnel for analysis and then discussed with the coaches. In general, feedback was related to goal clarity, data collection methods, and accurate use of the form. For example, at a mid-year analysis, regarding goal clarity, 85% of implementation steps recommended by the coach to the teacher were clearly linked to the stated goal. Based on analysis, recommendations made to coaches were as follows: (a) include steps for implementation clarity and (b) steps should indicate what role the coach will play in meeting the goal, moving away from a model of merely listing what more needs to be done by the teacher.

In addition to the coaching reports, SPLASH teachers are asked in an annual survey about the impact coaching had on their skills implementing EBPs in the classroom. In April 2016, 94% of survey respondents reported a score of three or above on a four-point scale, with four indicating strong agreement that their coach had a moderate to large impact on their skills.

Next Steps

The goal of SPLASH is to provide meaningful professional development to teachers of students with MSD across the Commonwealth of Kentucky. In response to the data collected, a few next steps emerge as promising areas in which to focus: (a) PLC effectiveness for rural teachers of students with MSD, (b) administrator training to support instruction of students with MSD, and (c) “coaching the coach” practices.

PLCs for Teachers of Students With MSD

Presently, PLCs are designed to be communities of educators jointly invested in learning from and responding to student data to more effectively meet the needs of students (Sims & Penny, 2015); however, in modern practice, they often have become synonymous with being “data teams” (Sims & Penny, 2015, p. 39). This myopic lens is causing failure in the effective use of PLCs and can be especially problematic for teachers of students with MSD whose performance data are highly individualized. Caine and Caine (2010), however, have given multiple designs for PLCs that are more inclusive and flexible. Specifically, two types of designs emerge as promising: (a) Communities of Practice and (b) Conversation Circles. Due to the struggles to norm data for classrooms serving MSD students, these PLC

designs move away from the “data team” tendency and address, instead, concerns of professional isolation that plague rural special education. The hallmark component of the Communities of Practice is to harness the collective wisdom of “mutual instruction” on a shared concern (p. 25). Conversation Circles are characterized by formalized routine that allows them to deal with difficult issues. Caine and Caine suggested a combination into what is called a Process Learning Circle (PrLC). It has two main objectives: (a) to harness the relationship wisdom inherently used informally in schools and (b) to use that formalized setting as a “vehicle to help educators be more proficient” (p. 28). This is a four-phase process that includes (a) ordered sharing, (b) reflective study, (c) commitment to action and action research, and (d) regrouping (pp. 37–38). By using a more flexible structure within the PLC framework, teachers’ needs can be met through mutual support and shared expertise.

Administrator Support

SPLASH requires the support of administrators before enrolling teachers in the program, but they remain on the periphery of support from SPLASH, despite their direct role in the development of teachers. Two small-scale pilot projects have suggested that administrators feel ill-prepared to support teachers of students with MSD due to a lack of knowledge in EBPs in MSD classrooms (Pope, 2015). Using Kentucky’s statewide accountability program for teachers, future SPLASH efforts will focus on creating exemplar videos for what EBPs look like in an MSD classroom.

Coaches

SPLASH coaches are the backbone of support for teachers in the SPLASH program and, as such, deserve increased support for their critical role. Three next steps are proposed to fill this need: (a) webinar trainings to support the reliability of fidelity monitoring, (b) creation of a peer feedback structure among coaches for the purpose of mutual growth and support, and (c) provision of a coaching practice profile (i.e., a rubric for peer and self-reflection on EBPs in coaching practices; developed by KDE) to clarify roles, aid in peer support, and display a picture of progression.

Student-Level Data

Student level data that are reliable and valid on a normed measurement are difficult to obtain when working with students with MSD. SPLASH is continually attempting to collect student-level data that reflect efforts of the teachers’ implementation of SPLASH components. Although teachers have reported growth on objectives related to specific curricula (e.g., ELSB), students move through the levels of the

programs at different paces, and it is difficult to ascertain direct results of SPLASH on student outcome measures. One proposal is to measure academic engagement of students (see Pennington & Courtade, 2015) to determine an increase of the period of a teacher’s participation in SPLASH.

Program Limitations

There are several limitations to the program. First, the same technology that allows access to rural teachers is unstable in some regions. Issues with the ability to connect are problematic. SPLASH works with a team of technicians to overcome hurdles; however, a lack of sufficient infrastructure in some schools is beyond the scope of SPLASH to address. Second, Kentucky is home to mountains that are often snow covered during the winter months. Frequent weather-related absences make scheduling for coaches and teachers a struggle. Third, approximately 29% of teacher participants have dropped out for various reasons (e.g., health, change in teaching assignment), quit teaching or moved out of state, or retired during the course of the program. SPLASH personnel and coaches work hard with teachers to alleviate hurdles that may cause them to want to drop out. Fixsen et al. (2005) recommended that teachers in coaching relationships should participate on a volunteer basis and should be interviewed for coaching receptiveness prior to acceptance into a coaching program. At the present time, some SPLASH teachers are directed by their supervisors to participate in SPLASH. This may account for some of the dropouts. Fourth, the coaches used by SPLASH have heavy caseload demands outside of SPLASH requirements. This may affect the level of support or the timeliness of support offered that each coach is able to provide.

