Documenting Impact: Continuously Improving Through On-Demand Module Evaluation
Section I: Content

Statement of the issue

According to the National Research Council (1999), "In order to achieve America's educational goals, it is imperative that excellent teachers be recruited, prepared and supported in every school." However, the current state of professional development (PD), its broad-sweeping definitions and trends in spending often make this imperative seem out of reach for many districts. Traditional definitions of PD are similar to that of Hassell's (1999), as the "process of improving staff skills and competencies needed to produce outstanding educational results for students." Because of this wide definition of 'what counts' as PD, activities such as formal workshops or seminars are lumped together with informal, unstructured lunchroom chats on daily instructional activities. Because of the significant investment of both time and resources that teachers *and* districts make when adopting PD, it is prudent to adopt programs that have evidence of effectiveness.

At the core of our work is the belief that every child deserves an inspirational teacher. One who possess strong pedagogical and relationship building skills to help their students achieve powerful goals. In order to achieve this goal, schools often rely upon a wide array of PD programs to help bridge gaps in teacher pedagogy. Additionally, individual teachers are being held accountable for their power to affect educational change (Kent, 2004; Castellano & Datnow, 2000; Hurst, 1999). Unfortunately, the PD programs they turn to often lack empirical evidence of their effectiveness, and many districts simply do not have the time or resources to study this themselves (Hill, 2009). However, because effective teachers are better able to contribute to the educational success of students, it is vital that the PD they seek out be of high quality and proven to be successful. Thus, evaluation of our program's On-Demand Modules at every stage of development and implementation is essential.

Literature Review

We know that many of our partner districts *and* colleges of education rely upon "one-size-fits-all" PD programs, rather than differentiated and individually targeted support. And this is despite research on customized PD continuing to show that teachers feel a high sense of agency when adopting customized mobile learning programs (Pachler, Backmair, and Cook, 2009) because they can control 1) the time, 2) the place, 3) the content and 4) the pace of the experience. With customized PD, teachers would skip the day-long mandated seminar for all staff to have the opportunity to gain a "strong sense of ownership of one's learning" (Traxler, 2007) through the creation of a differentiated, "just enough, just-in-time, just-for-me…personalized tailored learning journey" (Kearney, Schuck, Burden & Aubsson, 2012).

This personalized learning journey becomes even more impactful when we add research around why evaluating reaction and motivation to this differentiated experience is important. Research on teacher PD found that teacher's reactions to a PD program significantly affects not only how much they feel they have learned, but also their motivation to apply what they have learned, and their support of the program as valuable to peers (Kirkpatrick, 1996; Naugle, Naugle & Naugle, 2000). Related studies also found that teacher motivation in PD is directly linked to the ability to enact the content and skills learned in the PD program in their classrooms (Karabenick & Conley, 2011). If the ultimate goal is for teachers to take what they learn back into the classroom, it is important to measure teacher reaction to PD. Garet et al (2001) found PD was more likely to produce enhanced knowledge and skills if it was integrated into the daily life of the school or teaching experience. Further research found that teachers preferred PD that was enjoyable or fun, enhanced their careers, did not require too much time and effort, and was suggested by principal or peers (Karabenick & Conley, 2011).

The current broad definition of PD makes evaluating PD in a systematic way a challenge. However, according to Desimone (2009), some consensus has recently been found around "characteristics of PD that are critical to increasing teacher knowledge and skills and improving their practice and which hold promise for increasing student achievement." Here, she cites and codes into 5 features the work of Hawley & Valli, 1999; Kennedy, 1998; and Wilson & Berne, 1999. This conceptual framework includes features such as: content focus, active learning, coherence, duration and collective participation (Desimone, 2009), all of which the On-Demand Module creation process has attempted to engage in new and innovative ways. Because PD is being designed more purposefully (Loucks-Horsley et al., 2009) we can begin to measure reaction and changes in learning and behavior as a way of quantitatively evaluating PD. Thus, evaluation of our program's On-Demand Modules at every stage of development and implementation is essential and the core of our work

Intervention

The intervention for this study was the completion of an On-Demand Module created by a program in our teachers college. On-Demand Modules are 60 minute micro-courses that develop teachers' knowledge, skills and mindsets around specific elements of inspirational teaching. Each module begins with a foundation of research-based background knowledge and then teachers are introduced to the module resource, a tool or strategy they can immediately implement in the classroom. They then have the opportunity to practice using the resource through in-module scenarios or case studies. Finally, an assessment is given to ensure mastery of the content delivered throughout the module and to support the learner in transferring knowledge gained from the On-Demand Module into their real-life classrooms by providing feedback when gaps appear.

Each part of the design of On-Demand Modules was intentional, created with an adult learning theory orientation that believes that teachers who develop proficiency in these areas will have the foundation needed to maximize student potential. Adult learning theory relies upon 6 main assumptions related to the motivation of adult learners: readiness, foundation, self-concept, orientation, motivation, and need to know (Beavers, 2009; Bedi, 2004; Chan, 2010; Knowles, 1978; Merriam, 2001; Zmeyov, 1998). From this perspective, all On-Demand Modules are designed to target both pre-service and novice in-service teachers and they are all free, research-based (with faculty in our college serving as subject-matter experts), and housed online.

