

From PLC to Practice: Transforming Classroom Instruction to Implement Universal Design for Learning

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Abstract

Transforming classroom instruction requires sustained, collaborative, student-centered professional development. Macomb Intermediate School District has been using a Professional Learning Community (PLC) model to help secondary teaching teams plan and implement inclusive instruction through the Universal Design for Learning (UDL) framework. Our paper presents the lessons learned from seven years of UDL PLC implementation. It includes resources, tools and strategies to help educators move from a conceptual understanding of UDL to successful district, school and classroom implementation.

Keywords

Universal Design for Learning, Implementation, Professional Learning Community

INTRODUCTION

Macomb County's *Engage, Expand and Encompass through Technology (E3T)* project is a Professional Learning Community developed to help educators plan and implement classroom instruction using the principles of UDL. This intense, collaborative approach to teacher development has had a profound impact on improving teacher practice and increasing student academic success.

Our paper describes how the interdisciplinary team at MISD developed a successful UDL PLC to support secondary educators county-wide. It highlights seven years' experience implementing UDL in classrooms. Included are details about the project's course of instruction and a discussion of the challenges and benefits of blending online, face to face and small group instruction to achieve over 50 hours of UDL PLC immersion. Helpful resources such as a course syllabus, links to online learning modules, and PLC protocols are included.

The paper concludes with a discussion of the effect that UDL implementation has on teaching practice from the perspective of the classroom teacher. Two middle school science teachers describe how they took the conceptual framework of UDL and translated it into barrier free lessons for all students.

IDENTIFYING THE TRAINING TEAM

Gathering the right professionals to create an effective implementation team is an important step in developing a successful UDL PLC. Universal Design for Learning draws from a diverse set of ideas including the learning sciences, instructional design, and technology integration. The team

that facilitates its use should be equally diverse. When experts from a variety of educational fields work together, their diverse skill sets combine to provide just the right knowledge base to promote UDL's complex principles.

In Macomb County, our strong interdisciplinary team plays a key role in implementation success. Our general education science, social studies, and language arts experts bring deep content knowledge and a strong background in classroom management, student assessment and instructional methodology to the team. They ensure that each lesson is built on a solid foundation and connected to content expectations, with a lesson scope that reflects the big ideas and essential questions. We discovered that when inadequate attention was paid to developing a strong curriculum foundation, the outcome was accessible lessons that held no value to the learner.

Our special education speech, language and literacy expert and assistive technology (AT) consultant share expertise related to supporting students in the margins. Under their direction, educators develop a deeper understanding of the complexities of learners and how to plan for diversity in the classroom. Our literacy expert helps educators design instruction to ensure that all students can learn from complex, discipline-specific text. The AT consultant helps educators identify the right tools to support diverse learners and strategies to integrate these tools into UDL lesson plans. The E3T PLC is well rounded and benefits from the diverse perspectives and expertise of the leadership team.

DEVELOPING A SUCCESSFUL PLC

Why a PLC

Dr. Richard DuFour defines a professional learning community as:

"Educators committed to working collaboratively in ongoing processes of collective inquiry and action research to achieve better results for the students they serve" (DuFour, DuFour, Eaker and Many, 2006, p. 3)

PLC's encourage educators to explore research-based learning practices that impact student learning. Making student learning prominent is consistent with the UDL practice of planning with learner diversity in mind. PLC's also provide teachers with a framework to learn, try and evaluate new teaching methods. This recursive, *plan, do, check action* process helps educators make the challenging transition to teaching through a UDL lens.

Finally, ongoing professional development, such as that offered by a PLC, is required for real change. In their 2006

policy brief, Weiss and Pasley (2006) examine the results of several large scale professional development efforts and conclude that educators must focus on a single topic for 50-60 hours per year before students realize significant performance gains. However, this level of intensity poses a dilemma.

Blended learning PLC

Miller, Murnane, and Willet (2008) found that after 10 days of teacher absence, student achievement scores were reduced by a standard deviation, about 3.3%. In part, this is due to the instructional limitations of less qualified substitute teachers and a disruption in instruction and classroom routines.

