A Route for Every Learner-draft

Universal Design for Learning (UDL) as a Framework for Supporting Learning and Improving Achievement for All Learners in Maryland, Pre-kindergarten Through Higher Education

Recommendations from the Task Force to Explore the Incorporation of the Principles of Universal Design for Learning into the Education Systems in Maryland, submitted to the Maryland State Board of Education, the Senate Education, Health, and Environmental Affairs Committee, the Budget and Taxation Committee, the House Committee on Ways and Means, and the Health and Government Operations Committee, March 2011
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To be completed after editing, as headings and page numbers will be changing.
A Note from the State Superintendent of Schools

To be inserted after approval.
A Note from the Chair of the Task Force

Recognized once again as first in the nation, Maryland schools take seriously the education of all students. On May 4, 2010, Governor O’Malley signed the Universal Design for Learning (UDL) bill (HB 59/SB 467), establishing a statewide Task Force to Explore the Incorporation of UDL Principles into Maryland’s Education Systems. As chair of the Task Force, I am pleased to present this report, the work product of the 23 members of the Task Force.

Today’s classrooms are highly diverse. In this report, “A Route for Every Learner,” diversity refers not only to cultural diversity, but to diversity among learners. In every classroom, teachers provide daily instruction to students who have seen and unseen disabilities, students with sensory disabilities, physical disabilities and intellectual disabilities, as well as students with learning disabilities, executive functioning disabilities and emotional disabilities. Additionally, teachers seek to meet the needs of typical students, gifted students, and English language learners, as well as students who are disengaged. It begs the question of how can teachers manage this? How can teachers differentiate instruction to a full range of learners? Imagine designing 4 to 5 new presentations every day to unique audiences with 4 minutes to transition between each presentation. This is the conundrum that UDL addresses, because teaching to the mean has never been acceptable, and because individual accommodations on the fly, and after-the-fact re-teaching, are time consuming and often ineffective.
UDL is not “one more thing” teachers need to do. It is not simply about multisensory teaching and learning. It is not solely focused on technology. When teachers feel compelled to adhere to lock-step lesson plans and assessment schedules, when chairs permanently face front, when teachers do most of the talking, and when all students are expected to prepare and complete the same task using the same methods and materials, UDL is not in evidence. UDL implementation encompasses good teaching practices from the outset by mindfully providing flexible options for how information is presented, combined with multiple options for action, expression and engagement. UDL addresses academic rigor with flexibility. It broadens the vision of skillful teaching to reach all students.

The UDL Task Force as a whole should be applauded for the amount of literature reviewed and experts consulted in order to develop this report. As a result of these combined efforts, there was clear consensus that UDL principles constitute a common sense framework for education—that there is no one method, no lock-step curriculum, that will reach the needs of our diverse learners.

Skillful teaching is an art and a science that requires options for how diverse students receive information, as well as choices for how they convey what they know. But this cannot be accomplished by teachers alone. It requires that school districts look for new ways to design and deliver flexible materials to teachers, to re-examine the distribution of computing devices in classrooms, and to collaboratively approach the evaluation and selection of new resources, textbooks and core materials to ensure that there is a range of options that meets the needs of all students. It means working with publishers and vendors to procure textbooks and instructional materials in multiple formats and finding new ways to embrace mainstream technologies in schools and classrooms. It requires professional development at all levels of organizations and new ways of embedding professional learning into everyday teaching that incorporates the principles and guidelines of UDL, allowing teachers to conveniently share ideas, strategies and teacher-made materials. And, it requires the continued leadership of the Maryland State Department of Education and Boards of Education to move forward on a path that builds on existing initiatives.

The Center for Applied Special Technology (CAST) has widely promoted the vision of UDL since the mid-1990s, and understands that full scale implementation takes time. Implementation efforts across the United States are still in the early stages of operation and thus there is a dearth of full-scale studies. However, I have had the pleasure of observing teachers who are committed to the everyday implementation of UDL in their teaching practices. When used effectively in classrooms, choices are evident to meet the needs of all learners. Teachers have ready access to instructional materials and tools that are inherently flexible. Classroom layouts vary to meet learning objectives. Students are actively engaged in collaborative learning and critical thinking. Students who are typically reluctant seek to share their work. Students with disabilities and learning challenges are not singled out because all students are given options for expressing what they know. Teachers remark that when they return
to traditional teaching practices, their students are less engaged. In short, UDL operates at all levels, helping teachers adopt more flexible and creative classroom approaches while lowering barriers for diverse learners.

Given curriculum redesign using the Common Core Standards and Race to the Top initiatives, the time is right to expand our vision of teaching and learning by incorporating the principles and guidelines of UDL into Maryland educational systems. It is my hope that this report, “A Route for Every Learner,” lays the foundation to move UDL forward in Maryland.

I am especially indebted to the Task Force members for their professionalism and the seriousness with which they approached the work required to develop this report, and to Fran Sorin, Lauren Proutt Blundin and Idalyn Hauss who worked so hard to synthesize the views of the members into this strong consensus product. In addition, I appreciate the guidance and support provided by Dr. Carol Ann Heath, Assistant Superintendent for the Division of Special Education/Early Intervention Services. This report combines the focused efforts of many who worked together to carefully consider the future of UDL in Maryland educational systems.
Acknowledgements

The Maryland State Department of Education (MSDE), Office of the State Superintendent, and Divisions of Special Education/Early Intervention Services (DSE/EIS), Instruction (DOI), Assessment and Accountability (DAA) gratefully acknowledge the time, effort and expertise shared by the Task Force members listed below. The Task Force members worked collaboratively to meet the charge of Senate Bill 467 and House Bill 59 under the expert leadership provided by the Task Force Chairperson Dr. Denise DeCoste. We thank Dr. DeCoste for her engaging Task Force meetings that were effectively designed to implement the principles of Universal Design for Learning (UDL) while developing a common language and deeper understanding of what the application of UDL entails.

Members of the Task Force

Maritza Elizabeth Gonzalez Andrade
Doctoral Candidate, International Education Policy
University of Maryland, College Park

Denise DeCoste, Ed. D.
High Incidence Accessible Technology Team Leader
Montgomery County Public Schools

Frank J. Aquino, Esq.
Member, Howard County Board of Education
Director, Maryland Association of Boards of Education

Paul E. Dunford
Director of Cross Divisional Initiatives
Division of Academic Reform and Innovation
Maryland State Department of Education

Trinell Bowman
Program Manager, Division of Accountability, Assessment & Data Systems
Maryland State Department of Education

Honorable James W. Gilchrist
House of Delegates

Michelle Asha Cooper, Ph. D.(represented by Gregory Kienzl)
President, Institute for Higher Education Policy

William Hite, Ed.D.
Superintendent of Schools
Prince George’s County Public Schools
A Route for Every Learner

Gregory S. Kienzl
Director of Research and Evaluation, Institute for Higher Education Policy

Corinna Latham, Ph.D.
CEO, AnthroTronix, Inc.

Anne Marie Foerster Luu
Teacher, National Board Certified ESOL Teacher
Luxmanor Elementary School
Montgomery County Public Schools

Susan Russell
Supervisor of Deaf/Hard of Hearing and Vision Programs, Montgomery County Public Schools
Representing the Governor’s Office of the Deaf and Hard of Hearing

Ricki Sabia
Director, National Down Syndrome Society Policy Center
Chair, National Universal Design for Learning Task Force

Joan Sabree
Classroom Teacher
Woodridge Elementary School
Prince George’s County Public Schools

Mikki Senn
Classroom Teacher
Bohemia Manor Middle School
Cecil County Public Schools

Nancy Shapiro
Associate Vice Chancellor for Academic Affairs

Special Assistant to the Chancellor for P-20 Education
University System of Maryland

Sandra Skordalos
Social Studies Department Chair, Patapsco High School and Center for the Arts
Baltimore County Public Schools

Fran Sorin
Coordinator, Professional Development Division of Special Education/Early Intervention Services
Maryland State Department of Education

Susan Spinnato
Director of Instructional Programs
Maryland State Department of Education

Donna Hill Staton, Esq.
Member, Maryland State Board of Education

Matilde E. Vallejos
Pupil Personnel Worker
Department of Student Services
Montgomery County Public Schools

Janet Wilson
Chief Academic Officer
 Allegany County Public Schools
Task Force members interviewed individuals with expertise or experience in the implementation of UDL. We appreciate the time that those interviewed were willing to give to share their expertise, implementation suggestions, and guidance regarding potential pitfalls to Maryland. We would like to thank the following individuals:

[Insert Interviewees here]

The MSDE also appreciates the valuable support provided by consultants Ms. Lauren Proutt Blundin and Ms. Idalyn Hauss with meeting preparations, ongoing communication and support of the work of the Task Force, and the development of this report.
Executive Summary

Universal Design for Learning

Universal Design for Learning (UDL) is a research-based framework for curriculum design, which includes the educational goals, methods, materials, and assessments that enable all learners to sustain their enthusiasm for learning while gaining the knowledge and skills required for successful mastery of desired outcomes. This is accomplished by simultaneously providing rich supports for learning which reduce learning barriers that may be inherent in the curriculum, while maintaining rigor and high achievement standards for all students.