Conclusion

The needs of teachers of students with MSD are many and are compounded in rural settings. The demand for professional development uniquely designed to meet those needs is critical (Collins, 2007). The research to practice gap is particularly wide for this specialized group of professionals, for whom research, support, and resources are sparse and difficult to access. Focused and dedicated support and infrastructure using coaches, technology, and university training offer a powerful solution. The SPLASH program provides a model of comprehensive, wrap-around support to bolster the skills of budding teachers of students with MSD by providing instruction on EBPs, infrastructure for peer and district support, and training tailored to their needs. The data-driven design of SPLASH also provides a structure that is flexible and responsive, meeting the needs of administrators, coaches, teachers, and, ultimately, students.

Appendix

SPLASH Coaching Report



Coaching Log

Teacher Name:	Cooperative Name:	Coach Name:
<p>Action Plan Follow-Up This is to record the outcomes of Module Training and Coaching</p>		

Teacher Progress Check (Year 1 only)				
Modules	Month Begun	Pre-Test	Month Finished	Post-Test
M1: Scheduling		/10		/10
M2: Communication		/10		/10
M3: Working w/ Paras		/10		/10
M4: Visual Supports		/10		/10
M5: Prompting Systems		/10		/10
M6: FBA		/10		/10
M7: Assistive Technology		/10		/10
M8: Complex Needs		/10		/10
M9: Transition		/10		/10

Opening the Conversation Possible Questions (Identify and Learn)
Given the time we have today, what is the most important thing that we should discuss?
What is the ideal outcome?
What would this look like?
Would you like this to be your goal?
How will we measure this?
How will we know when you've met your goal?
What steps do we need to take to help you meet your goal?
What additional training or support do you need to meet your goal?

Possible Questions (Improve)
On a scale of 1–10, how close was this lesson to your ideal?
What would have made you score higher?
What would have made you score lower?
Do you need any additional support to meet this goal?
How would you like to proceed (Continue goal, write a new goal for this module, move on to another module)?

(Appendix continued)

Coaching Cycle: Identify – Set Goal and Identify Strategies	Module Name:	
	Date:	
<ul style="list-style-type: none"> • Ask questions to help the teacher identify a goal. • What data were used to determine the goal? <input type="checkbox"/> Video <input type="checkbox"/> Observation <input type="checkbox"/> Review of Data <input type="checkbox"/> Other: _____ 		
Teacher’s Student Focused Goal (Teacher focused goals are acceptable)	The teacher’s goal is:	
	Identify the specific EBP, strategy, or best practice that will be targeted.	
How will the goal be measured? <input type="checkbox"/> Video <input type="checkbox"/> Observation <input type="checkbox"/> Review of Data <input type="checkbox"/> Other: _____ Who will collect data/conduct observation? <input type="checkbox"/> Teacher <input type="checkbox"/> Coach <input type="checkbox"/> Other: _____		
Coaching Cycle: Learn – learn how to implement the strategy		
Implementation checklist:		
1.		
2.		
3.		
4.		
Action Plan: How does the teacher plan to learn about this strategy to be implemented? What (if any) additional resources does the teacher need?		
What:	How (model, discussion, share resource):	Who:
1.		
2.		
3.		
4.		
Timeline for Implementation:		
Coaching Cycle: Improve – monitor implementation of practice	Date:	
Teacher’s Self-Assessment	On a scale of 1–10, how far does the teacher feel he/she has come toward reaching the goal?	
	What would have made the score higher?	
	Based on the data, has this goal been achieved?	
If goal has not been achieved, what steps/strategies are needed to meet the goal?		
1.		
2.		
3.		
4.		
How would the teacher like to proceed?		
<input type="checkbox"/> Continue goal <input type="checkbox"/> Identify another goal for this module <input type="checkbox"/> Move to the next module/topic <input type="checkbox"/> Other: _____		

Note. EBP = evidence-based practice; FBA = functional behavior assessment.