In order to continue to provide a robust, intense PLC, while reducing the number days teachers are out of class, our E3T team implemented a blended learning approach. Teachers were required to attend 5 full days of in-person work spread throughout the school year. They also participated in 10 online modules that complimented and extended face-to-face learning.

Complex instructional topics with a broad scope are introduced in in-person workshops, while subjects that are discrete and concise are presented in online modules. (To see the full course sequence, please refer to Table 1). To view the online modules please go to <http://e3t.org>.

Table 1: The E3T Course Sequence

Course Sequence	Delivery
Introduction to UDL	Face-to-face
E3T Module: Students in the Margins	On line
E3T Module: Developing a Web Presence	On line
E3T Module: Framing the Learning	On line
Exploration	Face-to-face
E3T Module: Lesson Opener	On line
E3T Module: Supporting Text	On line
Complex Text and Struggling Students	On line
E3T Module: Strategic Lecture	On line
E3T Module: Supportive Notes	On line
Formative Assessment	Face-to-face
E3T Module: Vocabulary	On line
E3T Module: Extended Practice	On line
Summative Assessment	Face-to-face
E3T Module: Capstone Total	On line
Share Your Learning	Face-to-face

Homogenous vs Heterogeneous PLC's

After field testing many configurations of PLC activities, the E3T team determined that content-homogenous PLC's are the best structure for successful collaboration among secondary educators. In this structure, cohort members are asked to work together to design instruction and share materials. Their work is far more collaborative and effective when they share grade level and content areas. (Sharing a content focus allows teachers to use the specialized language of their discipline when designing instruction and offering feedback to colleagues). We also discovered that there is more variability in assessment, methods, and planning between departments than between schools.

In addition to content homogeneity, our teachers reported a greater level of comfort and shared focus in a PLC where members worked at schools with similar socioeconomic profiles. Factors such as community support, school culture, technology infrastructure, and equity, are affected by socioeconomic levels. These factors made it difficult for teachers in poorer schools to relate to the issues facing teachers from more affluent schools and vice versa.

Strong Leadership for Success

Leadership support plays a significant role in PLC success. Shirley Hord (1997) writes in her report on PLC's and school improvement:

The literature on educational leadership and school change recognizes clearly the role and influence of the campus administrator (the principal, and sometimes an assistant principal) on whether change will occur in the school. It seems clear that transforming the school organization into a learning community can be done only with the leaders' sanction and active nurturing on the entire staff's development as a community (p.2).

In order to ensure administrative support, the E3T team initiates the application process by conducting team interviews with school leadership. Principals are asked to describe the instructional change they expect to see as a result of their school's participation in the UDL PLC. They are asked to describe their plan to support teachers in the PLC. If their expectations align with the goals of the project and their commitment is clear, the application process moves forward.

All principals new to the E3T project are invited to participate in the UDL PLC, so they can develop UDL instructional expertise alongside their teachers. We have discovered that in schools where the administrator attends a majority of the sessions and works as an active member of the UDL PLC, the teachers are more invested, and follow through more often, on assignments and implementation.

Engaging administration in the PLC process has other advantages as well. When administrators are active members of the PLC, they are more likely to provide and preserve the time required to meet, plan and implement the work. The E3T team meets regularly with the project principals to

encourage ongoing participation in the PLC. These one hour meetings are used to share PLC priorities, align UDL work with other school initiatives, and to help the school administrator respond to and support changes in teacher practice. With a strong commitment, administrators play a key role in PLC success.

GETTING STARTED WITH A UDL PLC

Respecting Change

When establishing a PLC it's important to acknowledge the good instruction that is already occurring in classrooms. The E3T team begins by acknowledging recent instructional successes, followed by helping teams make connections between these successful strategies and UDL. By wrapping UDL around their successful experiences, teachers feel more confident about the work ahead. They discover that UDL practices help them improve on established, effective instructional techniques.

