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In Depth Policy Analysis

Universal Design for Learning: Implementation in Six Local Education Agencies

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INTRODUCTION

Universal Design for Learning (UDL) is a theoretical framework developed by the Center for Applied Special Technology (CAST)¹ that builds upon architectural concepts of universal design described by the Center for Universal Design (CUD)² at North Carolina State University. UDL affords opportunities for all individuals to gain knowledge and skills through rich support for learning and reducing barriers that can inhibit access to learning. Just as universal design in architecture anticipates the needs of individuals with disabilities and builds structures accordingly, universal design for learning anticipates special needs of students and creates curriculum, instruction and assessments that are specifically designed to facilitate access. In the process, all students benefit. For the purpose of this document, UDL is defined as the *proactive design of curricula (including learning goals, instructional methods and materials, and assessments) that are accessible and usable by all students with little or no need for additional accommodations and are compatible with available assistive technology.* While UDL is an overall practice, not a method for individualizing services for students, educators must consider the individual needs of students when implementing instructional practices and assessments.

The UDL theoretical framework³ designed by CAST includes three principles to enable every student to access and participate in all facets of learning. The three principles are multiple and flexible means of:

- ***presentation*** to provide students various ways of acquiring information and knowledge;
- ***expression*** to provide students alternatives for demonstrating what they know; and
- ***engagement/participation*** to tap into students' interests, challenge them appropriately, and motivate them to learn.

CUD established seven principles of universal design to provide guidance for environmental, product and communication design. These seven principles are:

- equitable use;
- flexibility in use;
- simple and intuitive use;
- perceptible information;
- tolerance for error;
- low physical effort; and
- size and space for approach and use.

¹ <http://www.cast.org>

² <http://www.design.ncsu.edu/cud/>

³ <http://www.cast.org/publications/UDLguidelines/index.html>

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Project Forum and CAST integrated CAST's theoretical framework of UDL and the CUD's principles of universal design as a conceptual framework to structure interview questions to learn about and summarize local level implementation of UDL. Conceptually, UDL assumes that the physical structure of buildings, classrooms, equipment and materials as well as the technology infrastructure follow standard universal design guidelines. With that as a foundation, UDL provides a framework and guidelines for building a curriculum that is also universally designed for learning. UDL is equitable, flexible, simple, intuitive and perceptible. UDL ensures that individuals with a wide range of diverse abilities can access and use educational curriculum, instruction and assessments through the same or equivalent means regardless of their knowledge, skills and experiences. It supports flexible models of skilled performance; choices of content, tools, learning context, and rewards; adjustable levels of challenge; opportunities for practice with supports; flexible opportunities for demonstrating skill and knowledge; and ongoing, relevant feedback. UDL also provides multiple examples of perceptible information through various modes of communication (pictorial, verbal, tactile) that are compatible with available assistive technology (AT). By considering universal design principles while incorporating the UDL theoretical framework of presentation, expression and engagement, educators can effectively implement UDL practices for the benefit of all students.

This document summarizes UDL implementation information from six local education agencies in five different states. Project Forum at the National Association of State Directors of Special Education (NASDSE) produced this document as part of its cooperative agreement with the U.S. Department of Education Office of Special Education Programs (OSEP).

METHODOLOGY

Project Forum first conducted a mini-survey of state directors of special education to identify states with local education agencies (LEAs) that are effectively incorporating UDL principles as defined in this document. Nine state directors responded positively to the mini-survey identifying potential LEA representatives to interview. Based on the responses to the mini-survey, six LEAs identified in five states (IN, IA, KY, MA, OH) were contacted regarding interviews. Interview participants varied in number and roles for each LEA. In four of the LEAs, there was one interview participant, in one LEA there were two participants, and in another LEA there were five participants. There was one interview session for each LEA. In the LEAs with multiple participants the responses were a team effort rather than individual perspectives. Participants agreed on the primary speaker's response to the question and would occasionally elaborate on the answer. The professional roles of participants included school principals, project directors, teachers, a superintendent, a special education director, an IT specialist and regional education agency staff. They were interviewed to gather information about UDL practices, successes and challenges in their LEA. The mini-survey and interview questions are provided in Appendices A and B.

FINDINGS

Policies and Practices

How UDL practices started in the LEAs

UDL was generally introduced to LEAs by an outside source such as a regional education center/agency or a state-funded project. One interviewee reported the LEA superintendent was aware of UDL, brought CAST into the state for a large presentation on UDL and encouraged but never required schools to begin a UDL initiative. On average, UDL was introduced to the LEAs five years ago and the LEAs have been developing the practices since then. While some interviewees across LEAs reported that UDL was initially presented as an initiative to support special education programs, most quickly realized it was good practice that would benefit all students. Most interviewees believed the introduction of UDL with the clear opportunity for individuals and teachers to take hold of the practices without a district mandate was an effective approach to begin the incorporation of UDL into the LEA. One interviewee believed UDL practices in her system would be more effective if they were presented as a top-down mandate, but added that the LEA has experienced regular changes in superintendents over an eight-year period.

Policy

None of the LEAs has a clear policy specific to UDL. However, one LEA has written goals and includes these goals in its continuous improvement plan. Other interviewees reported that UDL provides a framework for curriculum and is implemented as a good practice that benefits all children. In general, these LEAs are implementing UDL as a best practice, communicating about it and encouraging its use without a formal written policy.

Systemic Issues

Structure

All of the LEA respondents reported that their school buildings and classrooms are accessible. No significant physical building structural changes have been made to implement UDL practices and LEAs work with the buildings they have available making adaptations and accommodations as they can. Types of changes that have occurred include changing class periods as block scheduling is implemented, changing storage methods of materials and building small learning communities.

Technology Infrastructure and Use

All of the school buildings have an upgraded technology infrastructure (within the last six years) to support computer use with Internet connections. The LEAs vary in the amount of technology incorporated into their schools to support UDL. The ratio of students per computer ranged from 1:2.5 to 1:6 with computers available in classrooms as well as computer labs. One

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LEA interviewee reported that a school's computer lab is not as updated as the rest of the school, but that it is driven more by the computer teacher who is comfortable with the current level of technology in the lab.