Universal Design for Learning (UDL) is based on three primary principles:

- *Multiple means of representation*, to give diverse learners options for acquiring information and knowledge,
- *Multiple means of action and expression*, to provide learners options for demonstrating what they know,
- *Multiple means of engagement*, to tap into learners' interests, offer appropriate challenges, and increase motivation

(from Center for Applied Special Technology, CAST, Web site, www.CAST.org)

UDL provides a framework for curriculum design, instructional processes, and assessment that gives all students equal opportunities to learn and to demonstrate what they have learned. Based on neurological research, UDL recognizes that learning is different for each individual, and therefore, for optimal learning to occur a variety of methods and materials to implement, support and measure learning are needed. UDL builds flexibility for learners into curriculum and assessment at the development stage, which enhances teachers’ ability to make adjustments for a broader range of students during classroom instruction. Most importantly, all learners benefit from UDL—including students who are gifted and talented, English language learners, students with physical, cognitive, and/or sensory disabilities, learners who may be a part of more than one of these types of learners, and students without disabilities. In fact, UDL in education is analogous to Universal Design in
architecture, where, for example, ramps and curb cuts designed for people in wheelchairs are now considered essential by people without disabilities, such as parents pushing strollers or people moving heavy furniture.

**Universal Design for Learning Benefits All Maryland Students and Teachers**

UDL is particularly relevant to Maryland’s systems of education. Maryland is known for its high expectations for all students as well as for the diversity of its student population. This is a challenge when one considers that in all schools and institutions of higher education there are students who struggle to meet standards, as well as those who need additional challenges or instructional rigor. Meeting the diverse needs of students requires a creative, flexible approach to education. Universal Design for Learning is just such an approach.

At all levels of education, classrooms invariably include learners with diverse abilities and backgrounds, including students who are gifted, students with physical, sensory, and cognitive disabilities, differing cultural and linguistic backgrounds, a variety of preferences and motivations for learning, and others.

Teacher efforts are supported by having Universal Design for Learning integrated into curriculum from the outset by meeting the challenges of a diverse group of learners by providing flexible instructional materials, techniques, and strategies for differentiating instruction that meets varied learner needs. A Universally designed curriculum provides options for:

- “Presenting information and content in different ways (the "what" of learning)
- Differentiating the ways that students can express what they know (the "how" of learning)
- Stimulating interest and motivation for learning (the "why" of learning)

A universally designed curriculum is designed from the outset to meet the needs of the greatest number of users, making costly, time-consuming, and after-the-fact changes to curriculum unnecessary” (from http://www.cast.org/udl/faq/index.html). With the Federal Race to the Top grant provisions already requiring revisions to Maryland’s curriculum and assessments, the ideal time to build UDL into curriculum and assessments is now.

**Universal Design for Learning Implementation Does Not Have to Be Expensive**

Because Maryland is already in the process of revising curriculum and assessments, UDL can be incorporated going forward without requiring a separate, expensive revision process. In addition, many of the principles of Universal Design for Learning can be readily adopted for little or no cost. Although technology’s inherent flexibility is invaluable to increasing students’ access to curriculum...
and assessments, there are many ways to implement Universal Design for Learning without technology that will have a powerful effect on student achievement.

Maryland’s Universal Design for Learning Task Force
The Universal Design for Learning Task Force was established through House Bill 59 and Senate Bill 47. The Task Force was charged with examining the efficacy and feasibility of implementing UDL in Maryland’s educational systems, and promulgating proposed regulations.

The Task Force members reviewed the literature on UDL, interviewed national experts regarding the application of Universal Design for Learning principles, and experienced the use of those principles within Task Force meetings. As a result of these experiences, the Task Force members reached consensus that the application of Universal Design for Learning principles should be promoted throughout Maryland education systems to ensure all learners have maximized opportunities to access and equitably benefit from teaching and learning activities.

There was also consensus that at this time, it would be premature to promulgate proposed regulations. Task Force members recommended the development of a strategic and systematic plan for building stakeholder awareness and capacity at the State, local, and institutions of higher education levels prior to mandating policies through regulation. The Task Force members have made recommendations for some suggested policies or steps that can be taken by the State Board of Education, institutions of higher education, local school systems, and schools to lay the foundations for increased implementation of the application of UDL principles in the coming year.

Recommendations Overview
The recommendations from the Task Force are sensitive to budget constraints while still providing powerful steps forward in advancing the use of Universal Design for Learning in Maryland. The Task Force recommendations are designed to suggest steps that the variety of entities involved in the educational systems in Maryland can take to support the implementation of Universal Design for Learning principles in their organizational and instructional decisions and processes.

Note: For the full text of the recommendations and suggestions for implementation, please see page # in the main body of the report.

The Maryland State Board of Education should:
• Approve a UDL policy that indicates that UDL principles be included in the State’s strategic plan and used during curriculum and assessment development, during the review and selection process for textbooks, instructional materials, and technology, and included in requests for proposals (RFP), grant criteria, and program approval criteria where appropriate.
Request a steering committee comprised of preK-16 education stakeholders, including parents, to support the advancement of UDL integration in the areas of instructional materials and technology, professional development, and curriculum and instruction.

The Maryland State Department of Education should:
- Define and describe the critical elements of UDL for inclusion in State policies and practices.
- Include UDL principles in all State plans (e.g., Strategic Plan, Technology Plan, etc.) and organizational and instructional processes used throughout the Department.
- Develop or compile resources that can support the creation of an implementation plan for educating stakeholders about UDL and for capacity-building professional development for educators within the MSDE and across the State. (e.g. online courses, web-based resources)
- Include the application of UDL principles in the requirements as appropriate for plans submitted to the State by outside entities such as grant applications, Master Plans, institutions of higher education program approval, and professional development plans.

The Local School Systems should request that:
- The local Board of Education establish a policy supporting the implementation of UDL principles to eliminate curriculum and assessment barriers for diverse learners while promoting high levels of achievement for all learners.
- All district and school administrators collaboratively promote UDL policy implementation through improvement plan development, master scheduling to allow for UDL planning, capacity-building professional development, and job-embedded professional learning opportunities.
- All district and school administrators enlist the involvement of parents and community stakeholders in support of this effort to maximize learning opportunities for all students.
- District and school administrators develop processes and procedures that encourage collaboration for developing, compiling and disseminating effective practices and materials that reduce or eliminate student barriers to learning across schools throughout the district with considerations for digitally sharing lessons and materials with colleagues across the State.
- District and school administrators collaborate across all departments on the development of plans for strategic uses of existing or future funds to support the purchase of technology and infrastructure to support UDL and other 21st Century learning practices. Maryland schools should:
  - Establish a UDL vision with stakeholders including parents, community members, and all staff. Embed this UDL vision in the school improvement plan by analyzing current UDL teacher implementation and current access of computing devices in classrooms, and creating a professional development plan to build UDL capacity using job-embedded professional learning.
  - Provide opportunities to examine classroom configuration, the use of learning stations, small groupings, performance-based and project-based learning, and the incorporation of choices and flexibility into teaching and learning to maximize learning for diverse learners.
Provide time in the master schedule to plan with UDL in mind, to collaborate across disciplines, and reflect on instructional practices, and provide mechanisms to share lessons and materials.

Maryland Institutions of Higher Education should:
• Ensure that all faculty understand that UDL is not an add-on but blends proactive curriculum design with inclusive instructional strategies to benefit a wide range of students to the greatest extent possible using flexible options to deliver content and allowing for flexible options for expression and engagement.
• Embed UDL into the vision and strategic planning for organizational and instructional practices within the institution, have instructors embed UDL principles in course syllabi and in the design and delivery of content and assessments, and ensure that UDL is modeled in the coursework, planning, and delivery, for teacher and administrator preparation programs.

A Note on Budget Constraints
As mentioned previously, the Task Force members are sensitive to budget constraints in the current fiscal climate. However, there are many steps that can be taken within existing budgets that can advance the use of Universal Design for Learning in Maryland. As Maryland strives to provide a world class education for all students while closing remaining achievement gaps and accelerating the progress of advanced learners, the application of Universal Design for Learning principles can provide the route to achieving this end.

In summary, the Task Force found sufficient evidence as to the efficacy and feasibility of UDL and formulated some suggestions for incremental implementation within the education systems of Maryland. In a policy brief from the National Education Association (NEA), President Dennis Van Roekel stated, “In today’s dynamic, diverse classrooms, Universal Design for Learning offers all educators and students and exciting opportunity to use strategies and technologies that bridge the gap in learner skills, interests, and need. By accommodating students’ different learning styles, UDL is able to transform instruction into a more engaging, meaningful experience.”

Literature reviews revealed that specific strategies exist for applying UDL as a blueprint for curriculum development as well as for instructional planning using UDL principles and guidelines in the development of goals, teaching methods, instructional materials, and assessments in diverse classrooms. Strategies and planning tools that have been developed provide the foundations for the flexibility in the ways information is presented, students respond or demonstrate knowledge and skills, and students are engaged in classroom instruction. Literature reviews and interviews both revealed that the implementation of UDL in curriculum and instruction reduced student barriers to learning and resulted in more effective instruction for a broader range of learners while maintaining high achievement expectations for all students. The Task Force believes that it is feasible to incorporate
and apply UDL principles into the policies, practices, and curriculum of the elementary, secondary, and postsecondary and higher education systems in Maryland with respect to curriculum development, the evaluation, selection, and design of textbooks and other instructional materials; the purchase and use of technology for instructional purposes; teacher preparation and staff development; the development of classroom, district, and statewide assessments; and State grants. As Maryland moves forward in implementing UDL in its education systems, an evaluation plan for evaluating the impact of the implementation of the incorporation and application of UDL should be developed.
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Universal Design for Learning (UDL) as a Framework for Supporting Learning and Improving Achievement for All Learners in Maryland, Pre-kindergarten Through Higher Education

What is universal design for learning (UDL)?