We also work hard to convey to teachers that implementing a UDL practice can be challenging. It's a continual process of gradual improvement, occurring over time. We encourage teachers to recognize that they are engaged in complex change, and realize that patience with the process, even when it's a bit uncomfortable, will pay off in the end.

Modeling Expectations

All E3T professional development opportunities, whether they are face to face or online, are designed with the UDL framework in mind. As a result, teachers begin to develop a familiarity with the framework through frequent exposure to the language of UDL and regular opportunities to experience the support provided by a UDL lesson. Each UDL PLC session follows the same format. We begin with a lesson opener to recruit engagement, followed by an exploration activity to pique curiosity, and then engage in an explanation with multiple means of delivery. Multiple formats such as reading, lecture, video or hands on activities are offered. We incorporate active exploration, small group work, opportunities for self-assessment and reflection and frequent checks for understanding throughout. The session culminates with an opportunity to put ideas into practice. Teachers design, then teach a UDL lesson component in their classroom.

E3T PLC COURSE OUTLINE

Begin with Learner Diversity in Mind

General educators in our project report feeling under prepared to provide adequate instruction for students in the margins. Our course sequence begins with a deep dive into the barriers secondary students with disabilities face and the often unresolved emotional ambivalence they associate with school. For example, E3T teachers explore the *Misunderstood Minds* site (<http://www.pbs.org/wgbh/misunderstoodminds/>) where they experience learning from the perspective of a student with a learning disability. The discussions and insights that result from this experience

serve as a touch point we return to frequently in our PLC work. For example, this comment from an E3T participant is representative of the type of things they experience:

Watching these videos made me take a step back and really rethink how students experience my classroom. Oddly enough, a very simple task jumps to mind as an assignment that would cause difficulty to students with reading problems. Each day as the kids enter I have something written on the projector for them to do. I want them to sit down silently, not talk to anyone for any reason, get out their notebook and put it on the right corner of their desk. I had a student who could not follow these directions without talking to his partner because he didn't understand what he was supposed to do. Turns out he is a student that has major decoding issues in 6th grade and I'm overwhelmed on how I am going to help him be successful this year.

Using a Lesson Plan Format

The E3T lesson plan framework is adapted from the instructional sequence described in *Planning Effective Instruction*. (Price & Nelson, 2007) This framework aligns well with the UDL principles and helps focus teachers on planning for the diverse classroom. An online planning system called the E3T Lesson Plan Creator was developed for this project at Macomb ISD.

Using a lesson planning tool has been instrumental in providing structure to the project and in helping our teachers move from theory to practice. (See figure 1). The lesson format is used to structure professional development and guide educators as they use the principles of UDL to design instruction. By dividing the learning components into manageable segments, we're able to address specific learning barriers and UDL solutions, making instructional change manageable and effective. A description of the lesson plan framework follows.

Framing the Learning

The first lesson component focuses on identifying and using the big ideas, essential questions and learning objectives so that all students can engage in, monitor and demonstrate their learning outcomes. This topic is introduced in the *Framing the Learning* online module and is referred to throughout subsequent sessions.

Lesson Openers

Lesson openers that provide both multiple means of engagement and representation are designed to engage students and help them connect to prior knowledge. Designing openers that are novel, engaging and relevant help students focus their attention on the work ahead. The online module *Lesson Openers* introduces educators to the purpose of an opener and provides them with resources for finding and selecting proven lesson openers.

An online planning system called the E3T Lesson Plan Creator was developed for this project at Macomb ISD.

Framing the Learning

Big ideas: Concepts or principles central to the lesson that connect the smaller ideas.

Essential questions: Relevant, inquiry-based questions help students probe for deeper meaning in a subject.

Learning objectives: Two to four student-friendly measurable learning targets that reflect the insights students are expected to develop by the end of this lesson.

Lesson Opener: Begin the lesson and engage the students, establish a purpose, promote curiosity, and activate students' prior knowledge.