Most interviewees reported that teachers use computers from 15 to 60% of the day for instruction and administration (e.g., recording attendance, grades or email). One LEA interviewee reported computer use is constant because of the availability of *Smart Boards*⁴ in classrooms. The frequency of computer use for instruction varies by the teacher, but as UDL practices and technology becomes more integrated in the schools, teachers reportedly tend to increasingly use computers for instruction. Interviewees reported that students use computers 10 to 80% of their school day for curriculum-based activities, researching and word processing. In one LEA, students in kindergarten through second grade use the computer 20-25 minutes per day to participate in the *Waterford Early Reading Program*. In another LEA, student use of computers increases by school level and *e-lockers* (designated places on the school network for storage of student documents and projects) are available and *e-portfolios* (a collection of student work stored on the school network to monitor student progress) are created at the secondary grade levels. This LEA also provides computer-based credit options as an independent study program at the secondary level. Students regularly prepare PowerPoint presentations and use word processing software on the computers. The computer is an essential component for integrating UDL practices in these LEAs.

The integration and use of *Smart Boards* in the classrooms varies by LEA based on the number of *Smart Boards* available. One LEA has a *Smart Board* in every classroom, and one has them in every special education classroom and is starting to add them to other classrooms. The other four LEAs have a few *Smart Boards* available.

Digital Materials

No LEA has a school-wide digital curriculum in its entirety, but some have posted the state content standards and courses of study on LEA websites. As LEAs adopt new textbooks, they strive to include digitized materials provided by the book publishers, and many use *United Video Streaming* as another source of digital materials. Some of the LEAs have centralized digital materials and software through their schools' media centers or another central location in the LEA and have implemented a bar code system so teachers may check out materials as needed. LEAs also post digital materials on their network for specific grade levels or subject areas. Teachers may also find effective supplemental digital materials to use, and most LEAs encourage teachers to investigate appropriate materials and provide recommendations to the administration and curriculum committees on which materials to adopt. LEAs do not yet have complete, accessible databases of digital materials available, but some are developing them because they believe these databases would be useful tools for teachers.

Commonly used digitally accessible materials in LEAs include *Kidspiration*, *Inspiration*, *Read-Write-Gold*, *United Video Streaming*, *Read 180* and *E-Reader*. Interviewees made no strong

⁴ Refer to Appendix C for a description of *italicized* products used by LEAs to support UDL practices.

recommendation for a particular program because not all teachers consistently use them, so data is lacking. Digital materials are primarily used to support literacy skills (reading and writing) and may also include *Co-Writer*, *Lexia SOS* or *Read Naturally*. Additional materials mentioned by interviewees include *Clicker*, *Waterford*, *Type to Learn*, *Go Solve*, *Classroom Suite*, *Encyclomedia*, *Fast Forward*, *Fast Math*, *Go Solve* and *Board Maker*. In addition, scanners are available at least in every school building in all LEAs and are sporadically used by teachers to scan/digitize text.

Practical Application

Curriculum and Instruction

All interviewees reported that many teachers are applying UDL practices, but consistency among teachers is lacking. Teachers generally have become more flexible with how information is presented, how students demonstrate knowledge and ways students are engaged, but there is variability within the schools and throughout the LEAs. Overall, the use of UDL makes teachers consider individual learning styles and strengths to ensure equitable and flexible opportunities for all students. Some interviewees reported that administrators developed a culture of risk-taking, creativity and flexibility to encourage teachers to apply UDL, and continue to work creatively to ensure curriculum, instruction and assessments are accessible for all students.

The variety of teaching methods reportedly used to support UDL practices include small groups, flexible grouping (often based on learning styles of students rather than on student areas of weakness), incorporation of low-tech assistive technology devices (i.e., highlighters, pencil grips, sensory-integration seat supports) as well as more advanced AT devices (i.e., digital cameras, *Alpha Smart* with co-writers, *Smart Boards*, and clickers). Teaching methods are shifting away from a one-size-fits-all approach and toward multiple opportunities for creativity and flexibility. A specific example provided was the study of the novel *Huckleberry Finn*. Teachers took students to a local park where three rivers converged (similar to details in the novel), and the teachers dressed up, read and acted as characters in the novel. The follow up activity included reflection on the experience and its correlation to the novel that students were able to complete by writing in a journal, drawing, and/or taking photographs. This type of activity demonstrates flexibility with many opportunities to address a variety of learning styles.

Another creative teaching and learning method reported was the use of digital cameras and LCD projectors for presentations. Additionally, an annual community science fair is held by one LEA for senior students and there is increased variation in the presentation and delivery formats of the student projects as UDL is integrated.

Teachers adjust their teaching primarily based on informal observations of student participation, motivation, intrigue, excitement and learning, but may also use log sheets and surveys. In one LEA, teachers have individual conversations with students about learning styles so they may appropriately adjust their teaching methods. Two different LEAs use a UDL observation or self-assessment checklist to make instructional decisions and assess teachers' use of UDL practices (see Appendices D and E).

Assessments

While formal assessments are still commonly used, especially to address accountability in the LEA and state, teachers are becoming more creative and flexible to ensure assessments are accessible and usable by all students, that ongoing and relevant feedback is provided and that assessment is an embedded and continuous process. Teachers are moving away from pencil and paper assessment measures and afford more flexible opportunities for students to demonstrate knowledge (e.g., writing songs, painting pictures, writing stories, acting out skits and creating video and/or audio projects). Most interviewees reported teachers feel limited due to the statewide testing/accountability measures and believe students will suffer if those types of assessments are not included in the classroom practices as students will not be familiar with the assessment format. Since statewide testing and accountability measures do not yet incorporate UDL, teachers reportedly feel efforts to design and implement UDL assessments are undermined.