UDL in Brief
Universal Design for Learning (UDL) is a framework for curriculum design, instruction, and assessment that gives all students equal opportunities to learn and to demonstrate what they have learned. UDL is built on the premise that there is no one kind of learning. Learning differs across tasks, across development, and among individuals.

The Center for Applied Special Technology (CAST) has pioneered Universal Design for Learning and been instrumental in its development and growth across the United States. On its web site, www.cast.org, CAST describes UDL as “a blueprint for creating instructional goals, methods, materials, and assessments that work for everyone--not a single, one-size-fits-all solution but rather flexible approaches that can be customized and adjusted for individual needs.” The word universal refers to the need for universal (meaning all students) access to learning. Universal does not mean that there is a single solution that will work for all learners.

Universal Design for Learning is not a special education initiative. It is a philosophical shift in our thinking about learning that requires knowledge and cooperation at all organizational levels and among all subjects and fields. UDL supports the learning of all students of all ages, including students who are gifted and talented, English Language Learners (ELLs), and students who learn differently with or without disabilities.

Universal Design for Learning serves as a framework that needs to be integrated into the design and implementation of curriculum, instruction, and assessment. UDL is not the same as differentiated instruction. Differentiated Instruction is an effective strategy that focuses on the learner and making
adjustments in instruction based upon the needs of the learner. On the other hand, UDL’s focus is on eliminating learning barriers in curriculum, instruction and assessment from the onset to maximize the number of students that will benefit. This greater access to flexibility in how curriculum, instruction, and assessment are delivered, and multiple options in the way students can respond to instruction for demonstrating their knowledge should reduce the need for singling out individual students to provide accommodations.

UDL is not just about providing access to content and assessment for students with disabilities, but for every student to have equal opportunity to a high quality education that is presented in a variety of ways, engages them in activities that address their learning styles and preferences, and allows for multiple ways to demonstrate their knowledge and respond to instruction.

**UDL’s Relevance to Maryland**
UDL is particularly relevant to Maryland’s systems of education. In today’s schools and institutions of higher education there are students who still struggle to meet standards, as well as those who need additional challenges or instructional rigor. Maryland’s focus on preparing world class students for college and career readiness means we need to continue to close achievement gaps and maximize learning for all students by altering the way we approach the design and delivery of curriculum, instruction, and assessment.

Recently, Maryland received a ranking of #1 in Education from *Education Week* magazine. This is commendable and represents the hard work and innovation to be found in schools statewide. But this does not mean that the status quo is acceptable. Achievement varies among schools and groups of students. A look at subgroup data shows the diversity to be found in Maryland classrooms as well as the need for improvements in learning among students with special needs and students from some demographic groups.

*Diversity of Languages Spoken* [format as a “key idea” box/sidebar]
There are more than 150 languages spoken throughout Maryland’s classrooms. Spanish, French, Chinese, Korean, Tagalog, and Vietnamese are the most common heritage languages spoken by ELL in the State.

*Diversity of Races/Ethnicities* [create pie chart to show enrollment data]
According to the 2010 Maryland Report Card data, White students make up 45.5 percent of the state’s enrollment, followed by African American students (37.9 percent); Hispanic (10.0 percent); Asian/Pacific Islander (6.1 percent); and American Indian/Alaskan Native (0.4 percent).

Trend data show that Hispanic and Asian/Pacific Islander student enrollment is rising, African American student enrollment has plateaued, and White enrollment is slowing declining.
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Diversity Among Students With Disabilities [recreate charts using data shown below]

### Conditions of Students* Receiving Special Education Services: 2009-2010

<table>
<thead>
<tr>
<th>Local Unit</th>
<th>Total Special Education</th>
<th>Intellectual Disability</th>
<th>Deaf/Hearing Impaired</th>
<th>Traumatic Brain Injury</th>
<th>Autism</th>
<th>Speech/Language</th>
<th>Visually Impaired</th>
<th>Emotionally Disabled</th>
<th>Orthopedically Impaired</th>
<th>Other Health Impaired</th>
<th>Specific Learning Disability</th>
<th>Multiple Disabilities</th>
<th>Deaf/Blind</th>
<th>Developmental Delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total State</td>
<td>103,018</td>
<td>5,472</td>
<td>1,202</td>
<td>287</td>
<td>8,186</td>
<td>21,107</td>
<td>388</td>
<td>8,047</td>
<td>402</td>
<td>15,813</td>
<td>32,891</td>
<td>2,338</td>
<td>23</td>
<td>6,462</td>
</tr>
</tbody>
</table>

*Students with disabilities, ages 3 to 21


### Students Receiving Special Education Services by Location: 2009-2010

<table>
<thead>
<tr>
<th>Local Unit</th>
<th>Total Special Education</th>
<th>In the Regular Education 80% or More</th>
<th>In the Regular Education 40 to 79%</th>
<th>In the Regular Education Under 40%</th>
<th>Day</th>
<th>Residential</th>
<th>Other Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total State</td>
<td>90,486</td>
<td>58,385</td>
<td>10,779</td>
<td>13,170</td>
<td>2,806</td>
<td>3,815</td>
<td>11</td>
</tr>
</tbody>
</table>


**Achievement Gaps Persist**

Maryland has made progress in narrowing achievement gaps on the Maryland School Assessment since the test’s inception in 2003. However, significant gaps remain. Consider the achievement in reading over time of students receiving special services in grade eight. While progress is fairly steady within groups, achievement gaps have barely moved. [recreate graph using data below]
Not Making Adequate Yearly Progress

The most recent state report card on academic progress shows Maryland is not making adequate yearly progress (AYP) among some groups of students: African American, Hispanic, special education, free and reduce-price meals, and English Language Learners.
Universal Design for Learning is a framework for learning aligned with current brain research about learning that focuses on helping all students achieve optimal progress and seeks to eliminate Maryland’s achievement gaps among groups of students.

**Born From Universal Design in Architecture**
Universal Design for Learning is a natural outgrowth of the universal design movement in architecture and product development. Universal design initially was associated with individuals with disabilities, but it quickly gained appreciation and use among the larger population. For example, ramps and curb cuts designed for individuals in wheelchairs are now invaluable to people pushing strollers, rolling suitcases, or pushing carts to transport heavy objects. Close-captioned television broadcasts are useful for anyone watching television in a noisy environment. Automatic doors open for all individuals.

**21st Century Teaching and Learning**
Today, Universal Design concepts have been adapted to the field of education. Universal Design for Learning principles are applied to the broader context of accessibility in learning for every student, not just students with disabilities. UDL helps schools and institutions of higher learning address the more rigorous achievement expectations of the 21st century. Although UDL is not focused solely on technology, it has gained traction in education as more and better technologies have become available to support it.

As we have greater accountability and standards for learning, it is clear that we have to find more effective ways to deliver and assess instruction while actively engaging the learners. Designing curriculum and instruction for diverse students using the principles of Universal Design for Learning at the outset enhances the classroom environment and requires less retrofitting and adaptations by classroom teachers.

**Brain Based Research**
UDL helps educators to engage students in different ways and to present material in a variety of formats. It also allows students to demonstrate their knowledge in different formats. This flexibility and provisions of options to learners aligns with what current brain research tells us about how individuals learn.
Why is flexibility necessary?
Individuals bring different skills, needs, and interests to learning. Neuroscience shows that these differences are as unique as our fingerprints. There are three primary brain networks that come into play: Recognition Networks, Strategic Networks, and Affective Networks. (CAST, YEAR)

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According to CAST, the organization that has pioneered UDL, flexibility in curriculum, instruction and assessment is needed to account for the variations in students’ recognition, strategic, and affective networks. UDL provides this flexibility when we provide multiple means of:

1. Presentation: Presenting information and content in different ways
2. Assessment: Differentiating the ways that students can express what they know
3. Engagement: Stimulating interest and motivation for learning
Critical Elements of UDL
How do we recognize the UDL framework in action when we see it? The body of literature on UDL is growing, and experts are still coming to consensus on the critical elements that ensure effective implementation. Policymakers and educators can still move forward with using UDL principles, as there are a number of critical elements reflected in the existing UDL literature and among the lessons learned by schools, districts, and states implementing it.

Critical Elements in Curriculum, Instruction and Assessment
- UDL guidelines developed by CAST need to be incorporated into the design and delivery of curriculum, instruction, and assessments. ([http://www.udlcenter.org/aboutudl/udlguidelines](http://www.udlcenter.org/aboutudl/udlguidelines)).
- Teachers need access to a broad range of materials in a variety of formats to ensure flexibility for offering a range of choices for students. Teachers need to use multiple means of presenting information, different ways of engaging students, and provide options for students to demonstrate competence.

Key Components and Examples of UDL Implementation
In “Gaining Access to General Education: The Promise of Universal Design for Learning,” Jimenez, Graf, and Rose propose the following seven key components of UDL.

