

The Knowles Academy: Professional Growth for Seasoned Teachers

The support that new teachers need when they start their careers is well-documented and the Knowles Teacher Initiative has answered this need for its Teaching Fellows for almost two decades. But what about experienced teachers who grow into seasoned veterans in their classrooms? Once they establish effective routines and become comfortable in their classrooms, what help can be given to them to stay current in the field as their school contexts and students' needs evolve, as well as teaching standards? The **Knowles Academy** responds to this need, providing opportunities for seasoned math and science teachers to keep growing even after they become established career teachers. Academy courses are intentionally designed to meet challenges faced by veteran teachers including avoiding comfortable complacency in routines, maximizing opportunities for diverse students, and evolving curriculum areas.

Fighting against stagnation.

Teachers are already experts in efficiency, making swift use of every day in the school year, every minute in class, and every hour spent grading. Teachers are constantly balancing a vast array of responsibilities and meeting tough deadlines. It makes sense that teachers settle into efficient routines, that they get in their own groove, and that they stay there. But those routines and the various efficient lessons that they develop can hinder opportunities for responding to evolving student needs, including a dynamic post-secondary world. These routines can also hinder intellectual growth for teachers themselves. Knowles Academy courses help teachers reexamine their routines to ensure that they are maximizing student learning opportunities without losing sight of the realities of teachers' work. For instance, the Knowles Academy offers two courses on increasing the complexity of **math** and **science tasks** that help teachers reach new levels of depth in cognitive demand for student learning.

Prioritizing the needs of diverse students.

The Knowles Academy offers a range of courses to augment and stretch teachers' instructional practices so they can maximize their impact on today's increasingly diverse classrooms. Teaching for a more equitable future means that all students, from remedial to advanced, must be provided with opportunities to aim high, to develop advanced reasoning skills, and to be prepared for post-secondary

education. It is paramount that teachers adapt their teaching strategies and adjust to the needs of their students to close the gaps in achievement that might otherwise persist. The Knowles Academy offers courses to support teachers in doing just that. For example, the Academy course on establishing an equitable classroom culture uses ideas from Complex Instruction to support teachers in establishing a classroom organization system and norms that value each student and their contributions.

Changing practices to stay current in society.

Teachers must strike a balance between disciplinary core content and an accelerating technological society in which automation, computer assistance, and virtual communication are the new normal. For instance, consider how advances in genome sequencing have changed the discipline of biology in the last 20 years. All scientific disciplines are evolving rapidly, and technology and engineering play a significant role in the speed of that evolution. Teachers need to be trained to adjust their teaching to accommodate this disciplinary evolution. Changes in teaching expectations towards more STEM integrated-curriculum and more advanced technology reflect shifts in our national workforce needs—the dearth of individuals entering the workforce prepared for working in the 21st century demonstrates that teachers need to catch up to our society’s advancing needs. The Knowles Academy’s courses help keep teachers up to date by providing them tools to grapple with modern needs. The Academy course, [Engaging Math and Science Students in Engineering Design](#), helps teachers navigate how to incorporate engineering design into mathematics and science instruction to accommodate the evolved demands of STEM instruction. Another course, [Physics for the Next Generation](#), provides a scaffold of pattern identification that can be useful for learning about emerging technologies as well as traditional physics content.

Looking within instead of starting over.

Knowles Academy courses provide professional learning experiences for teachers who want to reach higher, building on a bedrock of existing teaching skills and knowledge. We value the skills and efficiencies that teachers have won over their careers, be they short or long careers. Our courses build on the tasks and lessons that teachers already use instead of trying to replace them with some other set.

We ask teachers to look hard at their own teaching and to find opportunities to extend and develop along a continuum of growth in each of our courses. Teachers may learn to reposition their existing lessons in new ways to meet engineering design integration, or they may seek ways to restructure classroom discussion to change the dynamics of student authority and privilege. Through collaboration with peers that is guided by experienced mentors, teachers who enroll in our **practitioner inquiry** course will gain a deeper understanding of learning within their respective disciplines and their responsibilities as math and science teachers.

Seasoned teachers are our nation's best assets in education. They are dedicated to their students and to the future. The Knowles Academy is proud to work with teachers across the spectrum of experience to ensure that all teachers have an opportunity to stay motivated, connected to their purpose, and responsive to the demands of modern education.