LEAs are incorporating web-based assessments into their programs. *Read 180* provides a continuous web-based assessment within its program design. *AIMS Web* provides periodic one minute assessments in reading and math to chart a student's growth in those skill areas. *Measures of Academic Progress* provides one question at a time to identify a student's instructional level in reading and math, while also providing support and ideas for flexible grouping. *E-portfolios* are used in one LEA to monitor student progress. Some LEAs are using web-based, high-stakes testing. In one LEA, improved effectiveness in its online high-stakes testing occurred once it was centralized and responses were collected on one server.

Supports and Influences

The LEA interview teams were asked what was critical to have in place to make UDL work. While many indicated money and time are always valuable assets, lack of these resources alone was not a limiting factor for integrating UDL practices in their schools. Common responses included support from administration; effective technology; a state-level vision; collaboration within the district and among teachers and staff within individual schools; regional education center staff and administration belief in UDL as a best practice; and support from regional education centers that included introducing concepts, technology, and AT devices as well as training. One key UDL influence component is a supportive administrator with motivated, creative teachers who are willing to take risks, believe in the usefulness of UDL and expand concepts and practices by working collaboratively within the school and across the district. In contrast, one LEA interviewee believes a top-down policy supported by funding is needed for effective UDL implementation.

Other interviewees indicated that the championing of UDL by general education staff was essential for the effective integration of UDL in the schools. Most also commented that it is important to implement the change to UDL slowly so that people can internalize the practices that lead them to embrace the concept rather than quickly forcing change and requiring the practices.

Several interviewees described a collaborative structure that facilitates and supports the integration of UDL practices. For instance, in one LEA, the elementary and secondary curriculum directors and the special education director worked collaboratively to learn about UDL and then promoted and supported the use of UDL for all students. Another LEA created instructional service delivery/design teams that became a core group in school buildings to develop action plans related to inclusion and UDL and continues to bring those core groups together at the district level several times a year to collaborate. From those core groups, the teams created one core district-level team to focus specifically on UDL. Another LEA provided time for teachers to plan UDL practices collaboratively, which increased collegiality and the expansion of UDL practices across the schools.

Professional Development

Professional development in support of UDL practices varies among the LEAs interviewed. One LEA incorporated the theme of UDL throughout its in-service program for second year teachers and another developed a core district team to bring UDL training and information back to the school buildings. Another LEA provides AT training with a focus on UDL. Two LEAs received training through other projects such as Project Focus or the Promoting Achievement through Technology and Instruction for all Students (PATINS) Project. Another LEA received training from its Center for Leadership.

Training is provided through multiple ongoing training strands, through a consortium, as after-school courses with in-service credit and/or as summer institutes. Some regional educational agencies provide individual consultations and workshops on specific UDL-related topics upon request. In one LEA, a learning center that is a partnership between community businesses and institutes of higher education offers a summer academy for teachers. Most of the training is introductory information based on teacher needs and generally more focused on AT and technology in general than on UDL as a practice. Training is provided on how to use new computer software programs and AT equipment with a discussion of how technology and AT are tools to support UDL; however, no training specific to UDL in regard to curriculum, instruction and assessment is offered.

In general, teachers are training and mentoring each other on UDL principles and practices. In one LEA, teachers who began implementing UDL practices quickly found another teacher who was savvy with technology and began working collaboratively. Teachers in another LEA are presenting information about UDL in college courses as well as providing workshops on UDL in other venues.

Interviewees reported that recognition of innovative practices, which may include UDL, is provided through acknowledgement of teacher efforts at staff and school board meetings, in school newsletters and web pages, and through community newspaper publicity. Some teachers may receive mini-grants or small rewards such as gift certificates, flash drives or laptop bags, but these rewards and incentives are driven primarily by building principals. One LEA developed its

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own UDL marketing logo and slogan and provided teachers with notepads, water bottle holders and other paraphernalia to spread the word about UDL.

Coordinators

Interviewees reported that technology specialists/coordinators are available within the district and usually at individual schools. In some schools, a teacher receives a stipend to provide technology support. Most of the technology support is not instructionally based and therefore does not focus on or specifically support UDL in the classroom. The technology specialists/coordinators only provide technology training to teachers so they can use computers, software programs and other technology at a basic level.

In all LEAs, there was a reported increase in teacher technology ability over the years primarily with the use of email and web pages and Microsoft Office products. However, as more programs were integrated, such as *Read and Write Gold*, teachers also increased their skills in using technology for instruction.

Five of the LEAs have no specific UDL coordinator. One LEA has a supplemental UDL coordinator position in each building and this person's role is to communicate and collaborate with the LEA's Center for Leadership regarding UDL. Having these building-level coordinators strengthens ownership of UDL at the teacher level.

Interviewees were not aware of any state-level UDL coordinators, but believed state personnel with other responsibilities also address UDL. Interviewees believed if there were a state-level UDL coordinator, his or her role would be to coordinate professional development, access funds through grant writing, coordinate online testing, help identify technology and software needs, support teachers in the use of technology and ensure UDL best practices are implemented. However, one interviewee believed that having a specific UDL coordinator "makes UDL sound like a separate thing or program when it is not—we are trying to help people understand that it is a framework, not a project."

Funding systems, resources and other supports

Funds to support UDL practices come from a variety of sources; however, the funds are directed primarily toward the technology aspect of UDL implementation, not the creation of universally designed curricula. One LEA reported that it started with a state grant and sought matching funds from special education, technology, building-level and other funding pools. Two LEAs used some special education funds to support UDL practices. Funds are also used from Title I and a technology general fund. In one LEA, a philanthropic organization provided a great deal of financial support. Another LEA used a local tax fund for financial support of technology and training. LEAs also obtain grant funds, but the frequency and amount of these funds vary significantly and most LEAs do not consistently or actively seek grants for UDL implementation at this time. LEAs have learned that some vendors will provide discounts on technology, especially if the LEA offers to be a demonstration site, so they have used this opportunity to save money while informing others about UDL.