1. Technology Infrastructure and Support—Example--Districts digitize materials and build collaboration between technology and educational specialists.
2. Administrative Support—Example-- Focused collaboration occurs across all departments to identify barriers to learning and new solutions to meet the needs of diverse students
3. Teacher Training Support—Example--School principals demonstrate buy-in by supporting job-embedded professional learning opportunities for training and support
4. Redefined Roles for Special and Regular Education Teachers—Example—Teachers co-plan and work collaboratively to assist students with and without disabilities.
5. Collaborative Curriculum Planning—Example--Curriculum designers and classroom teachers work together to examine curricular objectives and gather new tools, materials and supports.
6. Parent and Community Involvement—Example--Parents are included in the discussion on UDL and identify ways to volunteer to support UDL within classrooms.
7. Creative Funding—Example--Districts, schools, and teachers develop and submit grant proposals supporting UDL practices.

Signs of UDL (“Look Fors”)  
There are a number of signs that UDL is being implemented in the classroom. These signs are often referred to as “look fors,” because these are things an observer can readily observe to confirm that UDL is being applied. This list is not exhaustive as there is more to UDL than what is observable (e.g., planning, professional learning, readily available digital or other flexible materials)
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- Access to tools and strategies that provide flexibility in presenting information, engaging students, and demonstrating knowledge
- Options for how students receive information
- Flexibility for how students will demonstrate what they know
- Charts and Advance/Graphic Organizers providing various levels of scaffolding and support
- Print-based materials enhanced with images to help teach concepts
- Areas within the classroom designed for small group instruction
- A variety of methods used to maximize student engagement

**Technology That Supports UDL**

The following are some signs or “look fors” for technology that supports UDL.

- Regular access to technology in schools and in classrooms—for example, easy access to portable computing devices such as wireless netbook carts and software that supports a diverse body of student learners; web 2.0 tools that enhance instruction, and easily accessible ways to organize and share digital instructional materials across schools and districts.
- Interactive white boards used interactively by teachers and students, utilizing a range of software and web-based tools to engage learners.

**UDL Is Not Just Technology**

Although technology provides flexibility in meeting variations in student needs, no-tech and low-tech strategies can be equally effective in implementing UDL principles and guidelines. No particular type of material or technology is essential for implementing UDL. The key is how materials and technology are chosen, combined, and used for instruction in a manner consistent with UDL. Dr. George Van Horn is the Director for Special Education Services for Indiana’s Bartholomew Consolidated school district, which has grown from using UDL in one school to all schools. Dr. Van Horn uses the example of a paperback novel to explain materials selection with UDL. Alone, the paperback novel does not support choices or flexibility. But that does not mean the book should not be used. The question is whether there are other materials that are available upfront (i.e., the teacher does not have to create them along the way) to be used along with the book or as a print-based alternative to meet the needs and preferences of learners. A broad range of materials that provide choices and flexibility for students is what is most important and consistent with UDL principles and guidelines.

[Note: Insert the following No/Low/High Tech in a sidebar format:]

No Tech, Low Tech, High Tech

No Tech: Teachers reads aloud anything that is presented on the board to the class.
Low Tech: Draw an image to accompany new vocabulary and key concepts; print worksheets in two sizes: 8 x 11 and 11 x 18.

High Tech: Netbooks as an option for all students to read instructions and complete worksheets.

[Source: Montgomery County Public Schools, High Incidence Accessible Technology]

Assessment Considerations
It is essential for UDL to be incorporated into classroom, district, and statewide assessments, as UDL provides a truer picture of student achievement by ensuring that students have adequate and equitable means for demonstrating their knowledge and skills.

The following should be considered regarding UDL and assessments:

- UDL should be built into assessments from the outset.
- Assessments should be flexible and allow for options that will measure the intended construct fairly for all students.
- Assessments should measure relevant knowledge and filter out non-relevant obstacles.
- Review test items using the lens of the UDL framework to improve accuracy and accessibility.
- Universal Design in assessment addresses physical, sensory, and language barriers. UDL principles broaden the scope to include cognitive, executive functions, and affective barriers.
- Applying UDL from the outset could reduce the number of testing accommodations that are currently being used and that sometimes affect validity (e.g., adult readers and scribing).

UDL in Context: Nationally and in Maryland

UDL in Federal Legislation
UDL is receiving national attention as a proactive approach to enhance the achievement of all students, including No Child Left Behind (NCLB) subgroup populations and advanced or gifted learners. “Both the Individuals with Disabilities Education Act (IDEA) and NCLB recognize the right of all learners to a high-quality, standards-based education. The laws preclude the development of separate educational agendas for students with disabilities and others with special needs. They also hold teachers, schools, districts, and states responsible for ensuring that these students demonstrate progress according to the same standards.” (CAST.org)

However, neither NCLB nor IDEA at this time address one of the greatest student impediments to learning—the curriculum. Learning barriers that exist in many classrooms are the way in which the
main components of the goals, materials, methods, and assessments are too rigidly applied and lack the flexibility needed to meet the needs of diverse learners, especially those with disabilities. This results in the need for teachers to create workarounds and modifications or requests for alternative placements for students which can be expensive, inefficient, and often ineffective for learning. **UDL provides the framework that allows for the diversity of learner needs to be addressed at the point of curriculum development from the outset rather than the current retrofitting or afterthought approach while maintaining high expectations for all students.**

“Universal Design for Learning addresses the core principles of NCLB by supporting:

- Greater accountability by guiding the development of assessments that provide accurate, timely, and frequent means to measure progress and inform instruction for all students.
- Greater flexibility and choice for teachers, parents, and students by guiding the development of curricula that provide high expectations for every student and meaningful choices to meet and sustain those high expectations.
- Greater use of evidence-based practices by guiding the design of high-quality curriculum that include research-based techniques for all students, including those with disabilities.”

(CAST.org)

In addition, UDL appears in a number of Federal legislative and policy documents.

1. **Higher Education Opportunity Act**

UDL appears in numerous provisions and is defined in Section 103(a)(24):

UNIVERSAL DESIGN FOR LEARNING.--The term `universal design for learning' means a scientifically valid framework for guiding educational practice that--

``(A) provides flexibility in the ways information is presented, in the ways students respond or demonstrate knowledge and skills, and in the ways students are engaged; and

``(B) reduces barriers in instruction, provides appropriate accommodations, supports, and challenges, and maintains high achievement expectations for all students, including students with disabilities and students who are limited English proficient.".

2. **U.S. Department of Education’s National Educational Technology Plan**

In the announcement letter, Secretary Duncan said the following about the plan:
It calls for using state-of-the-art technology and Universal Design for Learning (UDL) concepts to enable, motivate and inspire all students to achieve, regardless of background, languages or disabilities.

3. The Common Core Standards developed by the National Governors Association and the Council of Chief State School Officers

4. The Race to the Top Assessment Programs Criteria

5. LEARN Act (literacy) bills in House and Senate


7. U.S. Department of Education’s Blueprint for Reform: Reauthorization of the Elementary and Secondary Education Act

**National Organizations Embracing or Endorsing UDL**

There are 38 national general education and disability groups who comprise the National UDL Task Force to promote UDL in federal legislation and policy.

These groups include the NEA (National Education Association), the AFT (American Federation of Teachers), the National School Boards Association, and the National Association of State Boards of Education. There are also organizations representing institutions of higher education.

Education leadership and policymaking organizations are also represented, including the Council of Chief State School Officers and the National Association of Secondary School Principals. There are national organizations for special education and students with disabilities represented, including the Council for Exceptional Children. Also supporting UDL are the National PTA (Parent Teacher Association) and The American Institutes for Research.

**Maryland Supporters of UDL**

UDL has a number of supporters in Maryland. The Maryland Down Syndrome Advocacy Coalition (MDAC) was instrumental in getting this Task Force established. Other Maryland organizations submitted written testimony in support of the Task Force bill, including the Maryland State Department of Education, Governor’s Office for Children, Prince George’s County Schools, the Arc of Maryland and the Maryland Council for Exceptional Children. Local school districts such as Montgomery County and Prince George’s County are working toward implementing UDL. (See “UDL in Maryland” on page # for more on how Maryland is already implementing UDL.)
UDL in Other States

UDL is building momentum nationwide as a framework for addressing the diverse learning needs of all students. There are currently 9 states that have initiatives underway to incorporate UDL into their districts and schools. These states are Indiana, Iowa, Kentucky, Louisiana, Maine, Massachusetts, Michigan, Minnesota and New Jersey.

Michigan Snapshot [use side bar formatting]

Michigan began its initiative in 2000 when stakeholders from around the state met to create clear exemplars of UDL and how to implement it, provide data behind the framework of UDL, and establish a clear definition of UDL. The stakeholders that were involved in this work included Michigan’s State Board of Education, general and special education professionals, and parents.

How Michigan Has Implemented UDL

- Aligned its definition of curriculum to CAST’s definition: goals, methods, materials and assessment. The curriculum contains clear goals, and is flexible in the presentation and demonstration of knowledge.
- Identified critical elements of UDL.
- Established a small pilot program to create exemplars. UDL has been defined in ways that are practical, but yield the paradigm shift that UDL framework outlines.
- Emphasized pedagogical skills in UDL implementation rather than technology.

