Abstract
It is easy to get stuck in the exploratory and planning phase of UDL. Whether you are implementing UDL as a district-wide mandate, or growing UDL from the ground up, one school at a time, making the shift to real-world UDL implementation requires attention to logistics. This paper discusses the variables affecting the early phases of UDL implementation. It then describes the preparation phase in one school district where UDL was implemented school by school. It covers the selection of schools and school-based leaders, as well as the role of UDL consultants and principals. A timeline of preparation tasks is also outlined.

INTRODUCTION
“The very essence of leadership is [that] you have to have a vision. You cannot blow an uncertain trumpet.” This quote by Theodore Hesburgh (www.leadershipnow.com) aptly captures the challenge underscoring implementation efforts. Implementing Universal Design for Learning (UDL) is not a simplistic endeavor; it cannot be reduced to a rubric or a list of tasks. Implementation efforts require strong leadership with a clear roadmap to move UDL forward. CAST’s National Center On Universal Design For Learning (2012) has described five phases of UDL Implementation. Adapted from Fixsen, Naoom, Blase, Friedman, and Wallace (2005), the CAST phases of implementation are labeled as follows: (1) Explore, (2) Prepare, (3) Integrate, (4) Scale, and (5) Optimize. CAST states that these “are not rigid stages but instead are fluid and recursive in nature” (CAST, 2012). This paper will focus on the exploration and preparation phases of UDL implementation in a large suburban school district—steps that lead to the integration phase of implementation.

INITIAL PHASES OF UDL IMPLEMENTATION

Exploration
While implementation may look different from district to district, the exploration phase is generally marked by an awareness that the UDL Framework offers a well-defined perspective on diversity and the education of all students. The exploration phase can take months or years. It is the time when new ideas are contemplated and new educational pedagogies are envisioned. In Montgomery County Public Schools (MCPS), a large school district in Maryland, northwestern Washington, D.C., the principles of UDL were first infused into voluntary professional development. The foundations of UDL were in concert with other pedagogical beliefs at that time, such as differentiated instruction, co-teaching and the need to engage all students, especially under-performing students. Subsequently, UDL principles were incorporated system-wide into mandatory school team trainings across all grades. In this exploratory phase, sharing knowledge about UDL occurred across many levels of the organization.

Preparation
Shifting to the preparation phase entails a great deal of discussion on who, what, where, why and how. A clear consensus on what UDL is and is not, as well as why UDL is important, is central to any discussion in the preparation phase. Structured plans for implementation are deliberated, and target schools are discussed. It is easy to get stuck in either the exploration or preparation phases. In the absence of identifiable leadership, UDL principles can be mere talking points that are not incorporated into a well-defined implementation plan. Without a clear plan that clarifies pedagogical beliefs and implementation logistics, UDL is a framework that may be included in professional development, but may not systematically progress to the integration phase. It is not uncommon to hear educators who have long been providing professional development and resources on UDL to ask, how do we get UDL implementation going; what’s the process?

UDL IMPLEMENTATION VARIABLES
There are three variables to acknowledge when considering UDL implementation efforts. The first is the source of support for the initiative. Who is providing the impetus for this new initiative? Where is the locus of control in a new UDL endeavor? It might have been initiated at the highest levels of administration, or it might have originated with a department or team of forward-thinking individuals (Figure 1).

Figure 1. Source(s) of support for UDL implementation efforts.
Regardless of the starting point, the source of support is an important factor—it sets the stage for implementation efforts. Will the implementation effort grow gradually from
the ground up, or will there be a clear top-down mandate? The second variable to consider is where implementation efforts will concentrate. Will implementation efforts focus on all staff in all schools within a district, all staff in some schools, or some staff in some schools (Figure 2). If there is sufficient support and funding, and the full backing of the school superintendent, then district-wide implementation may be possible. But this is a big endeavor that requires well-orchestrated professional learning opportunities, resources, and tools. It requires collaboration across all departments and a curriculum rooted in UDL. Moreover, when you are engaged in large-scale implementation, you need to delegate more of what needs to be done to build UDL. Consequently, the fidelity of UDL implementation depends more on the skills of the on-site school facilitators who require ongoing mentoring. Ultimately, all of these elements are crucial to achieving full scale UDL implementation. If this is not realistic in the short term, then circumstances may dictate a more modest, but systematic, approach to implementation at individual school levels.