Interviewees reported that parents have been made aware of UDL as an instructional framework and many are highly receptive to the concepts and practice. Some of the Parent Teacher Organizations have purchased equipment to support UDL in the schools. In some LEAs, parents participate on the special education advisory board, continuous improvement council or other school committees and learn about and support UDL through those mechanisms. At this time, these LEAs do not pursue additional community buy-in specific to UDL, but strive to make the community aware and continue to collaborate with the community to support education in general.

There is variation in how much LEAs tap into CAST as a resource. Five of the interviewed LEAs are aware of CAST and, at a minimum, have visited the CAST website. Some use tools and activities developed by CAST and have participated in trainings offered by that organization. Two LEAs have used the book “Teaching Every Student”⁵ as the core of initial training and one LEA gives every teacher a copy of the book.

Benefits

According to the interviewees, UDL provides benefits to students, teachers and administrators. They reported an increase in student learning, student performance and high-stakes/accountability test scores. Additionally, they believe that due in part to the use of UDL, student behavior improves, students demonstrate a greater love of learning, are more engaged, have fun and show excitement in learning.

Interviewees reported that teachers are more attuned to individual students, better able to address individual learning styles and more energized and excited about teaching. The teachers also collaborate and discuss academics, including sharing ideas and strategies to support learning, more often. There are higher quality interactions between teachers because they discuss teaching strategies and student outcomes more than before using UDL. Interviewees reported that administrators benefit because there are fewer discipline issues to address, fewer referrals to special education, reduced numbers of upset parents, reduced number of grievances from teachers and improved student test scores.

Challenges

Interviewees indicated that time and money are barriers, but stated that these resources are barriers for any improvements such as those that result from the adoption of UDL. Interviewees commented that additional funding and release time for teachers to attend professional development and stay current with technology usage would be helpful. Some LEAs struggle to balance what the students need and what the LEA can afford. Interviewees reported that these challenges do not prevent the implementation of UDL practices.

⁵ <http://www.cast.org/teachingeverystudent/ideas/tes/>

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The interviewees expressed concern about keeping and expanding UDL practices when there is turnover in local-level administrative positions, especially the superintendent. A few interviewees discussed the philosophical challenge of changing belief systems regarding good instructional practice. UDL requires teachers to think differently and change their belief systems and practices, which is a challenge because teachers often need to experience success before making a change. Some interviewees believe that the motivation and momentum carried by other teachers who regularly implement UDL practices positively influence resisters as UDL benefits become evident. Another challenge is educating others to understand UDL as a framework for good instructional practice and not simply the incorporation of technology in the classroom.

Some LEAs struggled with their technology infrastructure and support initially, but work with what they have. Some interviewees indicated funding to maintain and update technology on a regular basis is needed, and others indicated funding to purchase more technology, especially *Smart Boards* is needed. As teachers use technology, they need more knowledge and information on how to incorporate its use in the classroom to support UDL principles. Interviewees reported that high quality professional development specific to UDL in the classroom is needed as well as technology training and support.

Future Directions

All LEAs involved in the interviews have plans to continue and expand the implementation of UDL practices in their schools. They are operating at varying levels regarding UDL implementation. Some referred generally to a vision and policy, while others were more specific about technology needs or expansion plans. One interviewee would like to organize a UDL policy across the district and cement a good framework to guarantee that good instructional practices remain in the district as administrators and school board members change. Another commented that he strives to ensure UDL is viewed as a continuum in his district and continues to grow, but at a pace that allows for demonstration of positive outcomes and thereby results in administrative support. Another aims to integrate UDL into curriculum meetings to strengthen the implementation of UDL practices. Interviewees from one LEA were more specific about technology and indicated that they want to have laptops and wireless access; add amplification systems for art, music, and physical education rooms; and update old systems to make them more teacher-friendly. Additionally, another LEA recently completed a UDL rubric (see Appendix E) to conduct self-assessments and obtain a baseline of implementation so they can create an effective professional development plan and have useful information for school action plans.

Recommendations

Respondents in this study provided the following advice for other LEAs that plan to implement UDL practices:

- Ensure that a commitment to student learning through good instructional practices exists.
- Start small and work with your teacher leaders and those interested in UDL to spread the implementation.

- Implement UDL for all students from the very beginning (i.e., not only students who receive special education services).
- Develop a vision statement to decide where you are going and what you want UDL to look like.
- Use the available resources from state-funded projects, regional education agencies and the community.
- Provide appropriate professional development and follow-up and encourage peer coaching/mentoring.
- Be sure you have an administrator and key teachers on board who believe in and support UDL practices.
- Allow UDL to grow at a pace that demonstrates effectiveness.
- Get involved in CAST training and resources.
- Begin implementation at elementary schools and expand into secondary schools.

CONCLUSION

Based on interviewee responses (i.e., LEA representatives), LEAs are at various stages of implementation of UDL practices. All interviewees believe UDL is best practice and highly beneficial for all students. All expressed a positive approach to implementing UDL and addressing any challenges. They are pleased with the benefits for the students and observe changes such as improved test scores, greater interest in learning and higher motivation and excitement about learning and school. All but one interviewee indicated it is best to begin the process of buy-in and implementation at the teacher level and allow it to develop from the bottom-up instead of from a top-down mandate.

A few interviewees expressed a perspective that technology is what makes UDL effective, but others indicated it is the flexibility and creativity of teachers that makes it effective. Overall, the LEAs interviewed support the theoretical principles of UDL by encouraging teachers to plan creatively and take risks in order to provide multiple and flexible means of presentation, expression, and engagement to benefit all students; finding funds to purchase and update technology; and providing time for teachers to collaborate and plan lessons that integrate UDL practices.