UDL in Maryland

Maryland State Department of Education Promotes UDL

The Maryland State Department of Education has already embraced the principles of UDL and had begun disseminating information about UDL principles and guidelines prior to the establishment of the Task Force. A full day workshop to develop awareness of UDL and its applications in the community, organizations/school systems, schools, and institutions of higher education was held for a broad group of stakeholders in March 2010. Participants comprised representatives from local boards of education, district and school-based leaders across disciplines and including special education, and institutions of higher education. In addition, the following ongoing initiatives have been promoting the use of UDL across Maryland.

Maryland Co-Teaching Network

The Maryland State Department of Education works in partnership with local school districts, schools, and institutions of higher education to guide and support effective instructional practices in co-teaching, including Universal Design for Learning. Co-teaching is an instructional delivery model in
which a collaborative partnership exists between a generalist and a specialist who have shared accountability and ownership for planning and delivering instruction and assessment to all students within a classroom environment. Most frequently, this provides the opportunity for a general education and a special education teacher to work together to teach a classroom of diverse students that includes students with disabilities which supports the education of students in the least restrictive learning environment possible. This collaboration enables the teachers to include greater flexibility in the instructional methods and materials used to meet the needs of the learners in their classroom. There are currently 9 local school districts and 30 schools participating in the Maryland Co-Teaching Network.

**Principal’s Academy**
The Maryland State Department of Education conducts an annual Principal’s Academy to help selected Maryland principals understand the alignment of curriculum, instruction, and assessment to boost student achievement for all students. As part of the Academy, principals are learning how UDL can help their schools meet the needs of diverse learners.

**Social Studies**
The Division of Instruction’s Office of Social Studies used UDL in the design and implementation of the summer Governor’s Academies for Government teachers in the last 2 years. The academy’s teachers model the implementation of UDL principles, and participants used a UDL lesson plan format in their follow-up assignments.

**Gifted and Talented**
The Office of Gifted and Talented Education (GT) introduced the UDL framework to local GT program coordinators at a State briefing. Participants identified potential barriers for GT students, and then brainstormed methods of providing optimal challenge for gifted students in the three UDL areas: representation, expression, and engagement.

**New UDL Initiatives**
The Maryland State Department of Education is currently implementing strategies and activities to promote the application of UDL principles and guidelines. The Department is providing additional training in UDL for Division of Instruction and Career and Technology Education staff, applying the UDL framework in the Educator Effectiveness Academies (summer 2011), and integrating the UDL framework in the new Maryland online instructional toolkit. This online toolkit will support teachers in the use of the new common core curriculum framework in the areas of English language arts, mathematics, and STEM (science, technology, engineering, mathematics).
Assessment
Maryland incorporates UDL into assessment through content reviews, bias and sensitivity reviews, statistical analysis reviews, and other reviews which provide an empirical check on the fairness of items. Maryland is also exploring the use of cognitive labs, which are methods of collecting data to better understand how students approach test items and what aspects of the items were particularly challenging for students. The ultimate purpose of the assessment reviews is to remove barriers and unnecessary hurdles to students’ ability to demonstrate their knowledge and skills.

Through an Enhanced Assessment Grant from the USDE, Maryland has partnered with eight other states to develop standards for computer based accessibility and interoperability standards. These standards are known as the Accessible Portable Item Profile (APIP). The goals of APIP are to develop and exchange test items, the delivery of which can be tailored to access and measure the intended construct for each student.

UDL in Local School Districts
There is much variation in local school districts’ implementation of UDL. Some are just starting to explore the tenets of UDL while others have undertaken formal efforts to implement UDL in classrooms and draw lessons from that implementation in order to replicate it in other schools.

Montgomery County is one district that has undertaken a significant UDL implementation effort. (See the accompanying sidebar.) Because districts are at different starting points in their understanding and application of UDL, no one statewide plan or effort would fit every district’s needs. Local school districts must customize their efforts to their current status and formulate their own improvement plans for integrating UDL into organizational and instructional practices.

Montgomery County [format as side bar]
Montgomery County Public Schools is in the second year of a three-year UDL implementation project in selected middle schools. The project focused first on building instructional leadership teams in the schools, rather than attempting an immediate school-wide effort. Voluntary teams were comprised of no more than 12 staff, in no more than 7 classrooms, and included general education staff, special education staff, specialists, and paraprofessionals. Participants, including Principals, were asked for a high level of commitment to the project. In the first semester, team members learned about UDL and increasingly implemented UDL in their classrooms. In the second semester of the project, the focus was on outreach through professional development and coaching to school staff, and on case studies to target struggling students.

The first year of the project there were limited resources to support the project. The second year, the school district received American Reinvestment and Recovery Act (ARRA) funds which allowed a higher level of support. Next year, the district plans to scale back to a modest level of support to include four more schools and to sustain the implementation that has been achieved. Although the
project is only in its second year, there are already many lessons learned, including the need for job-embedded coaching and mentoring. Training alone is not sufficient. Staff must have time for planning, communication, and sharing materials.

**UDL in Institutions of Higher Education**

The Higher Education Opportunity Act (HEOA) of 2008 established the statutory definition for Universal Design for Learning. This definition incorporates the three principles of UDL (representation, expression, and engagement) and emphasizes reducing barriers with appropriate supports and challenges built into instruction. The HEOA also states that pre-service teacher education programs should design instruction that models the UDL principles in order to better prepare future educators for working with diverse learners. Although there are likely other institutions of higher education that are incorporating UDL into their programs and practices, we offer the following two examples based upon their current partnerships with the MSDE.

**Towson University**

The College and Career Readiness Support Project, led by administrators and teachers in Howard County in partnership with nine other counties and Baltimore City, is a federal Title II-D Enhancing Education through Technology grant that will provide high quality professional development to help teachers become comfortable with the use of emerging technologies in their classrooms. Howard County and its partners are creating four online courses for teachers: *Enhancing Teaching and Learning through the Use of Technology* (with Universal Design for Learning principles built in) in Biology, Algebra, Government and English. A separate PD module on *Universal Design for Learning* is also in development as well as online instructional supports for Algebra and English IV (based on Common Core). Staff from Towson University are collaborating with the MSDE and Howard County Public Schools on this project.

In addition, Towson University reports that its College of Education courses have included information regarding UDL for quite some time. In recent semesters, faculty members in the instructional technology and special education departments have collaborated to carefully redesign two courses using the UDL principles. The group was inspired by the 2010 National Educational Technology Plan (NETP), which presents UDL as a way to design and implement accessible curriculum and assessments in order to meet the needs of 21st century learners. The plan promotes the integration of UDL and educational technology at the design stage and specifically addresses pre-service teacher education, recommending that “pre-service teachers should have experiences powered by technology that close the gap between students’ and educators’ fluencies with technology and promote and enable technology use in ways that improve learning, assessment and instructional practices” (p. 64, NETP). All students seeking teacher certification are required to participate in these courses, which is quite
significant because Towson University is the largest producer of teacher educators in the state of Maryland.

In addition, Towson University has purchased the foundational text, *A Practical Reader in Universal Design for Learning*, for all department chairs and numerous faculty members. The College of Education is also hosting a 2-day professional development opportunity in March 2011. Dr. Todd Rose, research scientist at the Center for Applied Special Technology (CAST), and faculty member at the Harvard Graduate School of Education, will be delivering a presentation. Dr. Rose plans to discuss what modern neuroscience tells us about the origins of variability in learning, and what this means for the way that we design learning environments within the context of Universal Design for Learning. As part of the professional development opportunity, College of Education faculty members are invited to attend a series of workshops designed to assist educators in applying the UDL principles to instruction and course design. Follow up sessions will occur in subsequent semesters in order to provide ongoing professional development for faculty and Professional Development School supervisors.

**Goucher College**

In collaboration with the MSDE, DSE/EIS Goucher College, Graduate Programs in Education, is developing online courses that support the work of the Co-Teaching Network as well as addresses the needs of educators working with students with disabilities and other diverse learners in classrooms. These courses are developed with short modules that will be available on the DSE/EIS web portal Maryland Learning Links to be launched in the Fall of 2011 to address specific professional development learning needs of educators in today’s diverse classrooms. UDL principles have been incorporated into the course design as well as including specific UDL modules to develop an understanding of UDL and its implications for the development of goals, instruction, methods, materials and assessment.

**Alignment with Maryland Race to the Top**

Maryland has been awarded a federal Race to the Top (RTTT) grant in the amount of $250 million over four years. The RTTT program is aimed at boosting student achievement, reducing gaps in achievement among student subgroups, turning around struggling schools, and improving the teaching profession. The application of UDL principles and guidelines will be critical if Maryland is to achieve those goals for all of the diverse students and classrooms found across the state.

As part of the RTTT effort, Maryland will be redesigning its curriculum framework, instructional toolkit and assessments. This provides a perfect opportunity for UDL to be built into curriculum and assessment statewide from the outset rather than attempting an expensive retrofit in the future.
Maryland Education Technology Plan
Universal Design for Learning supports the use of technology by teachers and students because of its inherent flexibility. This technology emphasis is in alignment with Maryland’s Education Technology Plan, as well as Maryland’s Teacher Technology Standards and Student Technology Standards. UDL supports Maryland’s goal of ensuring the attainment of 21st century technology skills among students and teachers.

