

## FEATURE ARTICLE

# DL GOALS: Providing Students Access to Disciplinary Literacy (DL) in NGSS-Aligned Classrooms

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In order for adolescent learners to access content in science classes, they must be proficient with general literacy skills, but also in discipline-specific skills, strategies, routines, and processes to make meaning of science text and communicate their understanding. Most students with learning disabilities (LD) need to be explicitly taught aspects of disciplinary literacy within the content classroom while they continue to develop general literacy skills (Faggella-Luby et al., 2012). Recent survey studies conducted by our research team indicate that science teachers may not be regularly teaching literacy at levels that support student learning in the secondary classroom let alone prepare students to meet literacy demands of college or career (Drew et al., 2017; Drew & Thomas, 2018). The pressure to address this gap falls on special educators who may be less prepared to support students with LD in science literacy instruction aligned to Next Generation Science Standards or NGSS (Drew et al., 2020). In this brief, we describe six goals of disciplinary literacy instruction (DL Goals) that emerged from our recent research so that we may support educators in meeting the literacy and learning needs of struggling adolescents within and beyond science class.

### Literacy Expectations in Science Class

Students who struggle with literacy in science class are often not meeting demands to become scientifically literate



(PISA, 2018). While many adolescents are struggling to meet expectations, students with LD face additional challenges in science class because there tends to be a mismatch between the level of science texts and students' independent reading levels (Seifert & Espin, 2012) in addition to struggles with working memory, processing speed, abstract language, discourse structures, vocabulary, and conceptual relationships (Kennedy & Isle, 2012). Literacy instruction in science needs to integrate both general and discipline-specific strategies simultaneously so that students with LD do not risk falling further behind (Faggella-Luby et al., 2012).

DL Goals reflect what we know about how students best learn science and simultaneously develop literacy in the disciplines, merging research bases from literacy, special education, and science education communities. The DL Goals reflect the synergy that exists between literacy and science such that educators can support students' development of both *fundamental* and *derived* science literacy (Drew & Thomas, 2018).

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The DL Goals also align to NGSS instruction, which highlights three-dimensional (3D) science learning including the acquisition of knowledge through disciplinary core ideas (DCIs), by using science and engineering practices (SEPs), and embedding crosscutting concepts (CCCs)—an integration of *fundamental* and *derived* science literacy. The three high-leverage SEPs that are most emphasized in 3D learning are developing models, constructing explanations, and engaging in argument from evidence because they integrate the remaining SEPs naturally as part of instruction to develop students' science knowledge, understandings, and processes; these practices can also be seamlessly integrated with Common Core literacy standards (Drew & Thomas, 2018). Integrating CCCs such as patterns, cause and effect, and systems/system models are a central instructional tool in 3D learning to develop students' thinking as they investigate complex science ideas. The DL Goals focus on reading, writing, and speaking to learn—rather than a reading only approach to disciplinary literacy instruction.

## Disciplinary Literacy (DL) Goals

The DL Goals reflect *what* to teach for literacy in science class as well as providing ideas for *how* to teach. The DL Goals were developed over a five-year period in partnership with special educators, literacy coaches, administrators, and science teachers along with a comprehensive literature review on supporting adolescent literacy for struggling learners. It is recommended that each DL goal is taught through explicit instruction embedded within NGSS-aligned meaningful science learning by directly sharing the literacy goal at the beginning of the lesson and referring to the goal throughout, using language that is direct and explicit, modeling the use of the literacy practice, and providing sufficient and varied opportunities for practicing the literacy strategy within the science context.

When working with teachers and students, we integrated instruction on all DL Goals through the Interactive Science Notebook. This notebook allowed students to use writing as a tool for learning. An offline notebook provided a physical location for doing the work of a scientist *before*, *during*, and *after* investigations (hypothesizing, modeling, observing, explaining, etc.). The notebook was not just a place to 'put stuff' in, but rather a location for students' active processing of science learning. For students, the notebook is a great place to brainstorm, set goals, and begin drafts of explanations and arguments. We also adapted the use of the notebook for digital use.

## Close Reading

Close reading in science involves deep reading and analyzing, interpreting, and evaluating a carefully selected complex text for the purpose of developing understanding of scientific vocabulary, concepts, theories, principles, or phenomena. Students respond to teacher- or student-developed questions in writing or discussion in various groupings (e.g. independently, in pairs, in small groups, or as a whole class). In science, there is less attention on the author's use of craft and language and more attention on how the author explains, uses evidence, and provides reasoning. Discipline-specific close reading includes a science-specific emphasis in which learners read across multiple texts to create an integrated and intertextual model of science phenomenon through a process of synthesis, evaluation, and resolution of conflicts across texts (Goldman et al., 2016).

Special educators can support students with close reading and can share instructional approaches with their science colleagues. Educators who participated in our studies supported students with the following approaches: repeated readings; providing guided prompts, cues, and text-dependent questions; teacher think-aloud and demonstration of effective close reading; collaborative conversations; and text coding or annotating. We developed a close reading protocol that students would include in their notebooks (*see Figure 1 on page 3*).

