What’s the Value of a Learning Differences MOOC-Ed?

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Prepared by the Friday Institute for Educational Innovation for the
Introduction

Massive Online Open Courses for Educators (MOOC-Eds) provide a new form of professional development for educators that balances research-based practices for high-quality professional development with new types of social learning. In this paper we consider the value that educators find through their participation in a Learning Differences MOOC-Ed and examine the design elements of the MOOC-Ed that supported their growth and impact on practice.

Educators face challenges in meeting the diverse learning needs of students.

Despite their passion for teaching and commitment to the field, educators around the world – with varying years of experience, teaching different subjects, at different levels, in a variety of contexts – are continually challenged to meet the diverse learning needs of their students. Working in challenging environments with limited time to plan, the pressure of changing curriculum standards, student assessments, and expectations for technology use and personalization of learning, these teachers frequently operate in isolation with few opportunities to collaborate and connect with peers. They often have limited access to professional learning experiences that could enable them to develop new strategies for working with students or deepen their own knowledge of students’ learning differences.

I find my work exciting and rewarding, but it can be very frustrating, especially when I can’t find what works for a student to get him/her engaged and learning. There are a multitude of differences in my students and it seems that I can never meet all of the needs.
- High school special ed teacher

This year my partner teacher and I were asked to take on full inclusion. Together we have a very diverse group. We have several GT students that score off the charts, several autistic, special ed and some that are considered “average.” I am struggling with the extreme levels. I feel that I need to rethink my approach to instruction in the classroom. This is my twelfth year of teaching and one of the most challenging!
- Second grade math and science inclusion teacher
When there are only four special education teachers in a school of more than 1,000 students, it is not realistic to meet individual student needs with push-in resources. There has to be room during a class period for students to show their individual strengths and for teachers to help with individual weaknesses. The HOW is the big question.
- Middle school mathematics teacher

This is the beginning of my twentieth year of teaching. I am currently teaching kindergarten, which I have been doing for the past 13 years. Among the 20 children in this year’s class, I have one little girl with Down Syndrome, one with autism spectrum disorder, and two identified as learning disabled. Last year was my most challenging year EVER and I promised myself that I would never feel as helpless to reach a child as I did last year.
- Kindergarten teacher

In order to increase their knowledge of learning differences and expand their repertoire of strategies for working with students with diverse learning needs, hundreds of teachers from around the country and around the world signed up to take part in a Learning Differences MOOC-Ed offered through the Friday Institute for Educational Innovation at NC State University.

The purpose of this paper is to examine the spectrum of value that educators found through their participation in the Learning Differences MOOC-Ed and the ways in which the design elements of the MOOC-Ed supported value creation and impact on practice. We begin by describing the Friday Institute’s MOOC-Ed Initiative as a whole and highlighting the design elements that guided the development of these MOOC-Eds. Following the general introduction to MOOC-Eds, we describe the Learning Differences MOOC-Ed specifically. We then use a value creation framework to analyze qualitative data collected during and following three implementations of the Learning Differences MOOC-Eds and illustrate how the design principles of the course augment value creation, fostering teachers’ professional growth and impact on practice.

We argue that the Learning Differences MOOC-Ed provides a valuable form of professional development that can be used to help education professionals around the world advance their knowledge of learning differences and better meet the learning needs of their students.
MOOC-Eds hold potential for helping educators advance their expertise and improve professional practice.

The Friday Institute MOOC-Ed Initiative. Beginning in 2012, the Friday Institute launched a set of MOOCs for Educators to explore whether MOOC-like approaches could be adapted to address the professional learning needs of educators, providing scalable, accessible, and cost-effective professional development (PD). MOOC-Eds build on models of effective professional development, professional learning communities, and online communities of practice, and are designed to help educators improve their professional knowledge and practice. Each MOOC-Ed is developed based on the following four core design principles:

Multiple voices allow participants to learn about the perspectives of other teachers and administrators and those of students, researchers, and experts in the field.