Maryland Education That Is Multicultural (ETM)
The Maryland State Department of Education implements a State Regulation that requires all local school districts to infuse Education That Is Multicultural (ETM) into instruction, curriculum, staff development, instructional resources, and school climate. It also requires the Maryland State Department of Education to incorporate multicultural education into its programs, publications, and assessments.

UDL supports ETM in Maryland. Using multiple means of representation, expression and engagement respects cultural experiences and perspectives as part of instruction. UDL emphasizes the need to provide background knowledge and context, which is especially important for students from other cultures. It is important to look for and address cultural barriers in materials and teaching methods.

Can UDL Improve Student Achievement in Maryland?

UDL Effectiveness
There are a number of benefits to using UDL that make it an effective framework for curriculum design and implementation in pre-kindergarten through higher education systems in Maryland.

UDL’s Frontloading of Instruction Translates to Less Teacher Effort and More Students Benefited
UDL strategies for instruction are “frontloaded” rather than retrofitted. This means the strategies are built into the curriculum, instruction, and assessments instead of requiring the teacher to make adjustments for individual students after the fact. This makes UDL more efficient in the long run, because it reduces teacher time spent creating retrofits and benefits more students from the outset. UDL is also more acceptable to students because instead of adjustments that single out students, UDL offers flexibility and choice to all students.

UDL Encourages Efficient Use of Funds
UDL also results in a more efficient use of funds when instructional materials and technologies are chosen to create a range of options that work for all students instead of focusing on purchasing for subgroups of students.
UDL Provides More Students Access to the General Education Curriculum
UDL can help students with disabilities spend more time learning in the general education setting. With the right materials, technology, and training, teachers can provide lessons that are flexible enough to benefit a wide array of learners, including those with disabilities.

UDL Creates a Positive Learning Environment
UDL implementation creates a more inclusive environment in which students feel safe to disclose and adapt to their disabilities and learning differences. In higher education, students are able to identify course barriers to learning, make these known to faculty, and seek alternatives.

UDL Can Reduce the Need for Accommodations and Modifications
While there will always be a need for assistive technology or other accommodations to support the unique needs of some students, UDL has the potential to reduce the need for retrofitted accommodations and modifications for students with individual education plans (IEP) and 504 plans.

Challenges of implementation
Challenges to UDL
Despite the promise and power of UDL as a framework for advancing Maryland learners of all ages and abilities, there are challenges. The main challenge is that UDL requires a paradigm shift in teaching and learning. Some educators and stakeholders may not see the need for this shift. Also, resources and time in our schools are already perceived as overcommitted. Educators and stakeholders may be resistant to support a broader educational framework, especially if it is perceived as “one more thing” or as a special education initiative that will only benefit certain groups of students.

Misperceptions
In addition to challenges, supporters of UDL in Maryland will need to address some misperceptions about UDL that could negatively impact implementation. For example, there are some who believe that access and excellence are mutually exclusive—that we are talking about “watering down” education when the reality is improved learning through greater engagement, flexibility and choice. Some people also fear that UDL will undermine student responsibility for learning or lower standards, when the reality is that UDL promotes greater student responsibility for learning and greater access to the curriculum. Another misperception is that UDL is expensive. Although professional development and technology are expenses, there are plenty of no-tech or low-tech ways to implement UDL and existing professional development opportunities in which UDL principles and guidelines can be integrated. Schools and districts can begin implementing UDL by using existing and future technology funds more strategically and integrating UDL into ongoing professional development plans.

Perhaps the most common misperception is that UDL is just for learners with disabilities. It is not uncommon for teachers, including higher education faculty, to underestimate the degree to which non-special education students have different skills and abilities. They mistakenly categorize students as
those who require special education apart from typical students without realizing that all students benefit from incorporation of UDL in the classroom.

**How UDL Implementation Can Address Challenges and Misperceptions**
A strategic, broad reaching awareness campaign is essential to set the stage for UDL implementation. Stakeholders must understand that UDL supports all students, including students who are gifted and talented, English language learners, and/or students who have disabilities or learning differences. Stakeholders must understand and support the implementation of UDL principles and guidelines before Maryland initiates any regulatory efforts to require UDL implementation. Otherwise, as experienced in other states, there is the risk of resentment and pushback by stakeholders.

Another critical piece of UDL implementation is increased communication and collaboration among departments. The responsibility for the implementation of UDL does not rest with teachers alone. Focused, collaboration is essential to align UDL efforts both organizationally and instructionally. Technology, curriculum and instruction, and professional development efforts must be coordinated to make effective implementation in schools possible. For example, efforts to move toward more flexible options to benefit all students will require coordination going forward to ensure a range of tools, materials and strategies are readily available to teachers and students.

**Potential Impact of UDL Implementation**
Combined with Maryland’s Tiered Instructional Approach-Response to Intervention (RtI) Framework, a model of academic intervention for students not achieving standards, UDL has the potential to reduce the following:

- numbers of students requiring special education services,
- number of students dropping out of school,
- number of gifted and talented students who are not engaged in current learning activities,
- the need for accommodations in instruction and assessment, and
- the amount of time teachers spend individualizing instruction.

UDL also has the potential to provide more students access to the general curriculum and to raise student achievement for all students.

**UDL Feasibility**
Part of the task force charge was to examine the feasibility of implementing UDL in the educational systems of Maryland. Research articles and interviews with experts in the field completed by Task
Force members confirm the feasibility of implementing UDL in Maryland. However, there was discussion about cautionary measures regarding moving forward too fast prior to developing stakeholder understanding and agreement. A focused plan to strategically develop awareness and understanding of UDL among stakeholders is essential. In addition, strategies for addressing the previously mentioned challenges and misperceptions regarding UDL implementation need to be developed.

**Shift Paradigms with Professional Development and Stakeholder Engagement**

UDL requires a paradigm shift in teaching, learning, and assessment. Curriculum developers, assessment designers, and teachers will need to learn a different way of viewing student learning and the methods of engagement, presentation, and assessment used in the classroom. With professional development, job-embedded professional learning, and stakeholder engagement, this paradigm shift is achievable.

**Access Free Resources to Support UDL**

There is a wealth of free, high-quality online resources in support of UDL that can help facilitate this paradigm shift. These resources include professional development modules, teacher tool kits, planning tools, technology tools, instructional tools, lesson plans, and more. Three comprehensive national Web sites include [www.cast.org](http://www.cast.org), [www.udlcenter.org](http://www.udlcenter.org), and [www.aim.cast.org](http://www.aim.cast.org). See the appendix for more Web resources. [include page # for the lit review that contains web resources]

**Use No-tech and Low-tech UDL Strategies**

Although assistive technologies and technology in general are useful, UDL is not just about the use of technology. As discussed earlier, UDL solutions can be simple and low-tech. Also, schools and districts can review the allocation of existing technology within schools and classrooms to ensure it supports student learning as effectively as possible.

**Improvements in Consumer Technology Will Bring More, Affordable Technology to Classrooms**

Technology is an ever changing landscape. Mainstream and specialized tools continue to be developed to meet the needs of students with disabilities. Many assistive technologies can be combined with general consumer products to provide more options for all students. More often, consumer technology is easier to use, portable, smaller, and more affordable than assistive technology. For example, iPads, and Smartphones along with a growing number of software and web-based applications contain accessibility features that may be beneficial to all students. School systems should be strategic in their purchases to ensure access for the greatest number of users. With the need for computer access to participate in new core curriculum assessments, considerations for allocating the technology to classrooms for ongoing instructional use becomes more critical to provide access to learning and to
ensure students are prepared for online testing. The more opportunities for integrating technology into classroom instruction, the further enhancement of UDL implementation can occur.

Textbooks and other instructional materials are increasingly available in digital versions. However, this does not mean they are accessible to all students. Statewide efforts need to be made to work with publishers to create a market-model to ensure that a range of flexible materials are available to all students, not just eligible students.

**UDL is Already Happening**

Maryland has already begun moving toward a UDL approach in the ongoing development of the common core curriculum framework, instructional toolkit and assessments. A number of districts and schools have recognized the power and promise of UDL to improve learning and close achievement gaps, and as a result they are implementing UDL. The Task Force has reviewed the UDL literature and interviewed a number of experts and practitioners in the field. The recommendations in the following section of the report represent the Task Force’s best thinking on how to expand UDL implementation in Maryland.

-----END OF THE BODY OF THE REPORT-----

*Below are quotes to be formatted and displayed in text boxes throughout the report in relevant sections. Let me know if there are more quotes you’d like to include. I will also break up the text with side bar formatting and “key idea” boxes that emphasize important points.*

The National Education Technology Plan 2010 calls for a new model of learning “using state-of-the-art technology and UDL concepts to enable, motivate and inspire all students to achieve.” Arne Duncan, U.S. Secretary of Education

“UDL is not about needing more money, it is about changing beliefs and practices, which requires professional development.” George Van Horn, Bartholomew Consolidated School Corporation, Indiana

“UDL focuses educators on developing flexible curricula that provides students with multiple ways of accessing content, multiple means for expressing what they learn, and multiple pathways for engaging their interest and motivation. This, in turn, allows teachers a multidimensional view of their students as learners, and offers teachers unique insights into assessing students’ knowledge, interest, and understanding.” Howard, K.L., Universal Design for Learning: meeting the needs of all students

“Whether assessment is embedded into teaching or administered separately, it must provide students with adequate and equitable means to express their knowledge and understanding if it is to provide accurate feedback on the performance of students.” Page 3., Dolan, R., Hall, T., “Universal Design for Learning: Implications for Large-Scale Assessment”
“Only by creating fair and accurate tests that allow students to demonstrate their learning progress regardless of how they learn can we ensure that we are holding educational systems accountable for all students, including those with disabilities. Furthermore, and more importantly, fair and accurate testing is essential if we are to use assessment results to help shape subsequent instruction for individual students. Universal design is one means for accomplishing this.” Page 7, Dolan, R., Hall, T., “Universal Design for Learning: Implications for Large-Scale Assessment”
Task Force Recommendations

Introduction
The Task Force members reviewed research, interviewed national experts regarding the application of Universal Design for Learning (UDL) principles, and experienced the use of UDL principles within Task Force meetings. As a result of these experiences, the Task Force members reached consensus that the application of UDL principles should be promoted throughout Maryland education systems to ensure all learners have maximized opportunities to access and equitably benefit from teaching and learning activities.