Study Methods

The ultimate goal in creating a collection of On-Demand Modules for teacher PD is to improve teacher classroom practices in order to have a positive impact on students. This evaluation attempts to assure we are using best practices in the creation and use of the differentiated support. The Kirkpatrick evaluation model was utilized to assess the effect of the On-Demand Module as an intervention to support teachers' individualized area of growth. This evaluation model includes 4 levels of education outcomes: participants' reaction to the module, the learning (knowledge, skills or dispositions) that may have taken place, the potential subsequent behavior change to pedagogy and any final results of that change occurring. This model is widely used outside the education field for systematic reviews, even adopted by the Best Evidence Medical Education Collaboration in 2003 (Hill, Yu, Barrow & Hattie, 2009).

The formal evaluation of the On-Demand Modules utilizes the 4-level Kirkpatrick evaluation model for systematic review through instruments/interventions detailed below. In order to measure Level 1: Reaction, a post-survey including items on reaction was administered after the intervention, and in order to measure Level 2: Learning, a pre-survey including the module's assessment was administered prior to the intervention. In order to measure Level 3: Behavior, either performance assessment scores were analyzed or direct observations took place after the intervention. Finally, to measure the Level 4: Big Picture Results items on the pre and post-surveys were added about teachers' self-efficacy and inspiration.

All surveys and observations were administered in the Spring 2016 semester with 115 novice in-service or pre-service teachers who completed one of 10 On-Demand Modules. These module topics included: Creating Classroom Rules, Giving Clear Directions for a Task, Creating Student-Centered Behavior Plans, Delivering Effective Feedback, Preparing to Differentiate: Student Readiness, Helping Students Believe They 'Can' Achieve, Developing Behaviors for Cooperative Learning, Structuring Cooperative Learning, Using Feedback to Foster Discussion, and Preparing to Differentiate: Learner Profile. All in-service teachers in this sample were mandated to participate in the On-Demand Module experience as part of their New Teacher Induction Program, while all pre-service teachers participated as a part of one of our teachers college cohort's experimentation with differentiated PD. The success of this project could not have been reached without the close partnership of our teachers college and its partner district who volunteered to assist in this evaluation.

Results

All participants in this study were in their role for less than 2 years, and 91.3% reported being motivated to improve their practice.

Level 1: Reaction

Reaction to the On-Demand Module experience was quite positive in each of the areas we measured. The majority of respondents reported the module was easy to navigate (94%), organized (96%), and met its objectives (98%). They also found it useful (89%), accurate (99%), high quality (90%), engaging (79%) and intended to use the content in their classroom (96%). The majority also said they would recommend the module to a peer (86%). In addition, 98.6% reported completing a module in less than 60 minutes.

Level 2: Learning Gains

Learning gains were measured by self-report and by quiz attempts. Self-reported learning gains were evident, as 88% of respondents reported learning something new from the On-Demand Module they

completed. Additionally, their self-reported knowledge on the topic increased 10 percentage points and their self-reported comfort with the skill increased 6 percentage points pre to post. An analysis of the quiz scores pre survey to in-module showed more A, B, C's and fewer D, F's after the intervention, as well.

Level 3: Behavior Changes

Behavior changes were measured also via self-report and direct observation. Self-reported behavior changes were evident, as the majority reported they experience the problem their module was addressing at least sometimes (53%), often (28%) or always (10%) and after the module 94% thought the module might help reduce this frequency. Many also reported losing a little (53%), some (28%) or a lot (9%) of instructional time due to the problem the module was addressing, and after the module 91% thought it might help reduce the amount of instructional time lost. Finally, in direct observations, 95% of teachers observed demonstrated at least one skill from the module they completed in their classroom.

Level 4: Big Picture Results

Finally, big picture results we measured included how well prepared the teacher felt to meet the needs of their students and how strongly they feel they inspire their students, as this was the goal of the program. These results were evident in pre/post survey self-reports, as both measures increased. Eighty-nine percent felt prepared to meet the needs of students before the intervention, and 95% felt prepared after, while 85% felt they inspired their students strongly before the intervention and 96% felt that way after.

Contribution, Strand IV – Continuous Improvement and Accountability

This proposal is related directly to the continuous improvement and accountability strand. The evaluation of this innovative program housed within the teachers college both documents the impact and improvement on pre-service teachers in the program, as well as on new teachers in one of our partner districts. It also highlights a successful partnership with one of our districts to cooperatively assess a hallmark piece of our teachers college plan to support our teachers as we push toward continuous improvement.

Relevance

This proposal relates to two of the relevance perspectives: using qualitative or quantitative evidence to inform policy or practice and successful practices. The study used a mixed methods approach to evaluating the intervention of On-Demand Modules. This evaluation also serves to further the discussion around differentiated PD and the use of On-Demand Modules. It also supports the sharing and replication of exemplary practice.

Implication for Action

Calls for research on transfer of learning rather than the theory behind an innovation have been made by all stakeholders, and this was an attempt to meet that demand. The results show there is a potential to produce better prepared teachers through differentiated support via On-Demand Modules. From this research, proof of efficacy has been found, and future research can focus on the best ways to implement this intervention, rather than its efficacy.

Section II: Outcomes and Methods

Learner/participant outcomes

Discussion around this proposal will provide participants an opportunity to examine how their program supports teachers and partner districts and what role On-Demand Modules may play in their program. Participants will share ideas around teacher candidate PD, experience with On-Demand Modules and the feasibility of differentiated support in their own programs.

Methods

This session will be discussion based and open to participant engagement throughout. Questions will be posed to engage participants in conversation during the session with a goal of refining our own current thinking and supporting new understanding among attendees.

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