



SAS® Curriculum Pathways®

Improve and expand educational opportunity through THE POWER TO KNOW®

Overview

Educators are well aware of their challenge to engage students using curriculums developed through conventional teaching methods. But to develop effective educational technologies is time-consuming, expensive and labor-intensive. According to industry analysts, high-quality online courseware takes 10 to 20 times longer to develop than traditional materials.

To prepare students for college and achievement in an increasingly competitive, knowledge-based global economy, educators need online curriculum resources that instill fundamental skills in the core disciplines. Competence in those skills is the foundation for success in academics, scientific research, business innovation and other endeavors.

SAS Curriculum Pathways can enhance student achievement and teacher effectiveness at significantly lower costs than traditional methods. It provides Web-based curriculum resources in all the core disciplines: English, math, science, social studies/history and Spanish.

Fully funded by SAS and offered at no cost to US educators and students in grades 8-14, SAS Curriculum Pathways is used by educators and students in virtual schools, home schools, high schools, community colleges and other teaching and learning environments.



Challenges

- **Lack of engagement:** Roughly 40 percent of all US high school students fail to graduate within four years.
- **Poor college preparation:** Only about 60 percent of US high school graduates have completed courses that prepare them for college-level math and science.
- **Declining achievement:** US students are falling behind their foreign counterparts in preparing for work and life in a global, knowledge-based 21st-century economy.
- **Budgetary constraints:** Lack of funding is usually the root cause for not providing effective and engaging teaching materials.

“SAS Curriculum Pathways has really made an impact on the learning environment in my classroom. Thanks for helping to equip teachers with a comprehensive resource as we help all children achieve success.”

George Ward

Math Teacher and Lead Teacher Administrator
Wake County Public School System, NC



Your Resource Partner

The SAS® Approach

With budgetary constraints and weakening competitiveness, US education is in dire need of accessible technology that will engage students and provide them with the fundamental core disciplines (English, math, science, social studies/history and Spanish) and higher-order thinking skills essential in today's global, knowledge-based economy.

SAS has fully committed funding and development efforts to deliver online curriculum resources that show a proven impact on increasing student learning and teacher effectiveness – at no cost to US schools, community colleges, virtual schools, home schools, and other teaching and learning environments.

Built in accordance with the way students learn in grades 8 through 14, SAS Curriculum Pathways is your online partner for teaching the core curriculum and is the result of more than a decade of unprecedented collaboration between teachers and technology experts who serve as your resource partner. Consistent with SAS' longstanding commitment to education, SAS will continue to develop and support US education through this and other programs.

Benefits

Targets higher-order thinking skills

SAS Curriculum Pathways offers tools, simulations, models and examples for student manipulation and interaction. Students can manipulate information, variables, cause-and-effect analysis and graphs as they explore, experiment and learn. The environment encourages active, collaborative and cooperative learning that challenges students to become critical thinkers and to make connections among ideas.

Integrates content and technology into the classroom at no cost to educators

SAS Curriculum Pathways provides meaningful, Web-based learning environments by using proven instructional strategies and techniques, such as integrated primary-source materials and a broad (holistic) context for specific learning concepts and skills. Students learn by using a breadth and depth of resources, such as: visual models, images, diagrams, graphic organizers, audio recordings of literary excerpts, poetry, dialogues, historical documents, and narrated and captioned videos.

Employs a learner-centered approach

Using the structured and guided processes of SAS Curriculum Pathways, students of varying abilities can better understand concepts and develop skills. Students become motivated learners as they use hyperlinked explanations, animations, glossaries and rollover definitions to better understand ideas.

Students can experiment, apply and evaluate what they are learning by using the appropriate medium for learning objectives and outcomes.

Integrates various instructional strategies

SAS Curriculum Pathways uses simulations and real data drawn from the Web and presented in learning activities that permit students to experience and understand real-world applications. It provides opportunities for learners to test a hypothesis and validate conclusions, to construct their understanding using interactive Web sites, to apply learning in other contexts and to bring external learning into the classroom.

Incorporates formative as well as summative assessments

All lesson plans, Web inquiries and InterActivities have measurable outcomes – requiring the application, evaluation or synthesis of student learning. InterActivities provide several means of final assessment; formative assessment is built into the learning process, or the teacher can tailor outcomes to meet student needs. Online activities and resources with formative assessment can be accessed repeatedly in preparation for summative assessments, such as end-of-course tests.

Provides eco-friendly delivery and content

Minimize the impact on the environment by accessing the educational software and support you need electronically,

without any CDs, DVDs, paper or packaging. Science students can learn about environmental impacts and the diversity of life with InterActivities on stream ecology and modern taxonomy. And, virtual labs enable students to perform and repeat experiments that would otherwise be too dangerous, toxic, expensive or time-consuming.

Capabilities

InterActivities: Students develop higher-order thinking skills as they explore, apply and analyze content through multimedia and online tools.

- **Interactive:** Student action and response are required for each step in the learning process.
- **Learner-centered:** The integration of technology and content clarifies concepts and builds skills; students of varying abilities move at their own pace.
- **Engaging:** Meaningful learning environments engage students and target critical thinking skills.

Web Inquiries: Self-paced investigations organized around a focus question.

- **Structured:** Students build the understanding necessary to answer key questions through reading and research.
- **Supportive:** Directions and questions guide, but do not replace, student research.
- **Relevant:** Students explore real-world issues by working with primary and secondary sources, data, and interactive Web sites.