## Academic and Disciplinary Vocabulary

The focus of science vocabulary instruction is to teach learners how to link new vocabulary terms to developing conceptual understanding of disciplinary core ideas (DCIs). In NGSS-aligned 3D instruction, students are asked to first use everyday language to describe developing concepts and principles prior to formal vocabulary being introduced. It is most helpful for struggling learners to learn new vocabulary after they already have an initial understanding of the concept.

Instead of merely pre-teaching vocabulary terms, special educators can provide supplemental multidimensional learning experiences ahead of the science lesson through various audio, video, image (photos and/or diagrams) input explored through ample discussion and hands-on experiences of related or pre-requisite content. For example, students might collaboratively draw conceptual models and then add vocabulary as they learned terms through

## CLOSE READING NOTE TAKING SHEET

*Students will create this table in their Interactive Science Notebook any time they do the Close Reading Protocol.*

### **Purpose for reading:**

### **Unfamiliar words and definitions:**

**Specific words or phrases that jump out at them for any number of reasons: because they are interesting, familiar, strange, confusing, funny, troubling, difficult, etc.**

- *What can you already infer about the author of this text?*
- *How is the text structured?*
- *Does this structure make it easy or difficult to make meaning?*
- *Does this structure tell us anything about the author's style or purpose?*

### **Text Dependent Questions and Answers:**

### **Visual Image:**

### **Summary:**

Figure 1. Close Reading Protocol



investigations, readings, lectures, or discussion (Windschitl et al., 2018). See Figure 2, below, for an example. Students might also create interactive glossaries of new vocabulary including their own definition, a non-linguistic representation, a mnemonic or short phrase, and an expert definition from the teacher or text. These interactive glossaries can be done individually in hard copy science notebooks or online in a google doc or in a more collaborative and interactive format such as a JamBoard or Padlet or offline on a 3D bulletin board.

## Reading and Writing to Learn Strategies

General and discipline-specific reading and writing to learn strategies can be taught in tandem to support struggling adolescent learners (Faggella-Luby et al., 2012). This is similar but unique from close reading strategies because the approach here is to use reading and writing as a tool for learning. Teachers who participated in our studies supported students by teaching them strategies to activate prior knowledge, self-question, compare concepts, create models, summarize, and paraphrase through evidence-based approaches (Faggella-Luby & Deshler, 2008). We deliberately integrated reading and writing and emphasized writing to learn tasks because it required students to actively process their learning. Students used their science notebook to house both reading and writing to learn strategies and the notebook then became a record of student thinking across the unit.

One writing to learn strategy we used frequently in our studies was a summary table. After each lesson in a science unit, students recorded a summary in their notebook including what they observed, an explanation of data observations and patterns, and a rationale for how this new information informs and adds to their developing understanding of the anchoring phenomenon. As students complete their own summary tables, the teacher can keep a class summary table on a white board or chart paper in the room. See Figure 3, on page 5, for a class example. Students can then refer back to their summary tables when they are compiling evidence to use in final unit models and explanations.

## Reading and Writing for Authentic Discipline-Specific Purposes

In science class, students must use fundamental literacy skills to build derived literacy in ways that mimic the habits of thinking of disciplinary experts. NGSS-aligned instruction is more than just learning about science content, but rather having students figure out and explain complex natural phenomena with supporting evidence (Goldman et al., 2016). This requires a more sophisticated level of literacy than many adolescents with LD are able to integrate: reading multiple texts for specific purposes, taking information from various sources, resolving inconsistencies across texts, and synthesizing ideas to demonstrate their developing understanding (Goldman et al., 2016).