There was also consensus that at this time, it would be premature to promulgate proposed regulations. Task Force members recommended the development of a strategic and systematic plan for building stakeholder awareness and capacity at the State, local, and institutions of higher education levels prior to mandating policies through regulation. The Task Force members have recommended some suggested policies for the State Board of Education, institutions of higher education, local school systems, and schools to lay the foundations for increased implementation of the application of UDL principles in the coming years.

To move UDL forward in Maryland, the Maryland State Board of Education should...

1. Approve a UDL policy that:
   • Recognizes the benefits of UDL for all learners in all areas—general education, gifted and talented, English language learners, and special education.
• Recognizes that UDL should be used during curriculum and assessment development and during the review and selection process for textbooks, instructional materials, and technology. (In other words, UDL should not be an after-the-fact modification but a driving force during the planning process.)

• Encourages the MSDE to include UDL where appropriate in requests for proposals (RFP), grant criteria, and program approval criteria.

• Encourages the MSDE to include UDL in its strategic plan.

• Encourages local districts to include UDL in their strategic and professional development plans.

• Encourages MSDE to collaborate with local districts to support the full integration of UDL into organizational and instructional components of the local school system.

2. Request a steering committee comprised of preK-16 education stakeholders, including parents, to support the integration of UDL in the areas of instructional materials and technology, professional development, and curriculum and instruction.

• Instructional Materials and Technology:
  o Assemble and share with districts and schools a list of free or low-cost, low-technology resources that incorporate UDL.
  o Assemble and share with districts and schools a list of Web resources that incorporate UDL.
  o Draft criteria to help guide local school districts in selecting and developing instructional materials and technology that incorporate UDL.
  o Assemble and share with districts and schools strategies that utilize available technology tools.
  o Explore the development of local school district consortiums to better leverage funds by collaboratively purchasing accessible instructional materials for all students, not just those with disabilities.
  o Examine the allocation of computing devices per classroom needed to provide flexible options for instruction and learning.
  o Examine use of mobile technology and applications.

• Professional Development:
o Assemble and share with districts and schools strategies that support professional learning teams to support the implementation of UDL.

o Once the implementation of UDL is integrated into Master Plan criteria as appropriate, MSDE should compile and share information from the district Master Plans regarding district and school progress in implementing and monitoring UDL principles and guidelines as described by the Center for Applied Special Technology (CAST) that clearly demonstrate coordinated efforts across departments (e.g. technology, curriculum and instruction, special education, etc.).

- **Curriculum and Instruction:**
  o Assemble and share strategies with district curriculum designers to support the creation of lessons using UDL principles and guidelines from the onset.

- **Institutions of Higher Education:**
  o Establish how implementation impacts institutions of higher education and what role they can play in advancing UDL implementation.

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**Recommendations for the Maryland State Department of Education**

Many of the principles of Universal Design for Learning can be readily adopted for little or no cost. However, as the need for greater technology infrastructure and support personnel increases over time with the use of technology or web-based resources as an integral part of instructional practice, the fiscal impact of implementing systemic UDL policies would need to be assessed. The demands for greater use of technology are not only related to the implementation of UDL principles, but as a necessity for preparing all students, our “digital natives” of the 21st century.

The national assessments currently under development will only be available online. This may already promote the need for more infrastructure to support the ongoing use of technology. The need for computing devices in classrooms should be balanced against the need for labs to conduct online assessments in order to incorporate flexible options for learning using learning stations and small groups.
To move UDL forward in Maryland, the Maryland State Department of Education should...

1. Define and describe the critical elements of UDL based on the principles and guidelines from the Center for Applied Special Technology (CAST).

2. Create and implement a plan for educating stakeholders about UDL and its benefits for all students, including students with disabilities, English language learners, and gifted and talented students. Stakeholder groups should include parents, teachers, administrators, representatives from the business community, all local school system professionals, and higher education faculties, staffs, and administrators.

3. Utilize the MSDE website to share UDL research, resources, and strategies that support all students. This should include an online forum (e.g. blog or listserv) for personnel from all the Maryland districts to ask each other questions and share solutions for implementation. Also, a video on UDL and the recommendations in this report should be added to the MSDE TV page.

4. Incorporate UDL into the State Curriculum and State assessments as they are being reviewed and revised to meet federal Race to the Top requirements. This should include embedding in the State Curriculum Toolkit a variety of resources and strategies that meet the needs of a range of students, including students with physical, cognitive, and/or sensory disabilities, English Language Learners, gifted and talented students or students who may be a part of more than one of these groups.

5. Include the application of UDL principles and guidelines as criteria for organizational functions such as:
   - State grant applications and requests for proposals (RFP).
   - Program audits/evaluation criteria for teacher preparation programs. (It is important to note that the application of UDL principles should be woven throughout the teacher preparation program and field experiences, clearly denoted within course syllabi and not relegated to one course in isolation.)
• Revisions or updates that may be made to the MSDE Strategic Plan, Maryland Technology Plan and the Maryland Teacher Technology Standards or any other State plans as appropriate.
• Revisions or updates to the courses included in the Maryland Virtual Learning Opportunities Program.

6. **Create and implement ongoing professional development for building capacity on UDL principles and guidelines among leadership at the State and district levels for replication at school levels.** The plan should include administrators, teachers, and specialists from general education, special education, ELL, and gifted/talented education. The plan should also include curriculum writers, assessment developers, instructional technology and assistive technology support specialists, and information technology (IT) support providers.

7. **Provide strategies to develop professional learning communities among local school districts and institutions of higher education** to support UDL implementation and to help develop the cultural shift that will have to take place to institutionalize UDL.

8. **Include in the Master Plan requirements criteria specific to incorporating UDL principles in organizational and instructional decision-making and practices.** This may include the need for the creation of cross-departmental work groups (e.g. curriculum design, instructional technology, professional development, special education) to support UDL implementation.

9. **Include the principles of UDL in the discussion as teacher and administrator effectiveness criteria are being developed.**

10. **Work collaboratively with local school systems in the development and approval of Continuing Professional Development courses on:**
• UDL principles and guidelines.
• Developing professional leadership teams to implement and monitor UDL.
• Effective coaching for instruction, including instructional technology implementation using UDL principles and guidelines.
11. Address the issue of the need for accessible materials with educational publishers and vendors in accordance with the Maryland Accessibility Regulation and Statute 13A.05.02 13H Technology-Based instructional Products Education Article §7-910 Equivalent Access for Students with Disabilities. The discussion should include a broader discussion regarding the possibility of developing a market model for the use of materials by students with and without print disabilities.
Recommendations for the local school districts

The Task Force members recognize existing fiscal constraints in the current economic climate. As discussed previously, the application of many of the UDL principles and guidelines can be accomplished at little to no cost by providing students with choices for the methods of learning and responding and the ability to use a variety of instructional materials to support their learning. Applying UDL principles and guidelines should become an integral part of ongoing curriculum, instruction, and assessment development. To achieve this end, strategies for applying UDL should be embedded within existing professional development plans. If a local district strives to systemically integrate UDL principles into organizational and instructional practice, there would be a need for someone to coordinate this cross-departmental and cross-school effort.

To move UDL forward in Maryland, local school districts should...

1. Request that the local board of education establish a policy supporting the implementation of UDL principles to promote access and achievement of all learners.

2. District and school administrators should establish a vision and common language regarding the use of UDL principles with the expectation that staff, students, parents, and the community support this effort to maximize opportunities for student achievement by incorporating UDL into school improvement plans.