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References

- Abell, M., Collins, B. C., Kleinert, H., & Pennington, R. (2014). Providing support for rural teachers of students with low incidence disabilities who are completing the Kentucky teacher internship program. *Rural Special Education Quarterly*, 33(3), 14–18.
- Andrews, A., & Brown, J. L. (2015). Discrepancies in the ideal perceptions and the current experiences of special education teachers. *Journal of Education and Training Studies*, 3(6), 126–131.
- Brody, C. M., & Davidson, N. (1998). *Professional development for cooperative learning: Issues and approaches*. Albany: State University of New York Press.
- Browder, D. M., Ahlgrim-Delzell, L., Spooner, F., Mims, P. J., & Baker, J. N. (2009). Using time delay to teach literacy to students with severe developmental disabilities. *Exceptional Children*, 75, 343–364.
- Browder, D. M., Gibbs, S., Ahlgrim-Delzell, L., Courtade, G., & Lee, A. (2007). *Early literacy skills builder*. Verona, WI: Attainment Company.
- Browder, D. M., Mims, P. J., Spooner, F., Ahlgrim-Delzell, L., & Lee, A. (2009). Teaching elementary students with multiple disabilities to participate in shared stories. *Research and Practice in Severe Disabilities*, 34, 3–12.
- Browder, D. M., Spooner, F., Ahlgrim-Delzell, L., Wakeman, S. Y., & Harris, A. (2008). A meta-analysis on teaching mathematics to students with significant cognitive disabilities. *Exceptional Children*, 74, 407–432.
- Browder, D. M., Trela, K., & Jimenez, B. (2007). Training teachers to follow a task analysis to engage middle school students with moderate and severe developmental disabilities in grade-appropriate literature. *Focus on Autism and Other Developmental Disabilities*, 22, 206–219.
- Browder, D. M., Wakeman, S. Y., Spooner, F., Ahlgrim-Delzell, L., & Algozzine, B. (2006). Research on reading instruction for individuals with significant cognitive disabilities. *Exceptional Children*, 72, 392–408.
- Caine, G., & Caine, R. (2010). *Strengthening and enriching your professional learning community: The art of learning together*. Alexandria, VA: Association for Supervision & Curriculum Development.
- Collins, B. C. (2007). Issues in rural special education that affect students with severe disabilities. *Rural Special Education Quarterly*, 26(2), 3–9.
- Courtade, G., Jimenez, B., & Delano, M. (2014). Providing effective instruction in core content areas (literacy, mathematics, science, and social studies) in inclusive schools. In J. McLeskey, N. Waldron, F. Spooner, & B. Algozzine (Eds.), *Handbook of effective inclusive schools: Research and practice* (pp. 352–362). New York, NY: Routledge.
- Courtade, G., Jimenez, B., Trela, K., & Browder, D. (2008). *Teaching to standards: Science*. Verona, WI: Attainment Company.
- Courtade, G. R., Spooner, F., & Browder, D. M. (2007). Review of studies with students with significant cognitive disabilities which link to science standards. *Research and Practice for Persons With Disabilities*, 32, 43–49.
- Courtade, G. R., Test, D. W., & Cook, B. G. (2015). Evidence-based practices for learners with severe intellectual disability. *Research and Practice for Persons With Disabilities*, 39, 305–318.
- DuFour, R., Eaker, R., & Many, T. (2010). *Learning by doing: A handbook for professional learning communities at work*. Bloomington, IN: Solution Tree Press.
- Dunst, C. J., & Trivette, C. M. (2009). Let's be PALS: An evidence-based approach to professional development. *Infants and Young Children*, 22, 163–175. Retrieved from https://depts.washington.edu/isei/iy/22.3_Dunst.pdf
- Every Student Succeeds Act of 2015, Pub. L. No. 114-95 § 114 Stat. 1177 (2015-2016).
- Fixsen, D. (2015, September 16). *Coaching competence*. Webinar. Retrieved from https://tadnet.adobeconnect.com/_a984157034/p8ymjw8wqdk/?utm_source=ArchiveButton&utm_medium=Site&utm_campaign=TACCWebinar_Sitebutton_Cometent Coaching_AdobeVideoArchive
- Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M., & Wallace, F. (2005). *Implementation research: A synthesis of the literature* (FMHI Publication No. 231). Tampa: University of South Florida, Louis de la Parte Florida Mental Health Institute, National Implementation Research Network.
- Hall, M. (2015). *Transition module: Transitioning students with moderate and severe disabilities from high school to post school life* [PowerPoint slides]. Lexington: University of Kentucky.
- Hill, P. (2015). States should do more for rural education. In B. Gross & A. Jochim (Eds.), *Uncovering the productivity promise of rural education* (Vol. 4, pp. 4–13). San Antonio, TX: Building State Capacity and Productivity Center.
- Hudson, M. E., & Test, D. W. (2011). Evaluating the evidence base of shared story reading to promote literacy for students with extensive support needs. *Research and Practice for Persons With Severe Disabilities*, 36, 34–45.
- Individuals With Disabilities Education Improvement Act of 2004, 20 U. S. C. § 1401 *et seq.* (reauthorization of the Individuals with Disabilities Education Act of 1990).
- Jimenez, B., Knight, V., & Browder, D. M. (2011). *Early science*. Verona, WI: Attainment Company.
- Johnson, J., Showalter, D., Klein, R., & Lester, C. (2014). *Why rural matters 2013-2014: The condition of rural education in the 50 states*. Retrieved from: http://www.ruraledu.org/user_uploads/file/2013-14-Why-Rural-Matters.pdf
- Kearns, J., Kleinert, J., Page, J., & Land, L. (2015). *Teaching academic age-appropriate learning via communication* [PowerPoint slides]. Lexington: University of Kentucky.
- Knight, J. (2007). *Instructional coaching: A partnership approach to improving instruction*. Thousand Oaks, CA: Corwin Press.
- Knight, V., Browder, D., Agnello, B., & Lee, A. (2010). Academic instruction for students with severe disabilities. *Focus on Exceptional Children*, 42, 1–14.
- Mims, P. (2011). *Prompting systems* (Modules Addressing Special Education and Teacher Education [MAST]). Greenville, NC: East Carolina University. Available from. <http://mast.ecu.edu/modules/ps>
- Mims, P., Lee, A., Zakas, T., & Browder, D. (2013). *Teaching to standards: English language arts*. Verona, WI: Attainment Company.