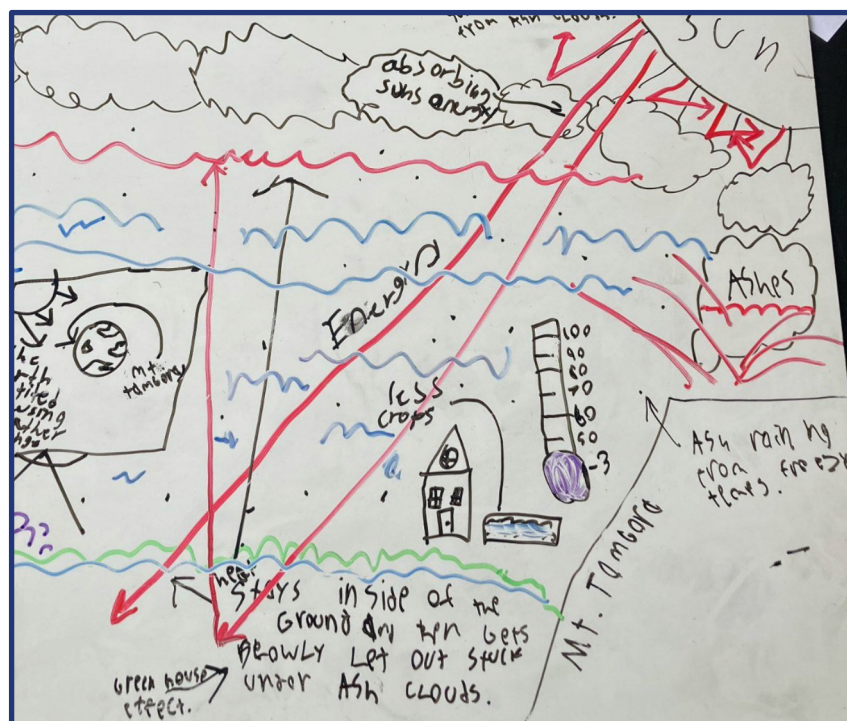


Figure 2. Mid-unit Student Conceptual Model

Lab	Claim(s)	Evidence (data)	Reasoning: How this claim, based on evidence, supports how the battery-powered lights work
1	The amount of charge that moves is current In order to be a current, there must be a complete loop of conducting parts which we call a circuit.	During the lab it showed that the charge slowly moves through the batteries and wires. Once it hits the lightbulb, it follows the shape of the wire inside the bulb. The charge is moving in a counterclockwise motion. When there are two batteries, the charge is moving faster through both the batteries and wires. Lightbulb shines brighter.	This supports how the battery power lights work because it shows that there must be a current moving from the batteries to the many different lightbulbs in the pack. It shows that with a Closed Circuit, the current can travel through the battery powered lights.
2	Increasing batteries increases the voltage within a circuit which makes the bulbs brighter	When there is only one battery, the voltage was 9. When there were two batteries connected the voltage was 18, and when they were three batteries the voltage is 27. This shows that as the number of batteries increases, the voltage will also increase.	This supports how battery powered lights work because with the more batteries that they have, the brighter the bulbs will be. This is because the batteries produced the voltage which powers the light, so when adding more batteries there will be a higher voltage and the lights will shine brighter.
3	The amount of current and the bulb brightness decrease when more bulbs are added to a circuit in a row.	During the experiment the voltage had of the battery remained at 12. When there was one lightbulb the current was 1.2. When there were two lightbulbs the current was at .60, and when there were three lightbulbs the current was at .40. This shows that as more lightbulbs were added the brightness of the bulbs decreased.	This supports how battery packs work because when more bulbs are added to the pack, the batteries will not have enough power to make all the lights shine to the brightest therefore as more bulbs are added to the circuit in a row, the bulb brightness will decrease.
4	When bulbs are put in a parallel circuit, the amount of force becomes divided for each loop that is created. So an added amount is needed to keep the bulb brightness the same.	During the lab the voltage of the battery remains at 12. When there was one lightbulb the current was 1.2. When there were two bulbs the current was at 2.4, and when they were three bulbs the current was at 3.6. The observations were that at all three numbers of bulbs, the lightbulbs appear to be shining very bright with long rays.	Because more charges required for each loop in the circuit and then added amount is needed to keep the ball brightness the same, this works for the battery powered lights because a higher charge from the battery is needed in order to travel through the circuit and reach all of the bulbs.
5	As voltage increases, the current also increases	During the lab, evidence that supports this claim is when the voltage is at 12 the current was at 1.2. When the voltage was at 44, the current was at 4.4 When the voltage was at 90 the current was at 9. As the voltage within the circuit increased the current also increased.	This shows how battery powered lights work because as the voltage from the batteries increases, the current in charge traveling to the bulbs from the circuit is going to increase as well. This helps provide the bulbs with a higher charge in order to shine.
6	As resistance increases, the current decreases.	Evidence of this is, during the experiment the voltage stayed at nine. The current started at .90 and the resistance was 10. When the current reached .64 the resistance was 14 and when the current was .53 the resistance was 17. This shows that as the current was decreasing the resistance was increasing.	This supports how battery powered lights work because if the current is being stopped by a resistor, the current is going to decrease. This is because the resistor is blocking part of the current from flowing through the circuit path. This means that the bulbs will not be getting a strong enough current to light the bulbs to their fullest.

Figure 3. Unit Summary Table

To support students in this work, incorporating related first-hand investigations with second-hand textual investigations was helpful because the first-hand investigations (data and observations gathered directly by students' experience) helped to build critical background knowledge and set a purpose for further reading. In each unit, students explored a research question related to the unit-level anchoring phenomenon. Readings were scaffolded to help develop and refine conceptual models and accompanying explanations of the phenomenon. Scaffolds varied and included teacher read and think-alouds, jigsaw readings with peers, reciprocal teaching, and the use of supporting diagrams, graphs, and infographics. Varied approaches were selected based on applicability to content and students' needs. Additionally, readings aligned with laboratory experiences to further support the purpose and knowledge contained in the readings.

## Science Genre

As mentioned above, the three high-leverage SEPs of the NGSS include modeling explanations, and argumentation. The goal of instruction in how to write the analytic genres of explanation and argument is to promote deep learning and enable learners to communicate findings to an authentic audience (Drew et al., 2017). General writing expectations are difficult for students with LD, making discipline-specific expectations even more daunting.