Exploration: Inquiry-based learning activities that provide a low-threat environment where students can apply prior knowledge, explore new concepts, and develop ideas about the essential questions.

Checks for Understanding: Formative assessments that provide immediate feedback to both the learner and the instructor regarding the students' levels of understanding of the big ideas, essential questions, and learning objectives.

Explanation: Activities that help students expand their emerging understanding of the learning targets and develop a mastery of objectives. Careful consideration is given to selecting delivery methods and materials. Instruction includes a variety of explicit learning strategies to support application of the learning, multiple means of representing information, frequent opportunities for response and practice, and a variety of student-centered learning activities.

Check for Understanding: Further formative assessment used to ensure grasp of the content, including a plan for re-teaching material as needed.

Extended Practice: Activities and resources that challenge and extend students' conceptual understanding and provide opportunities to practice learned skills.

Summative Assessment: End-of-unit assessments that clearly assess the students' progress toward mastering the big ideas, goals, and objectives. Students choose from various ways to demonstrate knowledge. Culminating activities are accompanied by explicit, easily understood descriptions of the criteria for quality work.

Note: Adapted from *Planning Effective Instruction* (Price & Nelson, 2007).

Figure 1. The E3T lesson plan framework

Exploration of Phases of Learning

The primary purpose of the exploration phase is to allow students to make discoveries related to the lesson's big idea(s). Exploration activities promote inquiry and prompt students to ask essential questions. Well designed exploration activities give students the opportunity to experience, think, investigate, probe, inquire, collect information, question, test, make inferences and problem solve before they are given the right answers.

Besides promoting inquiry, exploration activities provide additional advantages to the UDL-based classroom. The playful qualities of the interactions engage students and reduce their fear of failure. When students have an opportunity to explore, the pressure to get the right answer diminishes. Low-threat learning encourages all students to participate more and to take more academic risks.

Exploration activities are also easily leveled to meet individual student needs. By adjusting the number of directions and the amount of support provided to the learner, educators can easily differentiate the degree of challenge. Finally, exploration activities are student centered. That means students choose to work at the pace that's best for them.

Exploration is addressed as part of a face-to-face meeting. We teach the concept of inquiry by engaging teachers in an exploration activity. They experience first hand the power of actively experimenting and probing for answers.

Check for Understanding

Formative assessments provide a spot check of student understanding. For the instructor, this information is used as feedback to modify teaching and learning activities. For the student, it's a signal that they are missing critical information and need to seek additional support.

The E3T team also addresses formative assessment in face to face sessions. In this session, instruction emphasizes strategies for using student self assessment, providing actionable feedback to learners, developing quality formative questions, and using the assessment data to adjust instruction. Particular attention is given to tools that gather a response from every student such as white boards or electronic classroom response systems. These tools provide learners with immediate feedback and offer teachers an opportunity to respond promptly to misunderstanding. They also support multiple means of representation and engagement, allowing educators to use text, audio and images in the assessment.

Explanation

In this segment teachers provide students with the content they need to develop a mastery of lesson objectives. The explanation phase includes lecture, conversation, discourse, argumentation, learning from text, taking notes, vocabulary study, continued exploration and skill practice, and feedback.

Considerable time is devoted to helping teachers design supportive explanation activities. During face to face ses-

sions we discuss strategies for integrating tools that help make new learning explicit, such as using checklists and graphic organizers. We also discuss ways to leverage technology to provide multiple representations of information. Significant emphasis is placed on helping students in the margins learn from disciplinary and complex text.

The online modules focus on developing strategies and integrating technology to provide direct vocabulary instruction, effective lectures, supportive notes and augmenting and supporting text

Extended Practice

Extended practice refers to activities that provide students with an opportunity to practice learned skills or extend their conceptual understanding of a topic. These activities occur throughout the lesson and can be used as an additional formative assessment measure.

In the E3T course, extended practice is addressed in an online module. The module guides teachers through the steps of designing practice tasks that are engaging, purposeful and support all learners. Flexible tools allow for multiple representation of ideas and immediate feedback. Opportunities for independent guided practice are included.