3. Create cross-departmental workgroups to develop a UDL strategic plan to support implementation and guide practices and procedures. Workgroups should include teachers, technology specialists, IT support specialists, assistive technology specialists, and curriculum developers across subjects and areas (general and special education, ELL, gifted, etc.) and the input of parents and students should be sought. Part of the planning process should be to establish a vision of systemic implementation of UDL principles in organizational and instructional practices and procedures. To achieve this vision, the Task Force recommends the district workgroup focus on the following:
• Developing an inventory of instructional texts, materials, online resources, technology tools and applications available to support UDL implementation.
• Examining currently available instructional texts and materials, online resources, technology tools and applications to identify cultural and learning barriers for general education, gifted and talented, English language learners, and special education students, including those with physical, cognitive, or sensory disabilities.
• Determining the allocation of computing devices per classroom needed to provide flexible options for instruction and learning.
• Conducting lesson studies to identify barriers for the range of students described above within existing curriculum, methods, and materials and adjust existing lessons to allow for the implementation of UDL.
• Ensuring the current and future instructional guides allow for lesson plans that are flexible to allow for the application of UDL within the unit timeline. (When assessment schedules and curriculum timelines drive instruction there are few options to include flexible methods of presentation, expression and engagement.)
• Developing a rubric for the evaluation and selection of textbooks (both print and electronic), instructional materials, web-based and other digital resources, and software tools to ensure a range of items that are commensurate with UDL principles and accessible to all students including students with physical, sensory, and cognitive disabilities. Online resources should be selected that will bridge school-to-home usage.
• Disseminating the processes to acquire specialized formats for students with qualifying print disabilities through sources such as Bookshare, Recordings for the Blind and Dyslexic, and the Maryland Instructional Resource Center for students with visual impairments. Market models to purchase digital texts accessible to all students should be explored.
• Ensuring that special education and ELL accommodations are carefully considered to achieve short and long term objectives and are built into curriculum and assessment for all students, wherever possible.

4. **Review and revise district assessments for all students in accordance with UDL principles** to address second language, physical, sensory, and cognitive barriers from the onset to reduce the need for accommodations that hinder student independence.
5. **Provide time for collaborative planning to ensure that general, special, and ELL educators routinely work together** to develop instructional activities linked to the State Curriculum that incorporate UDL principles.

6. **Develop and facilitate ways to share** exemplary UDL practices, resources, sample lesson plans, classroom assessments, and teacher-made materials, and consider sharing lesson plans, materials, and resources within and across Maryland school districts.

7. **Develop a centralized repository** that will allow staff to share digital instructional materials and online educational resources incorporating UDL and aligned with copyright law, and commensurate with efforts to increase Accessible Instructional Materials as mandated by IDEA.

8. **Create or use existing rubrics to ensure the selection of a range of instructional materials reflective of UD that address the needs of diverse learners.**

9. **Use existing funds strategically to ensure adequate funding for:**
   - Professional development on UDL principles and practices, as they apply to the full range of student abilities levels, embedded within existing instructional and programmatic professional development activities.
   - Time in the master schedule for collaboration across departments and among general, ELL, and special educators to plan with UDL in mind.
   - Technology and infrastructure to support UDL and other 21st Century learning practices.
   - Training on the use of instructional technology to implement UDL, incorporated into existing professional development opportunities.
   - Job-embedded, professional learning at schools to develop and model effective UDL implementation strategies.
   - IT support as the infrastructure and use of technology for instruction increases.

10. **Communicate the expectation that lesson plans should have flexible options built in from the onset.** When instructional conformity is communicated and testing schedules dominate instruction, then it is difficult for staff to understand how to implement flexible options.
11. **Incorporate UDL into individual teacher plans for professional growth** to ensure that all teachers are developing the 21st century skills that are needed to prepare all students.

12. **Consider designating responsibility to a district staff position to coordinate an effort across school districts to establish a consortium** to better leverage funds to purchase accessible digital educational materials for all students.

**Recommendations for schools**

Educate all school staff and stakeholders that UDL is for every child—general education, special education, gifted and talented, and English language learners. To ensure buy in, everyone must understand that UDL principles are applied to the broader context of accessibility in learning for every student, not just students with disabilities. Therefore, UDL is not a special education initiative, but a philosophical approach for designing curriculum, shaping instruction, selecting instructional materials/technology and developing assessments that provide greater access to learning for all students. There is more to implementing UDL than what is observable in classrooms; planning, ongoing communication and the efficient sharing of strategies and resources are critically important. Implementing UDL in classrooms requires focused administrative support, clear goals and expectations, systems for accountability, as well as job-embedded professional learning opportunities built into the school schedule with time allocated for co-planning. School wide implementation is the ultimate goal but not the starting point. Systematic implementation should begin with a group of skilled educators who are natural leaders, who volunteer to receive training to implement UDL in their classrooms and in time coach others. UDL requires on-site coaching and mentoring that goes beyond awareness level training.

**To move UDL forward in Maryland, schools should...**

1. **Establish a UDL vision for your school with stakeholders**, including all staff (administrators, general and special education teachers, ESOL teachers, support staff, media specialists, technology, assistive technology, IT support and the community).

2. **Embed this UDL vision in the school improvement plan**.
3. Analyze current UDL teacher implementation, and create a professional development plan to build capacity using job-embedded professional learning.

4. Provide professional development regarding the identification of teaching barriers vs. learning barriers using a diagnostic problem-solving approach for individual students.

5. Provide opportunities to re-examine classroom configuration, the use of learning stations, small groupings, performance-based and project-based learning, and incorporating choices into teaching and learning.

   Inventory technologies and instructional materials that are currently available to teachers and ensure teachers have access to them to support UDL implementation (e.g., providing training on the use of technology in keeping with UDL guidelines, ensuring the technology is readily available (e.g., eliminating cumbersome procedures to access and use technology in classrooms.

6. Provide teachers opportunities in the master schedule to plan and share flexible lessons, collaborate across disciplines, and reflect on their practice.

7. Monitor classroom UDL implementation, provide teachers feedback, and ensure teachers receive on-site guided independent practice supported by mentoring/coaching and explicit feedback.

8. Principal observations should include UDL “look fors” for the following for the full range of learners in classrooms, including students with physical, cognitive and/or sensory disabilities, English language learners and gifted and talented students or those students who may be part of more than one of these groups of learners:
   - Curriculum materials presented in multiple formats
   - Students demonstrate skill and knowledge in multiple ways
   - Student tasks incorporate options to allow for a variety of student preferences and needs
   - Students using available classroom technology as a tool to learn and engage with the curriculum
9. Examine current school practices using UDL principles and guidelines as a bridge to learning at school and at home by:

- Providing information to parents on the benefits of UDL relative to the school improvement plan.
- Using web-based communication tools to digitally transfer homework assignments to and from school.
- Using web-based resource tools that are accessible to students at school and at home, and providing information to families on how to use these tools.
- Working with local public libraries to develop an inventory of tools and materials that are accessible to students with language barriers and/or physical, sensory, and cognitive disabilities.
Recommendations for Institutions of Higher Education

The potential for UDL to remove barriers to learning for all students extends to higher education. The student population of today’s colleges and universities is diverse, and that diversity includes different learning styles, preferences, and needs. Also, a number of students may have physical, cognitive or sensory disabilities, which may or may not be apparent. UDL can help institutions of higher education meet students’ learning needs and improve learning for all students. To advance UDL in Maryland’s institutions of higher learning, it is essential that colleges and universities build UDL into the mission and vision, obtain stakeholder buy-in, and recognize that UDL is a framework for learning that removes barriers without lowering standards. With professional development, support, and clear expectations for all teaching staff, Maryland’s institutions of higher education can create flexible learning environments that allow all students to thrive academically. This includes extending opportunities for individuals with intellectual disabilities to participate in higher education coursework as a result of models being developed under the Higher Education Opportunity Act.

To move UDL forward in Maryland, Institutions of Higher Education should...

Pending available funding sources, it would be helpful to create a Maryland Education System Center for UDL to support UDL in higher education and to take the leadership in creating a Web toolkit of UDL resources for higher education and Pre-k–12 schools.

Recommendations for ALL Faculty Members:

1. Ensure that all faculty understand that the principles of UDL should be a part of the initial curriculum design process, rather than a solution designed to retrofit. This includes that:
   - UDL is not an add-on but blends proactive curriculum design with inclusive instructional strategies to design courses that are useable by the widest range of learners from the outset.
• Instructors should be encouraged to use the Educators checklist available on cast.org as they consider their goals, materials, methods, and assessments to benefit a wide range of students to the greatest extent possible by using flexible options to deliver content and allowing for flexible options for expression and engagement.

2. Embed UDL into the vision and strategic planning for organizational practices and instructional design practices within the institution.

3. Encourage instructors to embed UDL principles in course syllabi and in the design and delivery of content and assessments. This can be initiated by offering opportunities for faculty professional development that support the application of UDL principles in the classroom. Examples include:
   • The ability to identify students with physical, sensory and cognitive disabilities.
   • Knowledge of accessibility and how to reduce learning barriers in instruction as it relates to reading, listening, comprehension, oral and written communication, executive functioning, and test taking.
   • The awareness of the importance of making texts and instructional materials available digitally.
   • The ability to design instruction that allows for flexible methods of presentation, expression, and engagement.
   • The effective use of technology in accordance with UDL principles to model the use of 21st century tools. Awareness of the Higher Education Opportunity Act, which addresses UDL, disability law, and options to increase accessibility (e.g., closed captioning, text to speech, web accessibility).

Recommendations Specific to Teacher Education Programs

4. Ensure that the UDL principles and guidelines are modeled in the coursework, planning, and delivery, for all teacher and administrator preparation programs. These principles should be included in both general and special education methods courses.

5. Encourage pre-service teachers to use the Educator Checklist found on cast.org as a framework for lesson and unit planning.
6. Consider adding the UDL guidelines to existing observation tool utilized by mentor teachers and university supervisors.
References
Appendixes

To be inserted after formatting is finalized:

1. Meeting agendas
2. Meeting notes,
3. Description of the work process (Lynn provided draft),
4. literature review