In our studies, we incorporated writing in these genres throughout the entire science unit. Students wrote

explanations paired with their initial conceptual/visual models of the anchoring unit phenomenon. For example, students were presented with the abnormal temperatures and weather events in many parts of the world during the summer of 1816. Learning opportunities allowed students to explore factors of weather and climate, energy from the Sun, the flow of energy in Earth's systems, and the eruption of Mount Tambora in 1815. An initial model was created and then students would then use each unit investigations to revise their models and explanations to provide stronger arguments as they learned more (*as in Figure 2*). Activities in the science notebook to support this work included collaborative writing, mini-lab reports, summary tables, and graphic organizers to outline claims-evidence-and reasoning within their writing (Windschitl et al., 2018).

## Evidence-based Discussion

A main focus of NGSS 3D instruction is to provide students with oral language skills to ask questions and engage in argumentation using evidence in small and whole group discussions. However, this is not a naturally developing skill for most students, including students with LD. It is important that science ideas are vetted and shared within communities; students need experience with this process of communicating their ideas in order to have them vetted, clarified, and extended by peers (Goldman et al., 2016). This process also helps students to practice communicating their science knowledge using discipline-specific language, which is easier for novice learners to do

first through speaking before writing (Wright & Gotwals, 2017). However, students with LD struggle to learn the norms of collaborative debate and need carefully structured, scaffolded, and explicit experiences in order to do so (De La Paz & Wissinger, 2017).

Special educators can support these discussions by teaching students “talk moves” such as asking for evidence or reasoning, agreeing or disagreeing with a rationale, adding on, or clarifying thinking (Chapin et al., 2009). In our work with teachers, we scheduled discussions prior to independent writing so that students had an opportunity to deepen their understanding and practice science language orally first. We provided ample time for students to record their new learning and reflections in the interactive science notebook after their discussions.

## Conclusion

Students with disabilities are less likely to go to college and even less likely to pursue science-related degrees (Newman et al., 2011; NSF, 2017). Therefore, it is imperative that special educators know how they can support students with LD in developing both *fundamental* and *derived* science literacy such that they may have increased opportunities to participate in STEM-driven 21st century careers and lives. This requires special educators to have an increased understanding of NGSS-pedagogy and how to integrate literacy as a pathway toward science learning. This brief provides an introduction to special educators on the ways they can support students in accessing and communicating science content through reading, writing, listening, and speaking in both *fundamental* and *derived* ways.

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**CEC** LOUISVILLE  
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Each year at the **CEC Convention & Expo**, thousands of special education professionals from around the world come together to learn, share, grow, and connect. With hundreds of sessions on just about every topic in the field, the CEC Convention & Expo is THE professional development event for special educators to

find research, tips, and strategies you can actually apply to supporting students with disabilities and/or gifts and talents.

Registration is now open! Early rates and best savings are available through October 26. <https://cecconvention.org/registration/rates>

# PRESIDENT'S MESSAGE

## Welcome Back!

I hope this message finds you relaxed, recharged, and ready to start the new school year whether as a k-12 educator or university faculty member. On behalf of myself and all DLD board members, we would like to extend a warm welcome and lots of good wishes to the start of a fabulous new year.

Over the past year, DLD has been working hard to provide valuable resources and tools that you can use in your professional role to improve the educational programs for students with learning disabilities. I hope that you become frequent visitors to DLD's website: [www.TeachingLD.org](http://www.TeachingLD.org) and follow us on Twitter [@TeachingLD](https://twitter.com/TeachingLD). We will continue to roll out and make available a variety of new resources as well as revisiting the vast array of existing DLD resources.

We recognize the significant challenges of providing specially designed instruction to students with learning disabilities in today's classroom. These challenges have always existed, but the recent disruptions caused by the



pandemic has further exasperated those challenges. Having worked in education for close to 30 years, I am confident that educators and faculty will rise to the challenge of meeting the learning needs of students with learning disabilities. DLD is here to help meet those challenges.

The DLD board is a fantastic team comprised of enthusiastic, creative, and dedicated people working together to improve the educational programs and lives of students with learning disabilities and their families. We are always looking for new members to join our team. Please feel to reach out to me directly at [pjr146@psu.edu](mailto:pjr146@psu.edu).

Respectively,  
**Paul J. Riccomini**  
*DLD President*

*Professor Special Education*  
*The Pennsylvania State University*

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## Digital Media Committee Update

The Division of Learning Disabilities (DLD) recently created a new committee. This committee, the Digital Media Committee, has recently begun its work. The Digital Media Committee has three objectives that will be rolled out across the next 2-3 years. First, the committee will increase DLD's social media footprint (this has already begun), specifically on Facebook and Twitter. Increasing social media visibility will allow DLD to share relevant information with DLD members, and with others in the educational community such as teachers and parents. Examples of items shared via social media include disseminating useful resources created by DLD's Research Committee such as "Practice Alerts" and "Tutorials", which summarize important and relevant topics such as interventions or current policies for students with LD, and/or dyslexia. DLD will also continue to use social media to request nominations / applications for upcoming yearly awards. DLD has numerous awards given each year at the CEC annual convention such as the Sam A. Kirk Award (for an outstanding article published in LDRP), or the Marva Collins Diversity Award (go to [www.teaching.ld.org](http://www.teaching.ld.org) for a complete list of yearly awards). We hope to increase applications for each of these award categories in the coming years in order to highlight the accomplishments of the teachers, graduate students, faculty members, and researchers who are members of DLD!