Web Resources: The best available information on the Web linked to specific learning objectives, including tutorials, simulations, interactive materials and gateway sites.

- **Focused:** Selected, annotated and organized by teachers.
- **Differentiated:** Quick access to academically appropriate information.
- **Reliable:** Carefully maintained and updated.

Lessons: Complete learning activities on a broad range of concepts and skills.

- **Efficient:** Well-defined objectives, procedures and assessment methods.
- **Rich:** Student handouts, group activity guides, writing assignments, map outlines, question sheets and more.
- **Versatile:** Designed for teacher-directed activities or independent study.

Approach to Core Disciplines:

SAS focuses on material difficult to convey through conventional methods – topics where doing, seeing and listening provide information and encourage insights in ways that textbooks cannot for grades 8-14.

- **Science** – Virtual labs clarify concepts in novel ways. Dangerous, difficult, expensive or time-consuming experiments are no longer off-limits. For many abstract concepts, SAS Curriculum Pathways software has virtual labs that provide a practical means of instruction.
- **Math** – Students visualize key concepts while practicing fundamental skills. Interactive features, animations

The SAS® Difference

Rooted in and committed to education.

Beginning more than 30 years ago as a research project at North Carolina State University, SAS continues to be committed to serving education by delivering software and academic programs that spark innovation and expand educational opportunities. To date, SAS has invested 12 years and \$75 million in R&D to the development and implementation of SAS Curriculum Pathways. To further its commitment, SAS will continue to fully fund product development and offer the software at no cost to US educators.

Our focus on content.

Teachers, developers, artists and specialists clarify content. For content difficult to convey with conventional methods, SAS provides an innovative approach where doing and seeing provide information and encourage insights in ways that textbooks cannot.

Our approach to technology.

SAS products make learning more profound and efficient, not simply more entertaining. Audio, visual and interactive components all reinforce the teachers' educational objectives.

Awards and support.

Year after year, SAS Curriculum Pathways earns awards for educational technologies and, more importantly, SAS earns the support of students, teachers and parents.

and immediate feedback can mean the difference between comprehension and despair.

- **Social Studies/History** – A unique case study approach encourages critical thinking about complex issues. Audio and video stimulate interest and encourage rigorous scholarship, and an interactive tool helps students analyze documents.
- **English** – Audio and visual materials enhance reading comprehension, while detailed questions help students think critically about what they read. SAS' award-winning Writing Reviser helps students organize, develop and revise their work.
- **Spanish** – Students enhance reading, listening and writing skills by immersing themselves in practical situations. Assessment materials let students monitor their progress.

Why SAS®?

SAS customers represent many innovative and successful educational organizations. Read below to learn how SAS is helping both students and institutions enhance teaching and learning using SAS Curriculum Pathways.

"I didn't understand mitosis when it was introduced in class. But when we went in the lab and worked with Cell Division [in SAS Curriculum Pathways] I did. I also used [the product] to review for the test. I didn't have to ask the teacher to go over it again. I could go back on my own."

– **Science student**

"Writing Reviser has been such a valuable tool for our students. They love the fact that they can analyze their own writing at their own pace and were able to get a great revision before turning in their paper for a formal grade. As a teacher I trust the program to give sound instruction and suggestions to my students. Thank you for creating such an amazing instruction tool!"

– **Bonnie McMurray**

English teacher, Marshville, NC

"[This approach] helps you learn because you can control how the information is given to you. Some teachers rush to give you all the information. But when you're on the Internet learning it yourself, you can spend as much time as you need ... reading through it and figuring it out."

– **History student**

"SAS Curriculum Pathways is a perfect complement to the online instructional resources that a virtual school uses. It provides our teachers with engaging lessons, InterActivities, online tools and simulations in all core disciplines and Spanish. It promotes critical thinking skills while making our online courses relevant and fun, and allows students to learn when and where it is most convenient for them."

– **Julie E. Young**

President and CEO
Florida Virtual School

"SAS ... is developing the kind of resources I'd develop if I had more time, more funding and unlimited access to current technologies."

– **Karen Burden**

English Department Chair
Wake County Public School System, NC

"My child is part of the Internet generation. SAS Curriculum Pathways not only assumes her technological expertise – it 'embraces' it. The InterActivity resources blend a variety of multimedia techniques to engage her unique learning style. I can have my child diagram sentences, balance chemical reactions or analyze the impact of the New Deal – all from the same Web site. I really appreciate the Web Resources sections. It's a simple but profound benefit to have trustworthy Web links to provide to my child."

– **Beth Langston**

Home-school parent of a high school junior

"Through our e-Learning Project, we've integrated Lenovo ThinkPad notebooks and SAS Curriculum Pathways across all of our subject areas. Our students and teachers have embraced the easy-to-use reliable technology, making full use of its multimedia functions, interactivity and wireless capabilities to enrich our students' learning in the classroom and at home."

Susan Smith

Former Technology Coordinator,
Daviness County Public Schools, KY

About SAS

SAS is the leader in business analytics software and services, and the largest independent vendor in the business intelligence market. Through innovative solutions delivered within an integrated framework, SAS helps customers at more than 45,000 sites improve performance and deliver value by making better decisions faster. Since 1976, SAS has been giving customers around the world THE POWER TO KNOW®



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