Self-directed learning enables participants to personalize their experience by identifying their own goals, selecting among a rich array of resources, and deciding whether, when, and how to engage in discussions and activities to further their own learning and meet their personal goals.

Peer-supported learning occurs when participants engage in online discussions, review each other’s projects, rate posted ideas, recommend resources, crowdsource lessons learned, and participate in Twitter chats and other exchanges appropriate to the individual course.

Practice-based learning takes place through the use of case studies and classroom- and school-related projects, the development of action plans, and other activities that center participants’ work on critical problems of practice and data-informed decision making in their own classrooms, schools, or districts.

The Learning Differences MOOC-Ed. The Learning Differences MOOC-Ed is one of six MOOC-Eds that have been developed through the Friday Institute MOOC-Ed Initiative. With funding from the Oak Foundation, the Learning Differences MOOC-Ed was created to help teachers better understand learning differences and how they apply to all students; foster a growth mindset or problem solving approach among new teachers as they work with students; and provide teachers with job-embedded strategies that will help them as they meet the diverse needs of all students. To date, the six-week Learning Differences MOOC-Ed has been offered four times (Fall 2014, Spring 2015, Summer 2015, and Fall 2015) with a total of 6,300 participants actively engaged in the course.
A new lens can be used to illuminate the spectrum of value educators find through their engagement in the MOOC-Ed.

End-of-course survey results from the three Learning Differences MOOC-Eds indicate that the MOOC-Eds were largely successful at providing professional learning experiences that deepened educators’ knowledge and skills and impacted their practice. On unit feedback forms and end-of-course surveys, educators frequently reported that the content and activities helped them “grow,” “develop,” and “deepen” their understanding of learning differences. Further, 98% of respondents agreed that the MOOC-Ed was effective in preparing them to make positive changes to their practice. While these survey results paint a promising picture of the impact that the Learning Differences MOOC-Ed had on participants’ knowledge and practice, we wanted to develop a more nuanced understanding of the value that educators found through their participation.

In order to do this, we used a “value creation framework” developed by Etienne Wenger, Beverly Trayner, and Maarten De Laat (2011). This conceptual framework, further described below, provides a useful tool for examining the value that educators find through their participation in online learning experiences. For the purposes of this paper, we view “value creation” from the perspective of the MOOC-Ed participant and define it as personal learning enabled through involvement in the MOOC-Ed, knowledge sharing, and networking. As described in the value creation framework, we propose that participation in the MOOC-Ed enables learning through accrued knowledge capital, which can be leveraged to improve practice and help educators’ redefine successful practices.

Wenger, Trayner, and De Laat suggest that, in order to appreciate the richness of the value created by learning communities or networks such as MOOC-Eds, it is helpful to think about value creation in terms of cycles. The first four cycles presented in their framework are an adaptation of a program evaluation model developed by Kirkpatrick in the mid-1970s. The fifth cycle was recently added to specifically address value creation in online communities and networks.

**Cycle 1: Immediate value** includes activities and interactions that produce value in and of themselves.

**Cycle 2: Potential value** includes activities and interactions that produce various forms of knowledge capital that have the potential to be realized later.
Cycle 3: **Applied value** includes activities and interactions in which participants leverage knowledge capital to changes in their practice.

Cycle 4: **Realized value** occurs when the application of knowledge capital results in performance improvements of varying types.

Cycle 5: **Reframing value** occurs when social learning causes a reconsideration of the ways in which success is defined.

In this paper we use the value creation framework as a lens for examining qualitative data collected from Learning Differences MOOC-Ed participants. Specifically, this data includes individual participants’ interviews, open-ended items on end-of-unit and end-of-course surveys, and pre-post course reflections submitted by participants. A random sampling of 500 open-ended survey items from over 6,000 items, transcripts from 14 individual interviews, and five in-depth pre-post course reflections were coded and analyzed. Using the value creation lens we illuminate a spectrum of value that educators found through their participation in the Learning Differences MOOC-Ed – thus providing a more nuanced understanding of the social learning potential of MOOC-Eds in general, and the Learning Differences MOOC-Ed in particular.
Cycle 1: Immediate Value

Cycle 1, Immediate Value, is the most basic cycle in the value creation process. Participants find immediate value through simple interactions and activities in and of themselves, such as sharing stories, tips and ideas, posing interesting questions, making connections, or participating in collective reflection.