The second goal of the Digital Media Committee is to create a database containing a living record of all important recurring

information that DLD needs to be announced each year (awards, nominations, CEC convention and other important dates, etc.). By streamlining this information into an enduring database, future members of DLD leadership will have an organized record of what information should be shared to the broader community. The creation of this database is underway and progress is being made each week by collaborating with the chairs of each DLD committee. Another long-term goal of the committee is to create a strategic plan with the DLD Executive Board to decide how the DLD website can be updated and relevant for years to come.

The current Digital Media committee has five volunteer members. **Dr. Stephen Ciullo** (Texas State University) has agreed to serve as committee chair. The other volunteer members include **Sarah Gorsky King** (PhD student at UT Austin), **Dr. Valentina Contesse** (University of Florida), and **Dr. Tiffany Peltier** (NWEA Research).

Be sure to follow us and tag us with any information relevant to teaching or learning for students with LD!

Twitter: [@TeachingLD](https://twitter.com/TeachingLD)

Facebook: <https://www.facebook.com/Teaching-LD-Page-378085255883836/>

DLD Website: <https://www.teachingld.org/>



## DLD Members,

I am happy to provide the DLD membership with a few key updates regarding DLD Publications and Communications.

## Learning Disabilities Research and Practice

*Learning Disabilities Research and Practice* continues to enjoy status as a highly rated journal in Special Education: LDRP ranked 27/44 for Special Education journals and boasted an impact factor of 1.886 for 2021. We thank again Dr. Linda Mason for her work in 2021 as outgoing editor. In January 2022, we welcomed Dr. David Scanlon as new Editor of LDRP—we very much look forward to the continued growth and new directions that Dr. Scanlon brings.

## Publishing with LDRP

Remember that there are two major sections to LDRP: Research and Practice. Articles published within the research section are traditional research articles with a discussion section that emphasizes the practical applications of the research findings as well as theoretical interpretation of the findings. Articles published within the practice section tend to follow a more informal style with an emphasis on rich, detailed descriptions of programs and procedures, and implications.

According to our most recent publisher's report (2021), article downloads have trended upward by 32.6% since 2020, with approximately 80,000 full-text downloads in 2021. Google Scholar accounts for 30.5% of these downloads, followed by Institutions and Libraries (10.1%) and Google Search (6.2%). In 2021, the most downloaded article was *Explicit Instruction: Historical and Contemporary Contexts*, authored by Hughes et al., with 2,384 downloads. Congratulations!

## Open Access

Did you know that LDRP publishes open access articles? Authors affiliated with institutions who have “Transformational Agreements” with Wiley can publish open access without incurring the Article Publication Charge (APC). To date, Transformational Agreements are current with Iowa State University, Johns Hopkins University, Texas State University, US Department of Energy, Carnegie Mellon University, Carolina Consortium, VIVA, and the Statewide California Electronic Library Consortium (SCELC). This



translates to 104 US institutions whose affiliated authors can publish gold open access in LDRP.

If your institution does not have a transformational agreement, please check with your library to see if there is financial support for covering the open access APC. Many institutions support affiliated authors to publish open access—it may be worth checking out to expand the impact of your work.

## Kirk Awards

Next, congratulations are in order for the 2022 Kirk Award winners. The articles written by these author teams were recommended for their awards by our journal editor, and were formally selected by the Publications and Communications Committee.

Congratulations to the article winner for research: Losinski, M., Parks Ennis, R., Shaw, A., & Gage, N.A. (2021). Supporting students within an MTSS framework using SRSD fractions: Results of a regression discontinuity design. *Learning Disabilities Research & Practice*, 36, 213-223, <https://doi.org/10.1111/ldrp.12253>

Congratulations to the article winner for practice: Drew, S.V. & Thomas, J. (2021). Reframing literacy in the discipline of science with the disciplinary literacy observation tool. *Learning Disabilities Research and Practice*, 37, 64-79, <https://doi.org/10.1111/ldrp.12270>

These articles will enjoy open access for the next three years, so please share the links to download them widely.

## NewTimes for DLD has a new Editor and Co-Editor

Finally, I would like to take a moment to welcome the new Editorial team for this newsletter. Please join me in welcoming Dr. Abby Allen (Clemson University) as the new New Times for DLD Editor. Dr. Allen will serve as editor from 2022 to 2024. Also, join me in welcoming Ms. Reagan Mergen as Co-Editor. We are excited to see what this new editorial team brings to the newsletter.

Thank you for reading! If you have questions about DLD Publications or if you are interested in joining the Publications and Communications Committee, please reach out to me at [kbeach4@uncc.edu](mailto:kbeach4@uncc.edu).