Principals, as critical stakeholders, are key to successful implementation. Principal commitment is a must for effective school implementation. Staff buy-in also is critical at the school level. However, capturing the full engagement and commitment of every staff member is not always possible during the initial year of UDL integration. The development of a professional learning community or a team of on-site leaders to spearhead implementation efforts may provide a sound way to ramp up to full school UDL implementation. Regardless of whether implementation efforts concentrate on all staff in all schools, or all staff in some schools, or some staff in some schools, implementation research indicates that it takes three to five years to get to full implementations in any setting (Fixsen, et al., 2005). In the first year of even well planned, school-based UDL initiatives, it takes time to experiment with what works and what doesn’t and to assess emerging patterns of best practices. Over time, there is increased confidence in UDL, and an increased effort to document and showcase effectiveness, and build capacity across the school.

There is no one method of implementation. It is not a one-size-fits-all approach. Timing (e.g., competing initiatives) and funding (e.g., district funding, grant funding) will have a major impact on implementation efforts. These three variables are in essence the “who,” “where,” and “how” of UDL implementation. Having a clear view of these variables makes it easier to proceed systematically.

**UDL Implementation Variables Applied to a Large Suburban School District**

In MCPS, the High Incidence Accessible Technology Team (HIAT) introduced UDL as part of voluntary professional learning opportunities, including one-credit introductory courses on UDL. UDL provided an important framework in which to anchor best practices in the use of educational and assistive technology.

During the exploration phase, the language of UDL was included in district-wide mandatory professional development, rolled out over the course of a few years to school teams at every grade level. Although this training emanated from the Division of Special Education, staff development professionals designing the training modules ensured that the messaging of UDL principles applied to general as well as special educators. UDL entered the preparation phase when it became time to identify schools that would commit to UDL integration.

Using the three variables discussed previously in this paper, a bottom-up commitment to UDL started with a small team, but over time was incorporated into district-wide professional development. UDL was not a specifically identified district-wide mandate, however. Nonetheless, an integrated approach to elementary curriculum was under development and the curriculum design team committed to ensuring the incorporation of UDL principles into the new curriculum.
As of the 2014-2015 school year, Maryland State Department of Education regulations require the incorporation of UDL principles and guidelines into the development and provision of curriculum, instructional materials, instruction, professional development, and student assessment (COMAR, 2012). State-level directives have set a path for top-down, district-wide UDL implementation across all public school systems in Maryland.

In MCPS, initial UDL implementation efforts concentrated on targeted schools, starting with two schools and scaling up to 24 schools over the course of five years. The concentration of effort focused on some staff in some schools by developing small professional learning communities (PLCs) using teachers as part of “ULD Leadership Teams” to grow UDL from within each school.

Initially, paper implementation consisted of instructional procedures and strategies for teaching and learning using UDL principles and guidelines that were incorporated into professional development workshops. In 2009, UDL implementation was initiated in one elementary and one middle school. The level of implementation shifted from paper implementation to process implementation to include staff training, classroom supervision and reporting to the school principals. At that time, while there were ample resources on what constitutes UDL, there was little available to guide the implementation of UDL. Over time, classroom observation tools and survey instruments were developed to measure the fidelity of UDL practices and, thus, the shift to performance implementation.

KEY ELEMENTS IN THE PREPARATION PHASE

The remainder of this paper focuses on key elements in the preparation phase of UDL implementation in MCPS. As stated previously, UDL implementation concentrated on some staff in some schools, starting with two schools in year one and, with the help of state grant funding, increasing to more than 20 schools in a period of 5 years.