Summative Assessment

Summative Assessment is the final assessment used to provide evidence that students have mastered the learning objectives. It's an opportunity for students to solidify and apply their learning from the unit.

The E3T course focuses on helping teachers design assessments that provide options for students to show what they know. Instruction includes an introduction to a variety of digital creation tools and strategies to help students monitor their progress toward project completion.

Capstone Experience

The lesson planning tool is used in the culminating activity. Teachers design a 3-4 day UDL lesson, teach the lesson, and document the results. In their final capstone project, teachers present the lesson and it's outcomes to the PLC, using whichever medium suits them. The capstone includes information about the change in student performance, student reaction to the lesson and teacher data on the lesson success. This culminating experience is a day of celebration.

REPORTS FROM THE CLASSROOM

The real results of UDL implementation can be found in the classroom. This section of the paper highlights the lessons learned by two middle school science teachers, Lisa Beckman and Sarah Bowman, who have been implementing UDL strategies for over four years.

Engagement

When asked to describe what she's learned about teaching and learning since adopting the UDL framework, Mrs.

Beckman replied, "I keep wondering why I was working so hard before." Prior to teaching well-designed UDL lessons, she spent much of her instructional time prodding students to pay attention. Now, because her lessons begin by engaging students and piquing their curiosity about a subject, they're drawn into learning. They ask questions and actively seek more information about the topic. Adding multiple means of engagement turned her disinterested charges into engrossed and inquisitive students. Mrs. Beckman further said, "If you change the way you do things, you can become the facilitator and let the students drive the instruction."

Formative Assessment

After implementing frequent, universally designed checks for understanding, Mrs. Bowman noted, "I'm better able to monitor every student's performance. With up to date information about how each student is doing, I can group and regroup based on their needs."

Mrs. Bowman uses flexible grouping strategies and formative assessment to create small groups that offer targeted remediation, practice or extension activities. "That way, I can offer tiered reading websites with a text reader to one group and extension labs to the other. Then everybody gets what they need."

A Commitment to Multiple Means of Representation and Expression

Both Mrs. Bowman and Mrs. Beckman describe the classroom as teeming with choices. They offer options for note taking, leveled reading, text to speech, and speech to text, allowing students to make their own decision about what tool or material works best for them. When they provide choices and honor student's individual needs, they report that students complete more assignments and have a better grasp of the material.

Their commitment to multiple means of representation and expression extends to their instruction as well. When lecturing, they present students with short lecture bursts, typically lasting 10 to 15 minutes. To help students identify the critical elements in the lecture, both teachers begin with a quick discussion of the main concepts students should know by the end of the class. These concepts also appear on the guided notes and are posted in the classroom. To support comprehension and retention, lectures are accompanied by a digital presentation with embedded graphics and videos.

Mrs. Beckman described a strategy called *blank slide* that she uses to slow down a lecture or indicate something different is about to happen:

We use a blank slide in the middle of the PowerPoint presentation to get student's attention. It's a strategy to let them know that something else is coming. Sometimes it's a lead in to a question or a discussion or quick

demonstration activity. They absolutely love the blank slide. It mixes things up a bit and keeps them engaged.

Mrs. Bowman described using conceptual models throughout a unit to help students build a bridge to understanding difficult concepts in science. For example, she might guide students through a discussion about the structure of an atom by discussing the structure of a school. They might talk about the main office as the nucleus and the school walls as the cell membrane. As Mrs. Bowman stated:

Using a model or doing a demonstration activity helps students move from the concrete to the abstract. Sometimes I'm amazed at how a really simple experiment can make a huge difference in what my struggling students understand and remember.

Achieving Mastery

A final comment that sums up why it's important to continue to make instruction accessible, was made by Mrs. Beckman:

We are focused on helping students achieve mastery. Not everyone will get there at the same time or in the same way, but they will all get there if we give them the support they need.

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