Sincerely,  
**Kristen D. Beach**  
 Chair, Publications and Communications

## DLD Research Committee:

The DLD research committee is pleased to announce new and returning members of the committee. **Shawn Datchuk** who just completed his 2-year term has decided to stay on for a second term. The committee is also pleased to welcome two new committee members. Joining the committee for this upcoming year is **Dr. Ben Clarke** from the University of Oregon and **Dr. Chris Doabler** from the University of Texas Austin. We are excited to have both of these accomplished scholars that help round out the committee's expertise with

members that have a focus on mathematics instruction. Beyond serving as reviewers for the annual **John Wills Lloyd Outstanding Doctoral Research Award**, the committee continues to work on refining the new research to practice alerts that align with different IES practice guides. The next step in the process is putting together a peer review component that will facilitate collaboration with other committees from DLD.

**Michael Solis**  
*Chairperson, Research Committee*

## 2022 DLD Award Winners

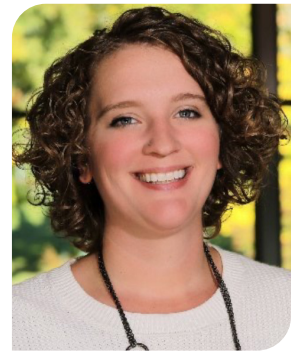
### Marva Collins Diversity Award: Ms. Ebony Ragoo

The Division for Learning Disabilities' Marva Collins Diversity Award honors a special education teacher who makes a significant impact in the education field of children and youths with learning disabilities who come from culturally and linguistically diverse backgrounds.



### John Wills Lloyd Outstanding Doctoral Research Award: Tasia Brafford

DLD's John Wills Lloyd Outstanding Doctoral Research Award recognizes excellence in doctoral research that contributes to the field of learning disabilities.



### Jeanette E. Fleishner Career Leadership Award: Charles A. MacArthur

The Division for Learning Disabilities' Jeanette Fleishner Career Leadership Award honors those who have advanced the field of learning disabilities through direct service, policy development, community service, research, or organizational leadership throughout their careers.



### Candace S. Bos Innovative Grant Award: Zainab Umar White

The Division for Learning Disabilities' (DLD) Bos Award is named after Candace S. Bos, a dedicated scholar who also served as president of DLD. These grants support doctoral students, teachers, and other pupil services personnel who provide services to students with learning disabilities as they develop creative projects to enhance instruction, curriculum, action research, and service delivery.

### Candace S. Bos Innovative Grant Award: Cassandra Smith

The Division for Learning Disabilities  
of the  
Council for Exceptional Children

We are pleased to present a  
Candace S. Bos Innovative Grant  
Award to



Zainab Umar White  
The University of Texas at Austin

For her proposal:  
Teachers' Knowledge of Early  
Reading Instruction: A Survey  
of Primary Grade Teachers in  
FCT Abuja, Nigeria



Congratulations to Zainab and  
her advisor, Dr. Jessica Toole

The Division for Learning Disabilities  
of the  
Council for Exceptional Children

We are pleased to present a  
Candace S. Bos Innovative Grant  
Award to



Cassandra Smith  
University of Missouri-Columbia

For her proposal:  
Effects of a CRAI Algebra  
Intervention on Solving  
Systems of Equations  
Performance for Secondary  
Students with LD



Congratulations to Cassandra and  
her advisor, Dr. Deliana van  
Goolbergen



## DLD Student Poster Session @ CEC

Each year, DLD hosts a student poster session during our reception at the CEC convention. It is a great opportunity for undergraduate and graduate students to present their work. A call for proposals will be published on the DLD website ([teachingld.org](http://teachingld.org)) in late fall. Send questions to **Erica Frye** at [fry.eric@utexas.edu](mailto:fry.eric@utexas.edu).

**Tessa L. Arsenault**, *The University of Texas at Austin*

### Phonological Awareness Skills: Comorbid Reading and Mathematics Difficulty

Frequently, individuals with comorbid reading and mathematics difficulty (RDMD) face more significant academic needs than individuals with reading difficulty (RD) or mathematics difficulty (MD) alone. One of the theorized factors playing a role in RDMD is phonemic awareness. In this poster, I review the results from a synthesis on the phonemic awareness profiles exhibited by individuals with RDMD, individuals with MD, and individuals with RD. I reviewed 14 studies to examine the differences in phonemic awareness profiles across typically developing (TD) individuals, individuals with MD, individuals with RD, and individuals with RDMD. Individuals with RDMD, in contrast to individuals with MD and RD alone, exhibited higher rates of phonemic awareness difficulty compared to TD individuals. Individuals with RDMD often demonstrated more severe phonemic awareness needs than individuals with MD, but rarely exhibited more severe phonemic awareness needs than individuals with RD. These trends appeared small across studies, so caution must be taken when interpreting the results.