In response to the Learning Differences MOOC-Ed post-unit survey item “What was the most valuable aspect of this unit?,“ participants shared the immediate value they found through their participation in the MOOC-Ed. Among the most valuable aspects of the MOOC-Ed were videos of students offering insight into the learning struggles they faced in school; videos of “experts” providing background information and/or research findings related to learning differences; access to new, innovative, and/or interactive resources; simple activities to identify learning strengths; and opportunities for informal discussions with educators around the world.

The multiple voices design principle ensures that MOOC-Eds provide professional learning spaces where course content is enhanced by the expertise of practitioners and leaders in the field. While specific videos or types of videos were referenced as being particularly valuable, the overall sentiment was that teachers appreciated hearing from experts and seeing real educators and students discuss their experiences with and perspectives on learning differences. MOOC-Ed participants frequently characterized videos as eye-opening, helpful, and full of information and ideas. Several participants indicated that the videos caused them to revisit their motivations for teaching, while also refreshing a personal desire to learn and grow as an educator. One middle school teacher stated:

_I think hearing the student stories impacted me the most. I have many years of experience in working with students who struggle in a variety of ways, but to hear students so eloquently verbalize their feelings and relate their experiences reminds me of why I do what I do and that there is always room to improve._

Course resources, such as online tools, articles, simulations, apps, and websites, also provided immediate value to MOOC-Ed participants. One participant noted, “I loved the resources, which were very useful for aiding understanding and giving me new sources of knowledge about topics of differentiation.” Likewise, MOOC-Ed participants found value in simple activities designed to help them better understand their own learning style. For example, one teacher noted the benefit of engaging in the Learner Profile activity:
The Learner Profile activity helps educators and students discover their strengths. Students, and many other people, are unable to explain their strengths, preferred learning styles, weaknesses, etc. The learner profiles create a more organized, descriptive way to do this.

MOOC-Eds are designed to create an engaged community of educators. Unencumbered by geographic locality, participants appreciated the opportunity network with and learn from educators around the world, decreasing the sense of isolation that they often experience. One teacher noted the value she found in being able to connect with other high school teachers around the topic of learning differences:

*I enjoyed reading responses from other teachers at the same grade level. So many courses and workshops only focus on elementary level and tell high school that we can adjust it to meet our needs – easier said than done!*

### Cycle 2: Potential Value

MOOC-Eds are intended to help educators improve their professional practices. They provide models of effective practices, activities, resources, and peer interactions designed to prepare participants to apply new knowledge and skills directly in their teaching, coaching, and/or leadership roles. As MOOC-Ed participants continued to participate in meaningful conversations over time, access MOOC-Ed resources, expand their professional learning networks, pick up tips and ideas, and take part in a variety of learning activities, not only did they find immediate value through those interactions but they were also amassing knowledge capital. Wenger, Trayner, and De Laat (2011) note that the value of intangible assets encompassed in the broader category of knowledge capital lies in their potential to be realized later, thus, in terms of value creation, we refer to knowledge capital as potential value. Various types of knowledge capital – human capital, social capital, tangible capital, and learning capital – produced through members’ participation were clearly discernible in the data collected from MOOC-Ed participants.

*Human capital* (or personal assets) can manifest in several forms – anything from a useful skill or key piece of information to increased confidence or a reawakened sense of professional identity. Participants often described the ways in which the MOOC-Ed heightened their awareness of learning differences, made them more mindful of the struggles students face, made them more conscious of the whole child, and changed their perceptions of learning differences. MOOC-Ed participants reported feeling more confident and capable of doing their jobs more effectively, reflecting more on their practice, revisiting their personal teaching philosophies, and reaffirming their reasons for
entering the classroom as an educator. To illustrate, one participant remarked:

>This course has renewed my energy and focus on teaching all students and not just the ones that are struggling. My mind and eyes have been “reopened” to the entire classroom and not just the few students who “stand out” seeking attention in not such positive ways! I want all students to achieve to the best of their ability and I need to do more with the average and above average students to keep them engaged in their desire to be successful.