Based on background research and information gained from these interviews, Project Forum recommends the following to support the expansion of UDL for the benefit of all students:

- Convene a national forum to share information and experiences and develop recommended strategies or processes for UDL implementation in LEAs.
- Place a greater focus on marketing UDL as a best practice.
- Incorporate terminology that supports UDL practices in future federal and state law and policy.
- Ensure that high-stakes accountability measures incorporate principles of UDL.
- Create mechanisms to provide instructionally based technology support.

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- Showcase LEAs that are effectively incorporating UDL practices at national conferences and meetings and through other means.
- Create and integrate courses on UDL in education curriculum at institutes of higher education.
- Educate parents and community members about UDL practices and its benefits.
- Make funding available for technology and professional development to ensure UDL practices become a consistent practice through all levels of education.

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APPENDIX A

UDL Mini-survey

Project Forum at the National Association of State Directors of Special Education is conducting a study of local-level implementation of universal design for learning (UDL). Via this brief survey, Project Forum staff seeks to identify and interview local education agencies (LEAs) in six states that are doing a particularly good job incorporating UDL principles and practices into their curriculum, instruction and assessments. For the purpose of this study, Project Forum is defining UDL as the *proactive design of curricula (including learning goals, instructional methods and materials, and assessments) that are accessible and usable by all students with little or no need for additional accommodations and are compatible with available assistive technology.*

Universal Design for Learning (UDL) Survey

- (1) Is your state supporting a UDL initiative—or something like UDL—at the local level (e.g., providing financial support, training opportunities, technical assistance and/or support for the use of technology)?

Yes
 No

- (2) If yes, do you refer to this initiative as UDL or as something else?

UDL
 Other (Please describe: _____)

- (3) Please identify the state education agency (SEA) representative responsible for working with LEAs to implement their UDL initiative:

Name:
Title:
Phone:
E-mail:

- (4) If appropriate, please provide contact information for *one* LEA that is doing a particularly good job implementing its UDL initiative (e.g., incorporating UDL principles and practices into the LEA's curriculum, instruction and assessments):

Name:
Name of District:
Title:
Phone:
E-mail:

Thanks so much for taking the time to complete this survey!

APPENDIX B Interview Questions

Project Forum at the National Association of State Directors of Special Education (NASDSE) is interviewing several local education agencies (LEAs) from different states to summarize what Universal Design for Learning (UDL) looks like in LEAs, what supports and/or influences the use of UDL in LEAs, and what benefits, outcomes and challenges face LEAs in regard to UDL. For the purpose of this interview, UDL is defined as the *proactive design of curricula (including learning goals, instructional methods and materials, and assessments) that are accessible and usable by all students with little or no need for additional accommodations and are compatible with available assistive technology*. Your state identified your LEA as one that is doing a good job applying UDL principles and practices. A Project Forum consultant, Kim Sopko, will contact you to schedule an interview and discuss the questions provided below.

UDL – What it looks like in your LEA

Policy

1. Do you have policy to develop a common understanding about UDL? Please describe the policy.
 - a. UDL definition
 - b. The purpose of UDL
 - c. Key principles of UDL
 - d. How technology is used to support UDL
 - e. Can you send a copy of your UDL policy?
2. Do you have a policy to
 - a. establish a formal process for identifying UDL best practices and
 - b. assure that every classroom teacher learns of those best practices?
3. Please describe any other UDL-related policies in your LEA.

Structure and infrastructure

4. Describe the physical environment in which UDL is used.
 - a. Did the building structure change in order to apply UDL? If so, how? (e.g., more space, technology infrastructure, sound field distribution systems, etc.)
 - b. Are all classrooms, labs, and workspaces accessible? If so, describe the accessibility features (e.g., can everyone use equipment and materials such as door handles, cabinets, drawers, equipment with minimal physical effort?)
5. Describe your UDL technology infrastructure and utilization.
 - a. Are your schools wired for high speed internet and intranet?
 - b. What is the ratio of students per computer?
 - c. How and with what frequency are computers utilized throughout the school day?
 - i. Teacher use and percentage of time
 - ii. Purpose of teacher use

- iii. Student use and percentage of time
- iv. Purpose of student use
- d. Do you have a school-wide accessible digital curriculum?
- e. How is curriculum and instructional software available for teachers?
- f. Is there digitally accessible instructional material you would recommend to other LEAs (e.g. text-to-speech technology, reading supports such as TEXTHELP, Read and Write Gold)
- g. Are scanners available in schools/classrooms to enable teachers to digitize text?
- h. Is there an accessible materials database for digital materials?

Curriculum Materials

- 6. How is your curriculum accessible and usable by all students through the same or equivalent means?
 - a. Is there flexibility in
 - i. how information is presented?
 - ii. how students respond or demonstrate knowledge? and
 - iii. the ways students are engaged?
 - b. Is your curricular material compatible with assistive technology devices?
- 7. Does your curriculum include digitized texts?
 - a. Are multiple
 - i. digital pictures,
 - ii. charts,
 - iii. tables and
 - iv. movies available?
 - b. Are hyperlinks provided to allow for audio formats?
 - c. Are hyperlinks provided to allow for video formats?
- 8. How does your LEA engage in collaborative curriculum planning (i.e. special education teachers, general education teachers, and technology personnel work together as a group focusing on curricular flexibility and analyzing curriculum barriers and solutions)?

Instruction

- 9. What teaching methods do your teachers employ to ensure curriculum and materials are accessible and usable by all students?
 - a. Describe the flexibility offered in teaching and assessing skills and knowledge
 - b. Describe how content is delivered
 - c. Describe the feedback offered to students
 - d. Describe the information teachers use to adjust their teaching and assessment

Assessment

- 10. How is your assessment accessible and usable by all students through the same or equivalent means?
 - a. flexible opportunities for demonstrating skill and knowledge (papers, multimedia presentations, video projects, audio recordings, dramatic or musical performance)

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- b. ongoing, relevant feedback with choice of rewards
 - c. assessment process is embedded and continuous
 - d. Other
11. Does your LEA use web-based assessment? How does it work? What are the benefits and challenges?
12. Has your LEA incorporated UDL into accountability testing systems?
- a. How? Why or why not?