**Reagan L. Mergen, M.S.**, *George Mason University*

### Self-Regulated Strategy Instruction in Mathematics for Students with LD: A Systematic Review of Literature

This systematic literature review seeks to explore existing research on the impact of self-regulated learning instruction in mathematics on the academic achievement of students with learning disabilities in K-12 education. A search was conducted to identify intervention studies conducted from 1990–2021 targeting mathematics instruction paired with self-regulated learning (SRL) instruction for students with learning disabilities. The results of the search were 87 items from which 12 studies (10 peer-reviewed journal articles and 2 doctoral dissertations) met inclusion criteria and were incorporated in the final synthesis. Findings indicate SRL instruction can be an effective component of successful mathematics instruction, however more research is needed to evaluate the effects and the impact of various components of SRL instruction as well as how these components are integrated into mathematics interventions.



**Christina Novelli & Peter Robertson**, *University of Georgia*

### Questions Before Passage, Not the Right Message?

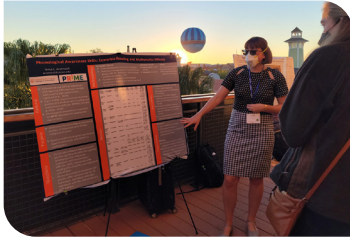
This poster examined the accuracy and efficiency of the test-taking behaviors students engage in while taking reading comprehension tests. We review the literature on the test-taking strategies often recommended by teachers that are sometimes beneficial but often detrimental to students' performance. We will also present findings from an eye-tracking study that explored the test taking behaviors of students as they read and responded to multiple choice questions.



2022 Presenters: Left to Right, Christina Novelli, Peter Robertson, Tessa L. Arsenault, and Reagan L. Mergen, M.S.



## Call for Student Posters!



**Division for Learning Disabilities Annual Convention of the Council for Exceptional Children March 1-4, 2023 – Louisville, KY.** DLD sponsors special competitions for students to present their research during the DLD's reception at the annual meeting of the Council for Exceptional Children. Initiated in 2006 by then student representative Catherine A. Griffith, these sessions have become a regular feature at DLD receptions. They provide an opportunity for students to present research to a large body of interested visitors including many eminent scholars in the area of learning disabilities. This year, our student poster session is going virtual!

You can find the proposal guidelines at the link below. Submissions are due **October 14th!**

<https://www.teachingld.org/call-for-student-posters/>

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## John Wills Lloyd Outstanding Doctoral-Level Research Award

The Division for Learning Disabilities (DLD) of the Council for Exceptional Children (CEC) announces its annual competition for John Wills Lloyd Outstanding Doctoral Research Award. The purposes of the award are to encourage excellence in doctoral level research and to recognize quality research that contributes to the field of learning disabilities.

### The award consists of

- A \$500 cash award,
- Up to an additional \$500 for travel to receive the award at the CEC Annual Convention,
- Free one-year membership in CEC and DLD,
- An opportunity to present the research at the CEC Annual Convention, and
- An invitation to submit the research in the Division journal, *Learning Disabilities Research & Practice*.

### Timeline

Applications for the award must be received no later than **October 15** of each year. The recipient will be selected and notified by **December 15** of each year.

### Eligibility

The competition is open to individuals (self-nominations are appropriate) who have received (a) approval by the dissertation committee of the final written form of the dissertation or (b) the doctoral degree during the two-year period preceding 15 October of each application year.

Eligibility will be verified through the applicant's degree-granting institution to protect all applicants, the universities, and DLD. These criteria are for the purpose of eligibility and do not indicate that the submitted research must be a student's dissertation; students are welcome to submit other studies that they have conducted during the period when they are eligible. Only submit one application per person.

The award recognizes doctoral students who have focused their research on learning disabilities or who have conducted related research having clear implications for the field of learning disabilities. Studies employing any research methods (e.g., experimental, ethnographic, historical, or survey) appropriate to research questions related to learning disabilities are appropriate.

### Application

Each applicant must submit documentation including:

- An appropriate title page including the dissertation title, author, date of dissertation, approval or awarding of degree, degree-granting institution, name and dissertation committee chair, and applicant's current address and phone number;
- An abstract, not to exceed 150 words [as an attachment in Rich Text Format (.rtf), Microsoft Word format (.doc or docx), or portable document format (.pdf);
- A manuscript not to exceed 25 pages (not including tables, figures and references) outlining and summarizing the research, using APA guidelines. Manuscripts submitted for this competition may already have been submitted or accepted for publication. If submitted or accepted, appropriate publication information must be provided (submit this manuscript in .rtf, .doc or .docx, or .pdf format); and
- Because duplicate file names can be confused, please clearly name each file with the applicant's name, application year, and identity of the file and without spaces; for example, Cruickshank\_2013\_manuscript.pdf or Kirk2013abstract.docx.

### Send applications to DLD Research Committee Chair:

Dr. Michael Solis at [michael.solis@ucr.edu](mailto:michael.solis@ucr.edu). Email response will be sent upon receipt.

## Federal Policy-Making Award

The Federal Policy-Making Award recognizes a policy-maker who has made significant contributions to policies that promote provision of services for individuals with learning disabilities. As many as three awards can be given annually. The nominator of an individual for this award must be a member of DLD.

### The award consists of

- A commemorative plaque.

Nominations are due **October 15** annually.