Another participant noted that,

>While I already knew a little about learning differences, what I have gathered from as a result of participating in this MOOC-ED makes me so much resourceful and confident to work more effectively and be more successful in my job. I find it more interesting and it makes me enthusiastic to help children who are having learning and communication issues.

Social capital (or relationships and connections) can be a valuable product of participation in online learning experiences. MOOC-Eds provide professional learning spaces where social supports (e.g., netiquette guidelines, ice breakers, tone) cultivate a general sense of collegiality and trust among participants. Participants are encouraged to share ideas, ask questions, provide peer feedback, and work collaboratively towards shared goals with peers and facilitators. Activities provide time for and encourage a culture of reflection, exploration, and experimentation.

The Learning Differences MOOC-Eds made extensive use of discussion forums for encouraging participants to share their knowledge and experiences and engage in dialogue and debate to further extend their understanding. In addition to the immediate satisfaction that participants found through interactions in the online forum, MOOC-Ed participants also indicated that the formation of social relationships and engagement in extended discussions contributed to their learning. One participant commented that “the discussions were very engaging and it was very helpful to see and learn more about other professionals’ struggles and learn from them too.” Interactions in the discussion forum enabled participants to consider new perspectives, share ideas and experiences, give and receive support for challenging situations, and more generally, feel like part of a “safe” and “caring” community.

Learning capital. Rejecting the notion of “one-size-fits-all” professional development, the self-directed learning design principle for MOOC-Eds ensures that participants can tailor the content and activities to meet their specific learning needs. Each course offers a wide range of resources, tools, and strategies to support the application of content in a variety of education contexts. Educators
are provided opportunities to investigate self-identified problems, areas of interest, or special topics related to their professional learning needs. Wenger, Trayner, and De Laat describe this transformed ability to learn as learning capital. Participants’ praise for MOOC-Eds as a novel and valuable form of professional learning illustrate learning capital. Specifically, participants noted flexibility in terms of pace (“having the freedom to complete the unit in my own time”) as well as personalization (“I valued being able to participate at my own pace and have the time to absorb the content and explore more deeply areas that resonated”), and noted that the MOOC format allowed for reflection:

*The discussion posts were helpful in a self-reflective way. Although I appreciated reading what others said, it was most helpful for me to take some time to think and then write about the material presented in the videos and units. When working as a teacher it can be difficult to find the time to just sit and think and reflect on what’s working and what’s not working and why and most importantly, how to move forward. The format of the class has that reflection time built in, which was great.*

**Cycle 3: Applied Value**

Beyond gaining immediate and potential value from the Learning Differences MOOC-Ed, participants reported applying newly amassed knowledge capital to make changes to their professional practice. When asked on end-of-course surveys if they had attempted to make changes in their professional practice as a result of participation in the MOOC-Ed, 97% of educators answered “yes.” The design of the MOOC-Ed is purposefully intended to support application to practice. Models of effective practice (e.g., strategies, tools, processes) are frequently provided to support the application of new learning into educators’ professional settings. Authentic project-based activities result in a product or process directly connected to participants’ professional practice, and data-informed activities enable participants to collect new data and/or use existing data to inform their work during and beyond the MOOC-Ed. Further, supports are provided to facilitate the integration of MOOC-Eds within local professional development initiatives that provide face-to-face and hands-on activities, coaching, professional learning communities (PLCs), or other professional learning experiences.

Qualitative data gathered from participants illustrate instantiations of applied value, including: implementing a specific instructional strategy (e.g., incorporating insightful questions, using
cues and gestures to keep students focused); using a specific tool or resource in the classroom (e.g., learner profiles), connecting to other educators to accomplish goals (e.g., sharing effective strategies and helpful information across teams, departments, or PLCs); enlisting other stakeholders (e.g., department colleagues, parents) to develop shared understandings of concepts and issues; approaching work with a new mindset or perspective (e.g., awareness of students’ individuality and specific learning needs, working with an intent to find students’ strengths and passions); and changing their general approach to teaching (e.g., altering instructional pace and structure, teaching to the individual rather than the average).