UDL - Supports and Influences

13. What was critical to have in place at the district and state level to make UDL work for your LEA/school?
- a. Policies (e.g., linkages between various policies, rules for implementation, etc.)
 - b. Resources and supports (e.g., staffing, funding, technology, specific professional development models or opportunities)
 - c. What would have made the transition to UDL better?
14. Describe your UDL professional development.
- a. Do you provide access to
 - i. multiple, ongoing training strands for teachers, administrators, paraeducators, parents, and/or others?
 - ii. summer institutes for teachers, administrators, paraeducators, parents, and/or others?
 - iii. Workshops for teachers, administrators, paraeducators, parents, and/or others?
 - iv. college courses for teachers, administrators, paraeducators, parents, and/or others?
 - b. Please describe the training offered -
 - i. Principles of UDL
 - ii. UDL curriculum
 - iii. UDL teaching methods
 - iv. UDL assessment
 - v. How to digitize text
 - vi. How to integrate technology in the classroom
 - c. Do teachers mentor/train other teachers? How does this work?
 - d. Does your LEA provide technology coordinators/support to teachers? How? (i.e., full-time in each school, roles and responsibilities, etc.) What professional development do they receive? What professional development in technology do teachers receive? Do you see an increase in teacher technology ability? How is this measured? Do teachers act as technology coordinators?

- e. Do you offer incentives and rewards for innovative technology-supported practices?
15. Describe your UDL funding system and resources.
- a. Where do funds come from to support UDL?
 - i. SIG funds/special education funds (federal or state grants)
 - ii. technology funds (federal or state grants)
 - iii. vendor discounts
 - iv. grants/donations (are these foundation grants?)
 - v. other
 - b. If grants are used to help support UDL in your LEA, what kind of grants do you pursue ?
 - i. Joint grant applications with nonprofits
 - ii. Local and/or community grants
 - iii. state grants
 - iv. foundation grants
 - v. federal grants
 - vi. other
16. Does your LEA have a UDL coordinator? Are they available at a local level or school level? How much FTE is devoted to UDL?
17. Does your state have a UDL coordinator? How much FTE is devoted to UDL?
18. Please describe the roles and responsibilities of the UDL coordinator.
- a. Provides professional development
 - b. Accesses funds
 - c. Identifies technology and software needs
 - d. Supports teachers in the use of technology
 - e. Ensures UDL best practice is implemented
 - f. Other
19. Does your LEA use the tools and/or activities developed by CAST (“Teaching Every Student)?(i.e., UDL goal setter, UDL class profile maker, Curriculum barriers finder, UDL solutions finder, UDL systemic change planner, Image collector, TES journal, the national repository of accessible digital text)? If not, does your state or LEA have their own tools and/or activities? What are they?
20. Describe your parent and community involvement in UDL.
- a. Parents participate in digitizing curriculum, collecting resources, finding software;
 - b. Parent-teacher organization (PTO or PTA) is informed and committed to UDL initiatives;
 - c. Parent involvement via Web in classrooms and student work;
 - d. LEA pursues buy-in from community to pool resources. How?

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UDL – Benefits and Challenges

21. What are the benefits and/or outcomes of implementing UDL in your LEA/school?
 - a. For students
 - b. For staff
 - c. For administration
 - d. Other
22. What barriers have you faced implementing UDL in your LEA?
 - a. State policy? District policy?
 - b. Infrastructure (e.g., technology support)
 - c. Philosophies
 - d. Resources
 - e. Technological issue (e.g., digitizing text, copyright infringement, etc.)
23. What is next regarding UDL in your LEA? What lies in the future?
24. If you could start your UDL initiative all over again, how would you do it differently?
What three pieces of advice would you give beginners?

APPENDIX C
UDL Materials Identified by LEAs

<i>Item</i>	<i>Description</i>	<i>Website</i>
AIMS Web	series of e-activities and other resources developed by AIMS Education Foundation on activities to integrate mathematics and science in the curriculum	http://www.aimsedu.org/index.html
Board Maker	program by Mayer-Johnson to create picture communication symbols	http://www.mayer-johnson.com/MainBoardmaker.aspx?MainCategoryID=5419
Classroom Suite	software program for building reading, writing and math skills	http://www.intellitools.com/
Clicker	a writing support and multimedia tool	http://www.cricksoft.com/us/products/clicker/default.aspx
Co-writer	a word prediction program to help struggling writers expand their vocabulary and improve written expression	http://www.donjohnston.com/products/cowriter/index.html
Go Solve	a graphic organizer software program to help students understand and solve word problems	http://www.tomsnyder.com/products/product.asp?SKU=GOSG_OS
E-lockers	a specified area on a network for students to store digital materials	not applicable
E-portfolios	a digitized collection of artifacts including demonstrations, resources, and accomplishments that represent an individual, group, or institution.	http://www.educause.edu/ir/library/pdf/ELI3001.pdf
E-Reader	a device for reading electronic books	not applicable
Encyclomedia	a free video encyclopedia	http://www.encyclomedia.com/
Fast Forward	a computer software reading intervention program to develop brain processing efficiency through intensive, adaptive software exercises	http://www.scilearn.com/products/index.php
FASTT Math	computer software program to help students develop fluency with basic math facts	http://www.tomsnyder.com/fasttmath/overview.html

