

# An Online Strategy for Early College High Schools

All kids have strengths and weaknesses in the way they learn. The goal is to try to teach to their strengths, support their weaknesses, and help them develop compensating strategies to succeed as lifelong learners.

It's helpful for the dialogue about metalearning to be continuous. Each student should be aware of what helps her learn and, as she works, she should apply that knowledge.

Educational scaffolding can help each student develop self awareness of her own learning styles and help her develop metacognitive skills.

There aren't sufficient resources to customize classroom content to each student. But the computer offers a way to bridge classroom presentation and student needs. You may not be able to customize the content, but you can wrap the content in educational scaffoldings and teach the students to pick those scaffolds appropriate to them. With a modest investment in resources, an online space can be so equipped.

Many high schools use the web poorly. We've all seen "brochureware" where the material could easily be replaced with a piece of paper, or "shovelware" where content is posted on the web with little thought as to how it is to be used. More insidious are the offerings of a number of commercial vendors which focus on the needs of the administration or faculty (i.e. tracking and assessment) rather than the real needs of individual students.

There's great potential for creating online courses, but that's not really what we're talking about today. Instead, we're talking about ways to use the online space to support curricula delivered in a classroom.

So what are the goals for an excellent online adjunct to classroom content?

Briefly, it should help engender a sense of community among stakeholders, mainly by fostering communication. It should act as a group memory. It should celebrate student achievement, including providing a showcase for student work. It should serve as a tool for students to help organize and schedule their workload. It should help students conduct research using proprietary and external web resources.

It should allow the faculty to use the web as support for their individual classes. For a teacher, it should be no more difficult than sending an e-mail to post homework assignments and other material relating to a class. Innovative teachers should be able to use the web site for more than that. Support should be provided for teachers who aren't digital content creators but wish to use the web to host content. But that support should get out of the way of those teachers comfortable with using digital content creation tools to do things their own way.

Finally, we envision the creation of an online workspace which wraps content with a collection of standardized tools and metacognitive templates—"Zones of Maximum Benefit." These Zones, related to Vygotsky's idea of "Zone's of Proximal Development," would support students' progress through their educational careers.

To preserve economies of scale, we think that this work should be developed with the input of each of the high schools and then shared rather than being developed from scratch by each institution. But each high school, and each instructor, would make their schools' online space their own by filling it with their own curriculum-related content. This is particularly important when the curriculum-related content may have been originally developed for an older college-age audience.

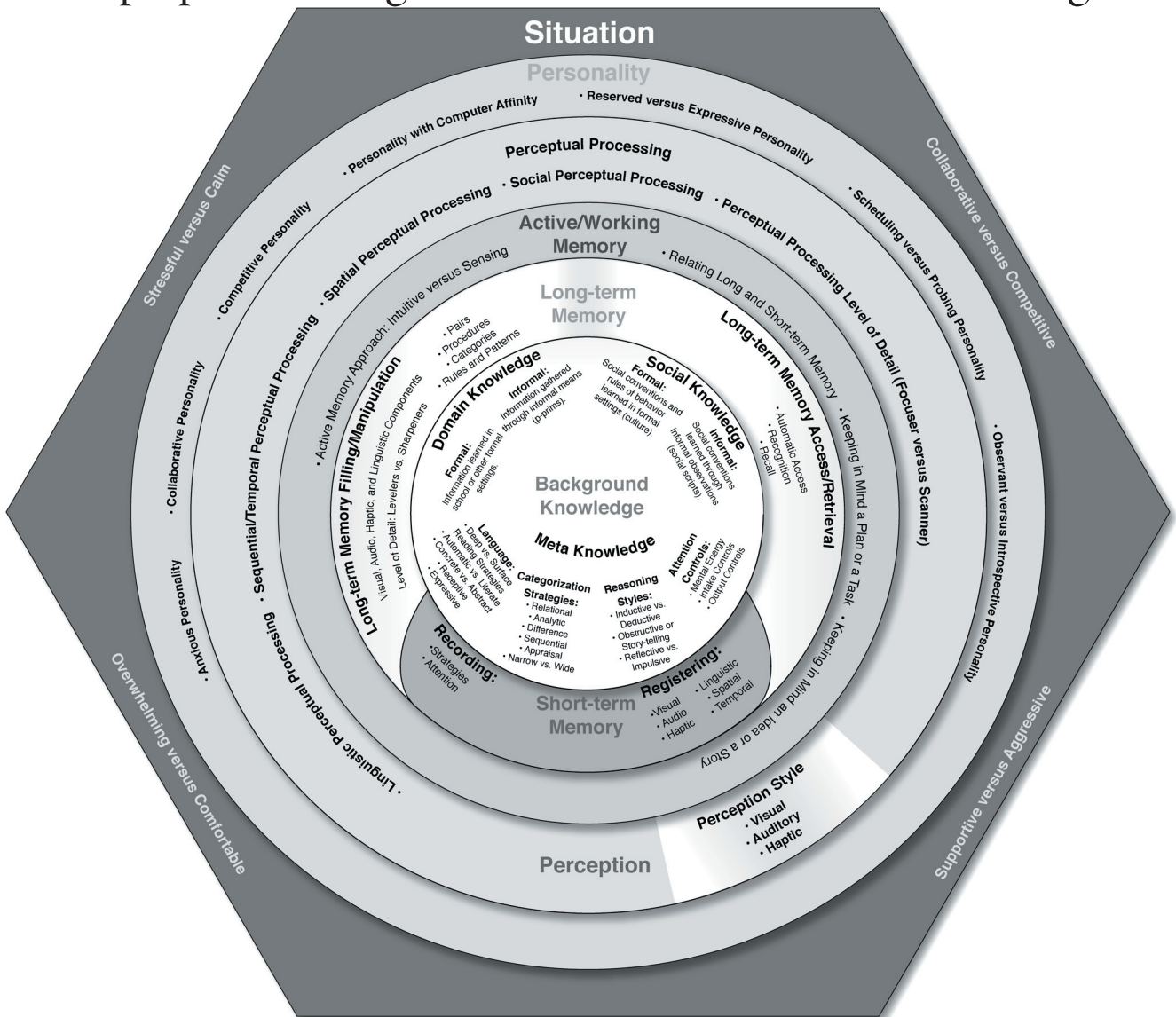
We encourage serious attention to be paid to the opportunities of integrating online tools with traditional curricula. The online opportunity presented by the Early College High Schools is just too good to pass up.



Pipsqueak Productions, LLC is run by a husband and wife team who specialize in human/computer interaction and how to effectively teach online. We are also skillful digital content creators who can execute our recommendations.

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# Pipsqueak's Cognitive Wheel for Online Learning



Different scientists studying cognition have developed different taxonomies of cognition depending on their goals.

In our work, we focus on using cognitive science to engineer educational solutions and to design better human/computer interactions. We've summarized research in education and cognitive science into a set of variables we find most useful to consider when creating computer-based materials. We broadly divide cognitive attributes into background knowledge, perception processing and style, personality traits, and memory characteristics. These cognitive attributes are situationally dependent, so it's also important to consider the setting in which the computer-based product is to be used.

Awareness of the variety of individual characteristics assists effective online design. For example, a chat room might not work well for an individual with expressive linguistic difficulties. But an opinion poll could provide an entry point to a discussion for students who would otherwise not participate at all. As another simple example, some students with attention control problems have difficulty with processing long pieces of information at one time. Dividing the information into smaller encapsulated chunks makes the material accessible to these learners without hurting its educational value for other students.

Interaction design isn't about making web sites attractive or even making them navigable. It's about creating online experiences that are well-suited to the needs and predispositions of its audience.