In particular, participating educators often reported changes made to practice that closely aligned with *Habits of Mind* espoused in the course. As a result of thinking about and reflecting on material from the course (i.e., “*Think and Reflect*”), educators noted how participation in the course helped them to rethink assignments and be more aware of using different strategies to teach the same material. Participants also described the ways in which they used ideas, strategies, and activities from the MOOC-Ed to put their students in the driver’s seat of their own learning (i.e., “*Partner with Students*”); participants described how their conversations with students changed the ways in which they have prioritized “interacting more with students to get to know their learning strengths,” how they have used that information to guide instruction, and the increased opportunities they have given students to have more voice in what they are interested in learning about. The MOOC-Ed gave participants new tools, more specific language, and new perspectives that they then incorporated into conversations and collaborations with both colleagues and parents (i.e., “*Connect with Others*”). Respondents frequently reported sharing resources from the course with other colleagues and using those resources to spark conversation among staff at their schools. In particular, coaches noted how materials and knowledge gained through the course has empowered them to more effectively mentor teachers.

*My discussions have been more informative – sharing my new knowledge when teachers bring up “that student.” I’ve been able to use this information to change perceptions and perspectives in dealing with challenging situations. Just today, a teacher and I discussed Wyatt – “I’m only disabled at school” – and how that does and should not happen.*

Additionally, educators reported ways in which they have become “learning scientists” by digging deeper with learning materials from the course and applying scientific processes to make observations, reflect on the effectiveness of an idea/strategy/activity, ask questions, and test theories (i.e., “*Be a Learning Scientist*”). Two responses illustrate such instances of applied value:
I was able to immediately apply strategies and I have started researching Working Memory. I have one student with what presents as working memory issues and it’s been really, really helpful to me to first, put a name to it, and second, I have been able to educate myself on it so I do not just think she’s “lazy” or whatever, and then I can implement small changes to see if they make a difference for her.

I ask myself often, “Why is this student behaving this way?” and “What can I do to reach them?” It is not that I didn’t do this before this class, I just have found many of the examples, tools, and discussions have empowered me to step out and try some more of the strategies with a more clear direction.

**Cycle 4: Realized Value**

When the application of knowledge capital results in improved performance, then the value of the activity or tool becomes “realized.” Examining realized value – actual improved performance – is especially relevant here as the long-term goal or outcome for the creators and funders of the Learning Differences MOOC-Ed is to help all students achieve success in K-12 educational settings. Several Learning Differences MOOC-Ed participants reported realized value from their application of new ideas, resources, and perspectives in the classroom. In particular, educators noted positive outcomes with students. Illustrated in the quotes below, educators explain changes they made to their practice and the impact on student outcomes:

I have come to the conclusion that executive functioning issues are to blame for almost every frustration I have with my students. I have grouped students’ desks to make “table” groups and have made each member of the group accountable for the whole group, with regard to filling out planners, completing assignments in a specific amount of time, and other low-risk activities. **It has helped so much, and those students with executive functioning issues are getting so much more done because of the support from their peers.**

I work in an after school program, and one of my middle school students has two paraeducators with him all day long. When he comes to our program, he’s alone and needs lots of attention and support. I’ve been working with him to find new ways to handle transition times, which were the most difficult part of his day. Since beginning this class, I’ve started keeping a daily schedule on a dry erase board so he can see what time each activity will be. We also spend time each day talking about how to greet mom or dad so he’s respectful when they come to pick him up. While he does still occasionally get upset when it’s time to go home, **his behavior has been much better and**
he takes responsibility for his actions and his words when it’s time to leave. We developed a code word for when he needs to rethink his word choices to be more respectful and it’s made transitions much better.