The Role of UDL Consultants

As a first step, it was critical to identify staff persons who were well versed in UDL, to coordinate integration efforts. In the beginning, full time HIAT staff served as part time UDL consultants, sharing ideas and strategies, and delivering professional development to one elementary and one middle school. HIAT staff spent a minimum of one day per week at each school and met bimonthly with the UDL Leadership Teams established at each school. As the number of schools engaged in UDL implementation increased, the role of the UDL consultants became more apparent. One full time UDL consultant for every six schools implementing UDL was considered optimal.

The role of UDL Consultants included:

- Coordinate efforts with central administration.
- Assist in the selection of schools.
- Meet with principals to clarify expectations.
- Provide basic information on UDL to schools.
- Provide training and coaching to school-based UDL facilitators.
- Provide training on what it means to be part of a developing PLC.
- Provide training on UDL principles and guidelines to UDL Leadership Teams.
- Support the ongoing development of the PLCs.
- Provide on-site support and conduct UDL walk-through’s.
- Track data, examine trends, troubleshoot, problem-solve, and unravel misconceptions about UDL.

Selecting Participating Schools

Participating schools were selected using an online application process. Memoranda were sent from an administrator at the central office level to principals, briefly describing the opportunity and inviting them to apply. Links to the online application and to video testimonials from principals who had participated in previous years were provided. A document file was attached describing the UDL Implementation project in more detail. This file described goals and expectations. Benefits and deliverables, timelines, administrative commitment, the purpose of the PLC, the staff selection process and staff expectations were clearly explained. Face-to-face information sessions were also scheduled to provide information and answer questions about the UDL projects. This approach was adopted based on the recognition that it is essential for principals to have a clear understanding up front of what is needed to develop an effective PLC. For example, educators need time in the master schedule to plan collaboratively with UDL in mind, and both principals and staff need to understand the importance of measuring fidelity of implementation.

The online application (see Appendix) served multiple purposes. It reinforced the level of commitment required. It provided information on the technology tools available in classrooms. The application also allowed the evaluators who were charged with selecting participating schools, to gauge whether the UDL implementation project would complement or compete with other priority initiatives.

At the end of the application period, central office administrators met with UDL consultants to select participating schools. Once participating schools were selected, it was time to meet directly with the principal of each school. Informal discussions clarified the scope and sequence of the project, and shared examples of the effectiveness of UDL in neighboring schools. It was important to clarify that in the
first half of the school year, members of the UDL Leadership team would focus on implementing UDL in their classrooms with increasing fidelity. Outreach to staff in the school as a whole commenced in the second half of the school year. It is often useful to take stock of available software and hardware at each school and determine whether technology upgrades are forthcoming. One concern is that the more technology you have to put in place, the greater the need for training on tools, which cuts into professional learning allocated to the application of UDL principles. UDL implementation involves leveraging the tools you have on hand, advocating for a better distribution of what is available, and spending funds on that which will be most useful.

Selecting The School-Based Leadership Team
Staff members who participated in the school-based UDL Leadership team were also selected by application. School meetings were used to introduce the UDL projects, to answer questions, and to encourage staff to apply. Thereafter, an email was sent to staff with a link to an online application. A document was attached that described the project in full detail. This document described the benefits of participation, explicit goals and expectations, and provided information about a required three-credit, year long, 15-session asynchronous online course. Learning management system software was used to provide ongoing information relative to UDL, to provide opportunities to reflect and share ideas related to UDL, and to develop a professional network for PLC members across participating schools within the district. It was important for staff to understand that this online environment was more than a series of lessons and much more than pedestrian coursework. Rather, it was a forum for building a PLC where staff could reflect on educational practices by sharing stories that inform practice. It was a vehicle for gaining confidence in order to explore new ways of teaching, and to collaboratively build an understanding of what UDL looks like in the classroom.