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<i>Item</i>	<i>Description</i>	<i>Website</i>
Inspiration	a software program to help students plan, research and complete projects successfully; provides graphic organizers and integrated diagram and outline views	http://www.inspiration.com/productinfo/inspiration/index.cfm
Kidspiration	a computer software program to develop thinking, literacy and numeracy skills using proven visual learning principles.	http://www.inspiration.com/productinfo/kidspiration/index.cfm
Lexia SOS	a computer software reading intervention program to remediate basic reading skills for older students	http://www.lexialearning.com/forschools/products/strategiesolderstudents.php
Measures of Academic Progress	a computerized adaptive assessment program for reading, language and math	http://www.nwea.org/assessments/map.asp
Read 180	a reading intervention software program that directly addresses individual needs through differentiated instruction; adaptive and instructional software; high-interest literature; and direct instruction in reading, writing, and vocabulary skills	http://teacher.scholastic.com/products/read180/
Read Naturally	A reading intervention program	http://www.readnaturally.com/
Smart Boards	an interactive whiteboard linked to a computer for interactive teaching	http://smarttech.com/
Type to Learn	a program to build students' keyboarding skills	http://www.sunburst.com/ttl/
United Video Streaming	digital video that can be accessed on-demand and online teaching services	http://streaming.discoveryeducation.com/
Waterford Early Reading Program	A comprehensive research-based curriculum that teaches children how to read, write, and keyboard	http://www.waterford.org/corporate_pages/Program_ERP.jsp

APPENDIX D

Sample UDL Observation Tool shared by Clark County Schools, KY and created by Dr. Michael Abell, Director of Center for Innovation and Instruction for Diverse Learners (CIIDL) at University of Louisville, KY

Instructional Walk-through Observation (UDL emphasis)

(Please answer each item with a check mark in the appropriate space)

Teacher Name:						Date:
Subject:						Grade Level:
CURRICULUM MATERIALS	RESPONSES					COMMENTS (optional)
Materials are available outside of class time (website, school server, etc.)	Yes	No				
Are presented visually with technology (e.g., LCD projector, computer, etc.).	Yes	No				
Instruction uses accessible curriculum materials in various formats (audio, text, video, digital images)	Yes	No				
Are presented in digital format	None	Some	All			
Offer multiple examples	Never	Sometimes	Always			
Significant points highlighted or in graphic (organizer) form	Never	Sometimes	Always			
Digital materials are readily available for student use	1 (Not at all)	2	3	4	5 (Always)	
STRATEGIC ENGAGEMENT	RESPONSES					COMMENTS (optional)
Group work is utilized as appropriate	Yes	No				
Inquiry / lab based learning is utilized	Yes	No				
Manipulatives used	Yes	No				
Student learning most closely resembles:	90% teacher (direct instruction)	50% teacher/ 50% student	90% student (independent work)			
Level of teacher student conferencing and feedback	1 (None)	2	3	4	5 (Extensive)	
AFFECTIVE EXPRESSION	RESPONSES					COMMENTS (optional)
Instruction offers choices of content & tools	Yes	No				
Students can alter or customize digital learning	Yes	No				

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resources						
Variable level of challenge	1 (No Variation)	2	3	4	5 (Great Variation)	
Choices for learning in framework (visual, auditory, etc.)	None	Some	Many			
ENVIRONMENT	RESPONSES					COMMENTS (optional)
Teacher establishes positive tone	1 (Not at all)	2	3	4	5 (Very positive)	
Classroom is technology rich	1 (Not at all)	2	3	4	5 (Extensively)	
Virtual supports for learners?	Yes	No				
Current student work displayed	Yes	No				
Students are engaged	No	Somewhat	Yes			
Classroom is print rich	1 (Not at all)	2	3	4	5 (Extensively)	
ASSESSMENT	RESPONSES					COMMENTS (optional)
Students demonstrate skill & knowledge in multiple ways	1 (Not at all)	2	3	4	5 (Extensively)	
Assessment of student work/understanding present in class	1 (Not at all)	2	3	4	5 (Extensively)	
Assessment is part of teaching	Yes	No				
Teacher uses various types of assessments & supports (e.g., online, demonstration, presentation, paper/pencil, text to speech)	No	Somewhat	Yes			
TECHNOLOGY	RESPONSES					COMMENTS (optional)
Available in class	Yes	No				
On and ready for student-teacher use	Yes	No				
Students using technology to engage w/ curriculum	No	Somewhat	Yes			
Read & Write Gold software installed and running	No	Yes, with problems	Yes, without problems			
Classroom organized to maximize technology use	1 (Not at all)	2	3	4	5 (Fully)	

Final Date/Signatures: Observer _____

Teacher: _____

APPENDIX E

Sample UDL Rubric shared by Bartholomew Consolidated School Corporation, IN. The rubric is adapted from information available in Rose, D.H., Meyer, A., & Hitchcock, C. (2005). *The Universally Designed Classroom: Accessible Curriculum and Digital Technologies*. Boston, MA: Harvard Education Press.

IMPLEMENTATION OF UNIVERSAL DESIGN FOR LEARNING (UDL)

School	Date							
	Not Yet Evident		Emerging		Intermediate		Advanced	
	Teacher Self-Assessment	Principal Walk-Throughs						
Goals								
Multiple Means of Representation								
Multiple Means of Engagement								
Multiple Means of Expression								

		Not Yet Evident	Emerging	Intermediate	Advanced
Individual Goals	Clarity of goals and evidence of different objectives for various learners	No students are clear on the overall goal and all students are expected have the same objectives.	Few students are clear on the overall goal for the lesson and their learning objectives.	Some students are clear on the overall goal for the lesson and their learning objectives.	Every student is clear on the overall goal for the lesson and their learning objectives.

UDL Principle	UDL Teaching Method	Not Yet Evident	Emerging	Intermediate	Advanced
<i>Multiple means of representation</i>	Provide multiple examples	Students are only given one example of skills needed to complete the assignment.	In preparation for a lesson, the teacher has few examples that identify skills and concepts needed to complete the assignment.	In preparation for a lesson, the teacher creates some examples to find and identify skills and concepts needed to complete the assignment.	In preparation for a lesson, the teacher and students create multiple examples of finding and identifying skills and concepts needed to complete the assignment.
<i>Multiple means of representation</i>	Highlight critical features	Teacher provides critical information for the lesson through only one modality.	Teacher provides critical information for the lesson through only two modalities.	The teacher provides critical information for the lesson through oral and visual presentation and highlights critical features in written and visual form, then monitors students to check their focus on important features of the lesson.	The teacher provides critical information for the lesson through oral and visual presentation and highlights critical features in written and visual form, then monitors students to check their focus on important features of the lesson. Additionally, by having texts available in digital format, the teacher or students could literally highlight critical features of the text while preparing the lesson assignments.