I have also spent time getting to know some of my students who were struggling with getting work turned in. It turns out that one of them is new to the school and is having a hard time making friends. Sitting down to talk to him has gotten him to open up with not just me (and therefore turning in more work), but also with some of his classmates.

While I always have tried to connect with every student, I have found myself trying to make even more of a connection. I am really talking to kids, finding out what they like, and then using that information to guide my instruction and make connections for them. I have looked more deeply into what motivates my students and why some of them may lack motivation. For those who are lacking, I’ve specifically asked them about their interest in music or other things so that I can meet them where they are and help facilitate a love of science in ways that are personally interesting and meaningful to them. When they see me putting their ideas and suggestions into practice, they see it as a form of caring and love, which enhances the whole classroom environment.

Additionally, participants reported improved communication with parents (e.g., “conversations with parents at our conferences were different, with my being able to share more definitely what has been observed and some suggestions to help (executive functions)’’); increased student engagement and better classroom discussions (as a result of teachers changes in the way questions are framed and the amount of response time given); and more positive collaboration with colleagues (e.g., in analyzing student work and developing strategies that propel students toward success).

**Cycle 5: Reframing Value**

Reframing value occurs when “success” is redefined through the process of social learning (Wenger, et al, 2011). When shifts in perspective and practice lead to positive outcomes, learners may experience a profound reconsideration strategies, goals, and even values. These redefinitions and major shifts can occur at the individual, collective, and even organizational levels. Though this may occur for some Learning Differences MOOC-Ed participants at a later point in time, several participants acknowledged the reframing value they found through their participation in the MOOC-Ed. On a personal level, one educator stated:
What’s the Value of a Learning Differences MOOC-Ed?

The most valuable aspect was rethinking my conception of learning differences. This course really brought home the need to take into account the unique learning profiles of ALL students, not just the “special ed” children. This is a very inclusive philosophy – and not the one with which I came to the course. The notion of designing instruction to the edges rather than for the average will inform my decisions from now on.

Additionally, on a more collective level, one educator’s MOOC-Ed experience positively impacted and reframed the entire school’s approach to students:

We have implemented the Learner Profile into our referral process. Teachers have commented that they are having to take a look at the whole child and that they are seeing that sometimes what they are seeing is not what their team is seeing. It has increased the discussions on the impact of environment in the overall success of our students.

In applying the value creation framework to course data, it becomes evident that educators can gain great value through engagement in MOOC-Eds and as a result, may be better equipped to meet the diverse learning needs of all students.

The purpose of this paper was to examine the spectrum of value that educators found through their participation in the Learning Differences MOOC-Ed. The application of Wenger, Trayner, and De Laat’s value creation framework to analyze qualitative data collected during and following three implementations of the Learning Differences MOOC-Eds revealed multiple and varied types of value experienced by numerous educators participating in the Friday Institute’s Learning Difference MOOC-Eds. The findings suggest that the Learning Differences MOOC-Ed has been largely successful in providing professionally relevant learning experiences that appealed to a wide range of educators. The MOOC-Ed format provided a valuable and readily accessible form of “social learning,” through which many experienced, as a result of their participation, personal growth, improvements in their knowledge and skills, as well as positive changes to their professional practice. Specifically, educators reported experiencing a “mind shift” in their thinking about learning differences, increases in their knowledge of learning differences, and an expanded repertoire of strategies for working with students with diverse learning needs.

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About the Friday Institute

The mission of the Friday Institute is to advance education through innovation in teaching, learning, and leadership. Bringing together educational professionals, researchers, policy-makers, and other community members, the Friday Institute is a center for fostering collaborations to improve education. We conduct research, develop educational resources, provide professional development programs for educators, advocate to improve teaching and learning, and help inform policy-making. Learn more at fi.ncsu.edu.

Recommended Resources from the Friday Institute

- North Carolina Digital Learning Rubric 2.0: friday.institute/ncdlrubric
- Seven Lessons on Implementing Micro-credentials: friday.institute/7lessons
- North Carolina Digital Learning Plan: ncdlplan.fi.ncsu.edu

Suggested Citation:

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