It was essential for staff participation to be truly voluntary. They should not be required to participate. School administrators and the UDL consultant reviewed staff applications collaboratively. Typically, eight to twelve staff persons from any discipline were selected from no more than eight classrooms per school. For example, general education teachers, special educators, media specialists, and paraprofessionals were encouraged to apply. PLCs profit from staff members that are motivated to try new teaching methods and materials, and who want to learn more about UDL and technology integration. Therefore, staff should not have competing afterschool commitments on preset UD Leadership meeting days. PLC members should be skillful teachers open to new learning, willing to share strategies and resources, and be able to effectively coach others. In addition, an on-site facilitator with organizational skills, leadership abilities, and a flexible schedule should be designated at each school by the school principal.

Once the UDL Leadership Team was selected, it was useful for the UDL consultant to meet with the on-site facilitator and the team as a whole to outline goals and expectations and answer questions that arose. Prior to the start of the new school year, it is advantageous to provide some professional development on the foundations of UDL and provide staff with introductory reading material.

Preparation Timeline
The following is a timeline of events that help schools get ready to begin the UDL integration phase at the onset of the school year.

January/February:
• Initiate the school application process.
• Meet with principals.
• Meet with central administration to select participating schools.

March/April:
• Present information about UDL to each participating school.
• Initiate the staff application process.
• Meet with principals to select members of the UDL Leadership Team for each school.

May/June:
• Meet with the on-site UDL facilitator and the UDL Leadership Team to provide information and expectations for the year to come.

July/August
• Provide professional learning opportunities on the foundations of UDL.

September to April
• All first year UDL Leadership Teams participate in a three credit, online forum that serves to foster the development of a UDL professional learning community.

CONCLUSION
This paper focuses on the preparation phase of UDL implementation by describing processes that ensure readiness for the start of the integration phase. It describes the preparation activities of a large suburban school district where UDL is being implemented with fidelity across multiple schools. Whether you are bringing UDL to scale to all staff in all schools or some staff in specific schools, reaching full scale UDL integration has its challenges. One way to minimize them at the outset is to have a clear and systematic preparation process.

There are advantages to building UDL from within a school culture. It marshals the energies and enthusiasm of teacher leaders, enabling them to spread the message to their colleagues organically. Fixsen, et al. (2005) suggest that school-wide implementation efforts are not as productive as building slowly and systematically, with efforts jumpstarted by school leaders. However, bringing UDL to scale in four or five schools at a time is not efficient. In a large district like MCPS, it would take more than 40 years! Instead, bot-
tom-up approaches need to work to align UDL with complimentary and mutually reinforcing district-wide initiatives, by continually working across departments to engage in discourse about UDL as a framework that embraces many best practices. The goal is not to build UDL one school at a time, but to allow UDL to gain a firmer foothold in educational practices and to concretely demonstrate the benefits to the school district as a whole.

A central message, therefore, is that full-scale implementation of UDL requires bottom-up plus top-down efforts. Systemic change is needed to ensure that UDL is addressed across the organization—that UDL is integrated into the curriculum, that digital materials are accessible, that ample technology tools are in place to more readily allow for multiple means of representation, action and expression, and engagement for all students. For example, when UDL is infused into a district’s curriculum, it provides lesson plans that allow for more choice and variability; it provides resources that make it easier for teachers to reach a wide range of students. District-wide curriculums rooted in UDL principles make it easier for teachers to put the pieces in place for all students.

Preparation for the integration phase of implementation requires a systematic action plan such as the one described in this paper. It doesn’t happen by merely increasing professional development to increase staff awareness of UDL, nor through written policies and procedures. In the integration phase, it requires resources, coaching, and reflection across successive years. Individual schools can achieve performance levels of UDL implementation with fidelity, and build UDL school-wide. But UDL needs to grow and flourish system-wide across all grade levels. Synergy between top and bottom is critical to make this happen.

