The Flexibility Formula: PK-6 Mathematics Professional Learning for Iowa Schools

Format: Blended (Asynchronous + Live via Zoom)

Asynchronous virtual courses: PK-2, 3-6, Coaching Courses (Optional but highly encouraged)

- Courses: The Flexibility Formula: PK-2 Course, 3-6 Course, Coaching Course
- Audience: PK–6 Educators (who teach mathematics) and Interventionists, Instructional Coaches and Leaders (who support mathematics)
    - PK-2 educators take the PK-2 course
    - 3-6 educators take the 3-6 course
    - PK-6 educators take both the PK-2 and 3-6 courses
    - Coaches and Leaders should take the grade levels they support and additionally take the coaching course.
- Time: 10+ hours of online content per course

2026 - 2027 Synchronous virtual sessions: Making Connections (Optional but highly encouraged)

- Purpose: To support the successful implementation of The Flexibility Formula and answer questions
- Audience: Coaches and Leaders
- Provided by: DE mathematics consultants
- Time: 7 sessions at 1 hour each for educators, spread out throughout the school year
    - 8:30–9:30 am for educators/coaches/leaders.
    - Second Tuesday of each month

If you are a CSI school, please use the version of this document that Mickolyn Clapper and Sarah Seney have provided to your district.

Synchronized sessions are not required to take advantage of the Asynchronous courses.

Educators can still participate in the professional learning, even if it is not a building- or district-wide initiative, but it is strongly encouraged.

We will send access links to participants who register: Participant Request for Mathematics Professional Development for Grades K-6 in SY 26-27

Course resources—including the structure, files, and videos—are intended solely for use by Iowa educators within Iowa schools. Any distribution or use outside this context is strictly prohibited.

The Flexibility Formula PK-6 Synchronous Sessions

- Sessions are designed to support instructional leaders in the successful implementation of the Flexibility Formula.
- All live Zoom sessions will be held from 8:30–9:30 a.m. on the second Tuesday of each month on the following dates:
    - September 21, 2026
    - October 19, 2026
    - November 16, 2026
    - December 21, 2026
    - January 19, 2027
    - February 15, 2027
    - March 15, 2027
    - April 19, 2027
    - May 17, 2027

- Zoom link: https://IDOE.zoom.us/j/8898480359
- Relicensure Credit - The Flexibility Formula (PK-2nd), and (3rd-6th), see page 10 for additional information.

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Flexibility Formula PK-2nd Viewing Times

Module 0 - Welcome & Overview

These four videos provide an overview of the concepts. These videos are the same for BOTH the PK-2 and 3-6 courses, so if you watch them in one, you do not need to watch them in the other. There are four files, and the module has a total run time of 44 minutes.

Min/Sec	Session
15:25	Iowa, Welcome to the Flexibility Formula
18:59	Why Focus on Flexibility?
04:50	Understanding & Observing
05:40	Connecting & Experiencing

Module 1 - Understanding

Build your understanding of the eight essential number sense concepts in PreK-2nd grade, with each examined individually while highlighting their practical integration. There are 10 files, and the module has a total runtime of 2 hours and 28 minutes.

Min/Sec	Session
20:41	Snapshot of Understanding
11:09	Understand Versus Doing Math
19:22	Subitizing
17:25	Verbal Counting
21:07	Object Counting & Cardinality
12:37	Spatial Relationships
13:00	One/Two More & Less
15:38	Benchmarks
16:28	Part-Part-Whole
01:24	Final Thoughts on Understanding

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Module 2 - Observing

Module 2 focuses on the importance of observing students to gain insights into their learning processes rather than relying solely on assessments. There are five files, and the module has a total runtime of 1 hour and 32 minutes.

Min/Sec	Session
15:53	Snapshot of Observing
18:36	How to Observe the 4 Early Number Concepts
21:56	How to Observe the 4 Number Relationships
32:45	Observing PK-2 Students in Action
03:31	Final Thoughts on Observing

Module 3 - Connecting

Explore the interconnectedness of the 8 Number Sense Concepts within themselves, broader math principles and your students' lives outside of school, emphasizing a holistic approach to teaching mathematics. There are five files, and the module has a total runtime of 1 hour and 16 minutes.

Min/Sec	Session
19:57	Snapshot of Connecting
22:29	Connecting the Number Concepts
28:33	Connecting to Other Math Concepts
02:51	Connecting Number Concepts to Home
02:44	Final Thoughts on Connecting

Module 4 - Experiencing

Discover three key types of mathematical experiences supported by research, along with additional resources to enrich traditional lessons. There are seven files, and the module has a total runtime of 2 hours and 9 minutes.

Min/Sec	Session
04:26	Snapshot of Experiencing
25:00	Three Experiences Students Should Have in Math
20:11	Number Sense Routines

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Min/Sec	Session
26:15	Contextual Problems
23:04	Practice
16:16	Modifying Textbook Lessons
14:08	Final Thoughts on Experiencing

Implementation Bonuses

These bonuses help you implement the ideas shared throughout the course. There are eight files, and the module has a total runtime of 1 hour and 43 minutes.

Min/Sec	Session
13:11	Creating Visuals for 3rd-6th
28:32	StraDDegy
06:49	Number Routine: The Count Routine
16:25	Number Routine: Disappearing Act
12:42	Number Routine: Number Lines
09:35	Contextual Problems: Numberless Word
05:18	Games: Bingo
10:31	Games: Difference To ___

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Flexibility Formula 3rd-6th Viewing Times

Module 0 - Welcome & Overview*

These four videos provide an overview of the concepts. These videos are the same for both the PK-2 and 3-6 courses, so if you watch them in one, you do not need to watch them in the other. There are four files, and the module has a total runtime of 44 minutes.

Min/Sec	Session
15:25	Iowa, Welcome to the Flexibility Formula*
18:59	Why Focus on Flexibility?*
04:50	Understanding & Observing*
05:40	Connecting & Experiencing*

Module 1 - Understanding

Build your understanding of the eight essential number sense concepts in PreK-2nd grade, with each examined individually while highlighting their practical integration. There are ten files, and the module has a total runtime of 3 hours and 18 minutes.

Min/Sec	Session
23:04	Snapshot of Understanding
10:40	Understand Versus Doing Math
30:29	Understanding Subitizing
23:47	Understanding Verbal Counting
25:51	Understanding Object Counting & Cardinality
12:59	Understanding Spatial Relationships
19:29	Understanding One/Two More & Less
21:13	Understanding Benchmarks
29:44	Understanding Part-Part-Whole
01:24	Final Thoughts on Understanding*

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Module 2 - Observing

Module 2 focuses on the importance of observing students to gain insights into their learning processes rather than relying solely on assessments. There are five files, and the module has a total runtime of 1 hour and 27 minutes.

Min/Sec	Session
15:53	Snapshot of Observing*
13:48	Observing the 4 Early Numeracy Concepts
16:55	Observing Number Relationships
37:47	Observing Students
03:31	Final Thoughts on Observing*

Module 3 - Connecting

Explore the interconnectedness of the 8 Number Sense Concepts within themselves, broader math principles and your students' lives outside of school, emphasizing a holistic approach to teaching mathematics. There are five files, and the module has a total runtime of 1 hour and 16 minutes.

Min/Sec	Session
19:57	Snapshot of Connecting*
31:59	Connecting the Number Concepts
19:13	Connecting to Other Math Concepts
02:51	Connecting Number Concepts to Home*
02:44	Final Thoughts on Connecting*

Module 4 - Experiencing

Discover three key types of mathematical experiences supported by research, along with additional resources to enrich traditional lessons. There are seven files, and the module has a total runtime of 2 hours and 16 minutes.

Min/Sec	Session
04:26	Snapshot of Experiencing*
25:00	Three Experiences Students Should Have in Math*
25:04	Number Sense Routines

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Min/Sec	Session
31:23	Contextual Problems
20:40	Math Practice that Builds Number Sense
16:16	Modifying Textbook Lessons*
14:08	Final Thoughts on Experiencing*

Implementation Bonuses

These bonuses help you implement the ideas shared throughout the course. There are seven files, and the module has a total runtime of 1 hour and 15 minutes.

Min/Sec	Session
14:32	Creating Visuals for 3rd-6th*
06:49	Number Routine: The Count Routine*
16:25	Number Routine: Disappearing Act*
12:42	Number Routine: Number Lines*
09:35	Contextual Problems: Numberless Word*
05:18	Games: Bingo*
10:31	Games: Difference To ___*

*Denotes sessions that are repeated from the PK-2 course. This means that educators do not necessarily view them again, but they may want to for review. Christina will add items to support 6th grade.

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Relicensure Credit

Course Description

The Flexibility Formula for PK-2nd and 3rd-6th provides an opportunity to learn the foundation of counting in a way that is not just memorizing the sequence of numbers. PK-1st-grade educators will learn how to help children build connections between numbers as they learn to count. Topics will include developing counting with an eye toward building number sense, pitfalls of learning to count, observing students, subitizing, and counting up to 100.
Click here for the syllabus for PK-2nd Grade.
Click here for the syllabus for 3rd-6th Grade.

Course Objectives

Upon completion of this training, you should be able to:

- Understand how flexibility when operating with numbers impacts student achievement.
- Model and infuse instructional strategies that promote flexibility when operating with numbers for students in their learning.

Relicensure Credit Requirements

Unit Reflections

- Submit one reflection per module.
- Each reflection should be approximately one double-spaced page.
- Focus on:
    - Describe what you learned from the module.
    - Explain what you would share with a colleague.
    - Reflect on how this learning will influence your professional practice moving forward.

Overall Reflection Paper

- Submit a comprehensive 2-page, double-spaced reflection.
- Summarize your overall learning from the course.

Here is how to register for the credit:

- Go to the AEA Online Learning System
- Login
- Search for “Building Math Minds”
- Find and select "Register" for the grade span

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