- No Child Left Behind Act of 2001, Pub. L. No. 107-110, 115, § 1425, 20 U.S.C. §§ 6301 et seq. (2002).
- Pennington, R. C. (2017). An IEP for me: Program improvement for rural teachers of students with moderate to severe disability and autism spectrum disorder. *Rural Special Education Quarterly*, 36, 146–154. doi:10.1177/8756870517717950
- Pennington, R., & Courtade, G. (2015). An examination of teacher and student behaviors in classrooms for students with moderate and severe intellectual disability. *Preventing School Failure*, 59, 40–47.
- Pennington, R., & Szakacs, W. (2014). *Understanding behavior through functional behavior assessment: Online training module*. Columbus: Ohio Center for Autism and Low Incidence (OCALI). Available from www.autisminternet-modules.org
- Piburn, M., & Sawada, D. (2000). *Reformed Teaching Observation Protocol (RTOP) reference manual*. Temple, AZ: Technical Report.
- Pope, J. (2015). *SPLASH: LI-PGES update*. Lexington, KY: Human Development Institute.
- Rock, M. L., Schoenfeld, N., Zigmond, N., Gable, R. A., Gregg, M., Ploessl, D. M., & Salter, A. (2013). Can you Skype me now? Developing teachers' classroom management practices through virtual coaching. *Beyond Behavior*, 22(3), 15–23.
- Scheeler, M. C., McAfee, J. K., Ruhl, K. L., & Lee, D. L. (2006). Effects of corrective feedback delivered via wireless technology on preservice teacher performance and student behavior. *Teacher Education and Special Education*, 29, 12–25.
- Scheeler, M. C., McKinnon, K., & Stout, J. (2012). Effects of immediate feedback delivered via webcam and bug-in-ear technology on preservice teacher performance. *Teacher Education and Special Education*, 35, 77–90.
- Scheeler, M. C., Ruhl, K. L., & McAfee, J. K. (2004). Providing performance feedback to teachers: A review. *Teacher Education and Special Education*, 27, 396–407.
- Shurr, J., Hirth, M., Jasper, A., McCollow, M., & Heroux, J. (2014). Another tool in the belt: Self-directed professional learning for teachers of students with moderate and severe disabilities. *Physical Disabilities: Education and Related Services*, 33(1), 17–38.
- Sims, R. L., & Penny, G. R. (2015). Examination of a failed professional learning community. *Journal of Education and Training Studies*, 3, 39–45.
- Spooner, F., Browder, D. M., & Mims, P. (2011). Evidence-based practices. In D. M. Browder & F. Spooner (Eds.), *Teaching students with moderate and severe disabilities* (pp. 92–122). New York, NY: Guilford Press.
- Spooner, F., Knight, V., Browder, D. M., Jimenez, B., & DiBiase, W. (2011). Evaluating evidence-based practices in teaching science content to students with severe developmental disabilities. *Research and Practice for Persons With Severe Disabilities*, 36, 62–75.
- Trela, K., Jimenez, B., & Browder, D. (2008). *Teaching to standards: Math*. Verona, WI: Attainment Company.
- U.S. Department of Education, National Center for Education Statistics. (2016). *Rural education in America*. Retrieved from <https://nces.ed.gov/surveys/ruraled/>
- Van de Walle, J. A., Karp, K. S., & Bay-Williams, J. M. (2016). *Elementary and middle school mathematics: Teaching developmentally* (9th ed.). Upper Saddle River, NJ: Pearson.
- Wald, P. J., & Castleberry, M. S. (1999). *Realigning our schools: Building professional learning communities*. Washington, DC: George Washington University. (ERIC ED427478).