To read more about the MCPS integration phase, see “Leading UDL Implementation with Professional Learning Communities” by Wilson, Ellis and McGrath in these proceedings.

ACKNOWLEDGEMENTS
Dr. DeCoste is the former team leader of the MCPS HIAT Team. She would like to thank the members of the HIAT team, Patricia Janus, and Montgomery County Public Schools for their ongoing support of UDL.

REFERENCES
Code of Maryland Regulations (COMAR) 13A.03.06 (2012). Available at http://www.dsd.state.md.us/comar/SubtitleSearch.aspx?search=13A.03.06.*)
Developing a school-based UDL Professional Learning Community (PLC) is an investment by the school’s administration and staff to bring together a core group of educators who can disseminate and demonstrate best practices in Universal Design for Learning for the benefit of all the students in your school. The effective development of the UDL PLC and the implementation of UDL at your school will require specific commitments from the school administration and from the individual staff selected for the PLC.

1. **Your School Name:**

2. **Name of Person Completing the Application:**

3. In order to effectively implement the UDL PLC at your school and create a lasting impact after this project year is complete, principals are asked to consider their administration’s ability to meet the following project expectations:

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<tr>
<th>Commitment</th>
<th>I anticipate my administration will be able to meet this expectation.</th>
<th>I have concerns with my administration's ability to meet this expectation (add notes below)</th>
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<tr>
<td>Collaborate with the school leadership and staff to determine their commitment to participate in the project prior to application.</td>
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<td>Share the expectations of the UDL PLC with selected staff.</td>
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<td>Include specific objectives related to technology integration and UDL in their School Improvement Plan.</td>
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<td>Collaborate with the UDL Specialist to develop incentives for staff participation in the UDL PLC (e.g. release from before/after school duties).</td>
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<td>Implement an open application process for interested school staff to apply to be on the UDL PLC. An open application process is critical to promoting buy-in for those members selected.</td>
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<tr>
<td>Collaboratively review the staff applications for the UDL PLC with the UDL Specialist.</td>
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<td>Encourage staff to include specific objectives related to technology integration in their professional development plans.</td>
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<tr>
<td>Commit to monthly meetings with the UDL Specialist to review the plan and progress of the UDL PLC.</td>
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<td>Accommodate one 60-90 minute meeting per month before or after school for UDL PLC staff.</td>
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<tr>
<td>Commit 3-5 minutes of all staff meetings to a “UDL or Tech Integration Tip” shared by the UDL PLC team or other staff.</td>
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<td>Establish a formal school-wide system for recognizing staff that effectively integrate technology into their classrooms and complete professional development on instructional technology.</td>
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<tr>
<td>Commit to school wide professional development efforts by the UDL PLC team delivered in the third and fourth instructional quarters of the school year.</td>
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<tr>
<td>Complete lesson observations of all UDL PLC members using a UDL observation tool during the fourth instructional quarter.</td>
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### Implementing Universal Design for Learning: Principal Application

#### School Initiatives

4. What other school-wide initiatives are being given high priority for the coming school year?

5. How will the UDL implementation project complement these other priority initiatives?

6. A UDL PLC facilitator needs to be designated at the school and should have a flexible schedule, good organizational skills, and be a respected instructional leader at the school (e.g., be viewed as a "go-to" person at the school). This person will be responsible for coordinating the once a month in-person UDL PLC meetings at the school. Please comment on any specific staff that you feel can fulfill this role in the coming year.
7. What is the average number of computing devices per classroom at your school?

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Other (please specify) ____________________________________________________________

8. Do teachers have sufficient hard drive space to store digital materials?

☐ yes
☐ no

9. Are the following available for student use? Select all that apply.

☐ laptops
☐ tablets
☐ interactive white boards
☐ computer headphones
☐ computer mics
☐ digital cameras

10. What type of Internet access is available in classrooms at your school?

☐ wireless
☐ internet drops

Thank you for submitting this application. If at any point you have questions regarding this project or application process, please contact: