Establishing an Equitable Classroom Culture: An Introduction to Complex Instruction for Science Teachers

Through this Knowles Academy course, teachers will be introduced to Complex Instruction, an instructional strategy that emerged from the field of mathematics education. Complex Instruction promotes an equitable classroom culture through the development of high cognitive demand tasks that allow students of all abilities to contribute, group work structures and teacher moves that disrupt traditional participation patterns, and techniques that help teachers develop classroom norms that promote participation and learning for all students.

Calls for student-centered classrooms that provide opportunities for students to engage in both the practices and content of science often require students to work together in groups. But group work by itself is far from a silver bullet. How do you develop tasks that are worth having students do together? How do you keep kids actually working together rather than socializing or simply working alone next to one another? Why does it seem like one student is doing most of the work? And why does group work seem to work well for some kids but not others? Complex Instruction (CI)—an instructional strategy that emerged in mathematics education—is a research-based strategy for disrupting some of the common pitfalls of traditional group work while engaging students in rigorous content. Knowles has adapted this strategy for science classrooms.

This sustained professional development course is designed for teachers who seek to promote equity in their science classrooms. Initiated by a three-day, in-person workshop—and supplemented with a one-day, closing workshop—this course will provide teachers with the opportunity to become familiar with and experience CI, plan lessons using CI, and receive weekly coaching and support as they implement components of CI in their classrooms.

Course Objectives:
- Identify the components of Complex Instruction (CI) and develop specific plans for implementing components of CI in their classroom
- Use participation quizzes, role interventions, and status treatments to disrupt traditional participation patterns
- Develop instructional tasks that use the multiple abilities treatment
- Redefine what it means to be “smart” in your classroom
- Hold all students’ accountable for group participation and intellectual contributions
- Plan, enact, collect data, and reflect on lessons that use Complex Instruction

Date: July 23–25, 2018; September 29, 2018
Time: 8:30 am - 4:30 pm (coffee and lunch provided)
Location: Moorestown, NJ
Price: $50 ($800 value)

Optional Graduate Course Credit Available - Additional Fees Apply

“The opportunity to learn about equity was incredibly valuable in supporting my thinking on a deeper level and giving me strategies to support and analyze equity/access in my classroom.”

Carly Brown, Earth Science Teacher, Harwood Union High School, Moretown, VT
Agenda:
Teachers will receive ongoing coaching that is initiated by a three-day, in-person workshop and concluded by a one-day, in-person workshop.

Day 1: Introduction to Complex Instruction
- Explore the key differences between the strategies employed in Complex Instruction and in traditional classrooms
- Develop actionable norms for classrooms
- Experience a Complex Instruction task
- Define smart(s) in class

Day 2: Engage in a Complex Instruction Lesson
- Shift perceptions of students’ status in your classroom
- Develop an understanding of the role of inclusive tasks, group work norms, and the impact of status
- Modify lessons to support CI

Day 3: Develop Lessons with Components of Complex Instruction
- Design a lesson that incorporates the components of Complex Instruction, including:
  - using inclusive curriculum,
  - supporting the use of actionable norms, and
  - using actions to address status
- Provide and get feedback on the developing lesson
- Plan for implementation

Day 4: Refine Your Complex Instruction Practice
- Analyze data collected from implementation of components of CI
- Using the above analysis, consider the implications of the enacted instruction—what have I learned about implementing CI and what have I learned about my students’ engagement and learning?
- Develop “next steps”
  - Modify/develop a group worthy/ conversation worthy task
  - Include opportunities for students to demonstrate the use of actionable norms
  - Include components to promote the shifting of status
  - Include strategies to hold all students accountable

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The Knowles Teacher Initiative supports the efforts of high school mathematics and science teachers to improve education in their classrooms and beyond. We are committed to supporting a national network of mathematics and science teachers in developing as leaders and collaborators, facilitating exploration and innovation and ultimately improving mathematics and science education in the U.S. Visit www.knowlesteachers.org to learn more.

All Knowles Academy courses can be customized to meet the specific needs of schools and districts. For more information, visit www.knowlesteachers.org/knowles-academy.