

# OFFICE OF PROFESSIONAL LEARNING



## — December 2024 Education Bulletin —

Welcome to the December 2024 edition of the **Luzerne Intermediate Unit (LIU) Office of Professional Learning's (OPL)** monthly education bulletin.

The intent of this communication is to provide subscribers with:

- Professional learning opportunities offered by our department,
- Provide school leaders with educational policy support, and
- Provide tips for practicing educators.

This special edition of the OPL Education Bulletin is part II of a three part series dedicated to all of the teachers that teach mathematics in grades K—5. We hope this issue gives you a few ideas to dig into to improve your practices.

Don't forget to  
subscribe to the  
OPL Education  
Bulletin!!!



Scan w/ a smart phone

## WHY ELEMENTARY MATH? - PART II

### *MATH TEACHING PEDAGOGY - INTERLEAVED PRACTICE*

Student assessment data reveals areas where instruction can benefit from incorporating research-based practices. While many factors contribute to a student's mathematical struggles, many of these lie beyond a teacher's control. A focus on specific, effective instructional practice is within their purview. The following strategies can significantly enhance mathematics instruction.



- **Part I: Student Readiness using the Instructional Hierarchy Framework**
- **Part II: Interleaved Mathematical Practice**
- **Part III: Solving "Word Problems" using Schema-Based Instruction in Lieu of Keywords**
- **Part IV: Student Mimicking versus Student Thinking**

Part I of this series focused on a long-tested model referred to as the "Instructional Hierarchy". In this edition, the focal instructional technique is the concept of "Interleaved Mathematical Practice" in K-5 Mathematics. Interleaved Mathematical Practice in K-5 Mathematics is an instructional approach where practice problems from different topics or concepts are mixed together, ensuring that consecutive problems are solved using different strategies. This method requires students to choose appropriate problem-solving strategies based on each individual problem, rather than relying on a single strategy for a block of similar problems.



## INTERLEAVED PRACTICE

### *BLOCK PRACTICE VERSUS INTERLEAVED PRACTICE*

Block practice in mathematics is an instructional approach where students work on a series of problems that all practice the same strategy or concept before moving on to a different type of problem. While this strategy is a great way to build proficiency on a new skill, it does not afford the student the opportunity to choose among varied strategies needed to solve problems—especially problems that are multi-step. Teaching topic “A” and asking the students to practice “A” is a common lesson format in most math textbooks. For example, kids learn skill A in section 3.1, practice skill A at the conclusion of the section, and then move onto learning and practicing skill B in the next section of the text. There is a better way...

Once students evolve beyond the “acquisition stage” of the Hierarchy of Learning (see November 2024 edition), they have additional “cognitive space” where they can practice choosing between different strategies required by different problems. For example, mixing previously learned topic A, addition of fractions with unlike denominators, and new skill topic B, multiplication of fractions with unlike denominators, as they practice topic B. Here students are asked to quickly switch different solution strategies allowing more opportunities to observe the similarities and differences in the strategies to solve each problem type. An extreme version of this is often referred to a spiral approach. Practice in this format asks students to access recall from both working and long-term memories with the eventual goal of greater permanence of recall.

## PAST OPL BULLETINS

### *WHERE CAN I FIND THEM?*

All prior OPL Education Bulletins can be found on our LIU website. Our website address is [www.liu18.org](http://www.liu18.org). From here, select “District Services” under the “Departments” dropdown. This space will provide you with information about our professional group. Select the “Office of Professional Learning” and then head down the page to “OPL Education Bulletin”. Prior to doing so, feel free to look around any of the other informational items on this page like Assistive Technology, Career Development, the Guest Teacher Program and many more. See you next month.

#### OPL Education Bulletin



#### ***Assistant Directors***

Dr. Rich Mackrell

[rmackrell@liu18.org](mailto:rmackrell@liu18.org)

(570)991-1121

Dr. Jessica Jacobs

[jjacobs@liu18.org](mailto:jjacobs@liu18.org)

(570)718-4631

*If you wish to have further monthly bulletins delivered to your inbox via email...*



**Subscribe**