Applications and information at:

<https://www.teachingld.org/about-us/awards-and-grants/>

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## Jeannette Fleischner Career Leadership Award

The Division for Learning Disabilities' Jeannette Fleischner Career Leadership Award honors those who have advanced the field of learning disabilities through direct service, policy development, community service, research, or organizational leadership throughout their careers. Up to three awards may be given annually to recognize a variety of types of contributions. Nominators must be members of DLD.

### The award consists of

- A \$500 stipend,
- Up to \$500 in travel expenses for presentation of the award held at DLD's business meeting during CEC's annual convention, and
- A commemorative plaque.

Nominations are due **October 15** annually.

Applications and information at:

<https://www.teachingld.org/about-us/awards-and-grants/>

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## Marva Collins Diversity Award

The Division for Learning Disabilities' Marva Collins Diversity Award honors a special education teacher who makes a significant impact in the education field of children and youths with learning disabilities who come from culturally and linguistically diverse backgrounds. Nominators must be members of DLD.

### The award consists of

- A \$200 stipend,
- Up to \$500 in travel expenses for presentation of the award held at DLD's business meeting during CEC's annual convention, and
- A commemorative plaque.

Nominations are due **October 15** annually.

Applications and information at:

<https://www.teachingld.org/about-us/awards-and-grants/>

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## Outstanding Educator of the Year Award

The Division for Learning Disabilities' Outstanding Educator-of-the-Year Awards recognize outstanding professionals who serve students with specific learning disabilities. Nominees may be special educators, general educators, administrators, or other educators who have spent at least five years serving students with learning disabilities at any grade level.

### The award consists of

- A \$500 stipend,
- Up to \$500 in travel expenses for presentation of the award held at DLD's business meeting during CEC's annual convention, and
- A commemorative plaque.

Applications are due **October 15** annually.

Applications and information at:

<https://www.teachingld.org/about-us/awards-and-grants/>

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## Candace S. Bos Innovative Project Grant

The Division for Learning Disabilities' (DLD) Bos Award is named after Candace S. Bos, a dedicated scholar who also served as president of DLD. These grants support doctoral students, teachers, and other pupil services personnel who provide services to students with learning disabilities as they develop creative projects to enhance instruction, curriculum, action research, and service delivery. DLD allots a total of \$5,000 yearly, funding individual projects from \$100 to \$1,000. Applicants must be members of DLD.

Applications are due **October 15** annually.

Applications and information at:

<https://www.teachingld.org/about-us/awards-and-grants/>

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## Regional Conference Loan Application

The Division for Learning Disabilities (DLD) of the Council for Exceptional Children encourages consortia composed of two to seven subdivisions of the DLD to sponsor conferences cooperatively as a means of disseminating information about educational practices that affect DLD members. A host subdivision should be identified, and the host subdivision will assume the leadership for the conference.

### Guidelines

- DLD loans up to \$5,000.
- Regional conferences can be scheduled at any time of the year except one month preceding or one month following the CEC Convention.
- DLD will support only one regional conference per fiscal year (Jul-Jun).
- DLD will provide technical assistance through the Professional Development, Standards, and Ethics Committee.
- Information disseminated about practices should be based on empirical research or identified to the audience as not being validated.
- After expenses are paid, any additional monies will be divided equally between DLD and each of the consortium members.

### Timeline

Applications will be accepted on a rolling basis. Please submit inquiries and completed proposals to [ProfDev@TeachingLD.org](mailto:ProfDev@TeachingLD.org)

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## Subdivision Conference Loan Application

The Division for Learning Disabilities (DLD) of the Council for Exceptional Children will provide loans to help subdivisions sponsor conferences to disseminate information about educational practices that affect members of DLD and other educators. A total of \$5,000 per year has been allocated by DLD for loans to support subdivision conferences.

Applications will be accepted on a rolling basis. Please submit inquiries and completed proposals to [ProfDev@TeachingLD.org](mailto:ProfDev@TeachingLD.org)



## Subdivision Contact Info

Several jurisdictions have active DLD subdivisions. Many of these organizations have conferences and other activities for teachers. All subdivisions can provide more information about learning disabilities at the state, province, or local level. Please contact the representatives listed below for more information. If you are a DLD member and are interested in forming a subdivision in your state, contact DLD's Membership chair.

ILLINOIS – Elizabeth Mackie  
[Illinois@TeachingLD.org](mailto:Illinois@TeachingLD.org)

NEW JERSEY – Marie Segal  
[NewJersey@TeachingLD.org](mailto:NewJersey@TeachingLD.org)

NEW YORK – Shannon Budin  
[NewYork@TeachingLD.org](mailto:NewYork@TeachingLD.org)

ONTARIO – Diane Vandenbossche  
[Ontario@TeachingLD.org](mailto:Ontario@TeachingLD.org)

WISCONSIN – Jackie Blumberg  
[Wisconsin@TeachingLD.org](mailto:Wisconsin@TeachingLD.org)

FLORIDA – Diana Morales  
[Florida@TeachingLD.org](mailto:Florida@TeachingLD.org)

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