UDL Principle	UDL Teaching Method	Not Yet Evident	Emerging	Intermediate	Advanced
<i>Multiple means of representation</i>	Provide multiple media formats	Students are only given one resource, such as a text book.	The teacher locates several (1-2) resources, such as books of different reading difficulty.	The teacher locates several (2-3) resources, such as books and websites of different reading difficulty.	The teacher and students locate several (4-5) resources, such as videos and books and websites of different reading difficulty. The materials are then made available digitally as well as on audio tape for flexible accessibility.
<i>Multiple means of representation</i>	Offer adjustable levels of challenge	Students are only given one text to gather information from.	The teacher offers few texts, representing a range of difficulty levels, and different means to access these texts. This helps ensure that researching the answers to the essential questions is appropriately challenging for each student. For example, if decoding is challenging, the student could use a simpler text and/or access the information via audio or digital read-aloud.	The teacher offers some resources, representing a range of difficulty levels, and different means to access these texts. This helps ensure that researching the answers to the essential questions is appropriately challenging for each student. For example, if decoding is challenging, the student could use a simpler text and/or access the information via audio or digital read-aloud.	The teacher and students collaborate to identify multiple resources that represent a range of difficulty levels, and different means to access these texts. This helps ensure that researching the answers to the essential questions is appropriately challenging for each student. For example, if decoding is challenging, the student could use a simpler text and/or access the information via audio or digital read-aloud.

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UDL Principle	UDL Teaching Method	Not Yet Evident	Emerging	Intermediate	Advanced
<i>Multiple means of engagement</i>	Support background context	Prior to the lesson or assignment, the teacher identifies no background knowledge needed by the students for the lesson.	Before the assignment, the teacher identifies background knowledge that the students will need to know in order to prepare the students for the lesson.	Several levels of preparation are designed to support background context: * Before the assignment, the teacher identifies background knowledge that the students will need to know in order to prepare the students for the lesson. * Before this assignment, students and teachers find examples of concepts and skills in real world situations that are relevant and meaningful to them. * Careful instruction is organized to teach students the concept of finding a book or other type of reading passage that is "just right," helping them find a book that is challenging yet not too difficult. This helps students keep students in their "zone of proximal development" when obtaining background information for the lesson.	Several levels of preparation are designed to support background context: * Before the assignment, the teacher identifies background knowledge that the students will need to know in order to prepare the students for the lesson. * Before this assignment, the teacher and students find examples of concepts and skills in real world situations that are relevant and meaningful to them. * Careful instruction is organized to teach students the concept of finding a book or other type of reading passage that is "just right," helping them find a book that is challenging yet not too difficult. This helps students keep students in their "zone of proximal development" when obtaining background information for the lesson.
<i>Multiple means of expression</i>	Offer flexible opportunities for demonstrating skill	Students are offered only one way to demonstrate knowledge or skill.	The design of the lesson allows students varied approaches (2-3) throughout the lesson.	The design of the lesson allows students varied approaches (3-5) throughout the lesson.	The design of the lesson allows students to choose varied approaches (3-5) throughout the lesson. Students can select their best or preferred type of working situation and means of responding.

UDL Principle	UDL Teaching Method	Not Yet Evident	Emerging	Intermediate	Advanced
<i>Multiple means of expression</i>	Provide opportunities to practice with support	During independent practice, no supports are provided to the students.	During guided and independent practice portions of each lesson, the teacher provides supports by checking and prompting.	<ul style="list-style-type: none"> *At times, students have the option to work in selected pairs or groups as they search for answers to the essential and guiding questions. *During guided and independent practice portions of each lesson, the teacher provides supports by checking and prompting. 	<ul style="list-style-type: none"> *On a regular basis, students have the option to work in selected pairs or groups as they search for answers to the essential and guiding questions. *During guided and independent practice portions of each lesson, the teacher provides supports by checking and prompting.
<i>Multiple means of engagement and expression</i>	Offer choice of learning contexts	Students are only given one source to gather information from and only one output for expressing information learned.	<p>Throughout the lesson the teacher organizes few choices that help diversify the available learning contexts:</p> <ul style="list-style-type: none"> *Students can select from a variety of methods to respond to the essential questions (written, scribed, recorded). *Students can opt to work independently or with a partner during the assignment completion portion of the lesson. *Students can select the “right material” based on difficulty and/or interest. 	<p>Throughout the lesson the teacher organizes some choices that help diversify the available learning contexts:</p> <ul style="list-style-type: none"> *Students can select from a variety of methods to respond to the essential questions (written, scribed, recorded). *Students can opt to work independently or with a partner during the assignment completion portion of the lesson. *Students can select the “right material” based on difficulty and/or interest. 	<p>Throughout the lesson the teacher and students organize multiple choices that help diversify the available learning contexts:</p> <ul style="list-style-type: none"> *Students can select from a variety of methods to respond to the essential questions (written, scribed, recorded). *Students can opt to work independently or with a partner during the assignment completion portion of the lesson. *Students can select the “right material” based on difficulty and/or interest.

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UDL Principle	UDL Teaching Method	Not Yet Evident	Emerging	Intermediate	Advanced
<i>Multiple means of representation, engagement, and expression</i>	Offer choice of content and tools	Students are given no choice of content and tools.	The teacher organizes the lesson at a few points for choice of tools: *Choice of resource materials. *Choice of access (text, digital, audio). *Choice of response style.	The teacher organizes the lesson at some points for choice of tools: *Choice of resource materials. *Choice of access (text, digital, audio). *Choice of response style.	The teacher organizes the lesson at multiple points for choice of tools: *Choice of resource materials. *Choice of access (text, digital, audio). *Choice of response style.