

## Educational Delivery Methodologies

### Educational Methodology

Southern Arizona Community Academy students have already been demonstrating success with the following implemented methodologies:

- **Interactive Study Guides** – study guides that present relevant information on the objectives and may utilize built-in self-check understanding questions, computer lesson game related to objectives, visual animation of topics, and virtual manipulatives.
- **Practice with Feedback** – students answer a series of objective-related questions and receive immediate feedback on each question; each student can answer the questions more than one time, go back and review the interactive study guide, and self-evaluate his/her understanding of material.
- **Mastery Checkpoints** – students answer a series of objective-relative questions and receive a score at the end.
- **Virtual Labs** – individual and interactive experiments in which students observe, record, and enter data using methods similar to physical laboratories.
- **Interactive Textbooks** – Textbooks that are in digital form. Interactive textbooks have self-assessment quizzes, which allow students to try problems and receive instant feedback. They also contain videos and simulations.
- **Explanation videos** – students have access to hundreds of explanation videos in which instructors explain and demonstrate concepts in a video/audio format.
- **Anywhere Learning System** – a computer assisted learning system which curriculum provides opportunities for the teacher to make modifications for the content to fit the student's abilities and or needs.
- **Connector** – a real-time, to-the-point reporting and simple instructor/student communication (messaging) system. Instructors and students see a progress bar that visually shows whether a student is on pace to complete coursework on time. The bar is green for on-track or ahead, amber for slightly behind, and red for far behind.
- **Non-computer based activities** – various activities students complete under the direction of a highly qualified instructor, such as physical labs, projects (may require some use of the computer), etc.
- **Microsoft E-Learning** – students work through the official Microsoft E-Learning curriculum, which includes labs, virtual labs, video demonstrations, readings, and self-tests. Microsoft IT Academy E-Learning allows you to improve your skills with self-paced, interactive, and engaging online training.
- **E-books** – students work with electronic textbooks. Electronic textbooks are very similar to traditional textbooks, but are in an electronic format.

- **Talking Textbooks** – Kurzweil 3000 is an assistive technology, text to speech, learning tool that supports the concept of Universal Design for Learning with a suite of powerful reading, writing, test-taking, and study skill tools that makes curricula accessible to all students. It is particularly appropriate for students with learning disabilities such as dyslexia, dysgraphia, those who require reading intervention, students struggling with reading comprehension and English Language Learners (ELL).
- **Reading Horizons** – the Reading Horizons multi-sensory delivery method helps activate several areas of the brain by including visual, auditory, and kinesthetic cues that allow students to make the connections needed for meaningful interactions with text. Because of this, Reading Horizons instruction is effective for every type of student: K-3 students, struggling readers of all ages, and English Language Learners.
- **Dyned** – an ELL/ESL software program which allows for students to focus on academic language to allow classroom success. It is a computerized-adaptive placement test, continual progress monitoring with percentage gain in language proficiency, multi-media activities to engage students, advanced reporting features that enables instructors to pinpoint where students are progressing and struggling.
- **National Library of Virtual Manipulatives (NLVM)** – a mathematics digital library containing Java applets and activities for K-12 students

Southern Arizona Community is currently working on implementing the following:

- **Moodle LMS** – a central system to help facilitate and manage the vast flexibility of options.
- **Virtual Field Trips** – virtual field trips can take a student anywhere in the world. Student has the opportunity to learn and explore topics / places.
- **Video Conferencing** – students can work directly with instructors through video and audio transmissions.
- **Instant messaging** – Although the Connector allows for messaging, there is no way for the student to know if the instructor is currently online. Instant messaging will be used as a way for students to receive one-to-one help from instructors or if the instructor is not available, the students can receive online tutoring from an academic coach.
- **Discussion Forums (message board)** – students will be able to discuss topics through the form of posted messages.
- **E-mail system** – students and parents/guardians of students will be assigned an official SACA email address as another method of corresponding with school personnel.
- **Phone support** – students can work directly with instructors via telephone.

### **Various Learning Styles:**

Students learn differently. Some students need a quiet room, while others might need music to be playing in the backroom. Students might even need to crawl up on a couch. Online learning will allow each student to work in an environment that is conducive to his/her personal learning preferences. It also provides multiple ways for students to acquire the information/content by integrating many different learning styles within learning the content.

*Visual Learners* – learners who prefer using images, pictures, colors, and maps to organize information and communicate will benefit from the following features:

- Color status bar on the Connector
- Explanation Videos
- Video and Lab Demonstrations
- Virtual Field Trips – students see and explore places and topics
- Virtual Manipulatives
- Virtual Labs
- Student choice in activities

*Auditory Learners* – learners who prefer hearing and speaking will benefit from the following features:

- Explanation Videos
- Video and Lab Demonstrations
- Narrator feature
- Virtual Field Trips with audio
- Text to talk
- Student choice in activities

*Kinesthetic Learners* – learners who prefer by touching or doing:

- Virtual Labs
- Virtual Manipulatives
- Virtual Field Trips
- Student choice in activities

### **Types of Modifications:**

- Students who have difficulty with reading may use assistive technology such as narrator or speech to text. Videos, talking textbooks, books on tape, virtual labs, virtual manipulatives, and virtual field trips help students access the content. Furthermore,

students continuously work on improving reading skills with programs such as Reading Horizons.

- Students who have a difficulty maintaining attention, following ideas, and interpreting information presented orally are ideal candidates for perfect examples, notes ahead of the lesson, visual aids. Because this is computer-based instruction, students can replay and re-listen to information.
- Students who have difficulty learning mathematics can always use a multiplication table or calculator. Virtual or physical manipulatives would also be beneficial.
- Students who have difficulty processing information take at least three times longer to complete assignments than a regular student. These students may require extra time, reduced work load (maybe focus on really doing 10 math problems instead of 20). Our system allows to easily modify the settings for each individual student.
- Students who have difficulty with fine motor control or handwriting can use talk to text assistive technology, dictation to an audio device, or even typing answers.
- Students who have much knowledge of subjects can be given a pretest. The computer will automatically prescribe only the lessons the student needs to learn.
- Curriculum design provides opportunities for the teacher to make modifications for the content to fit the student's abilities and or needs.
- The online ability itself will allow each student to customize and modify his/her learning environment.

### **Synchronous and Asynchronous Support**

Synchronous tools:

- Audio conferencing (telephone)
- Video conferencing
- Instant messaging

Asynchronous tools:

- Email
- Messaging via connector
- Discussion forums

### **Selected Mythologies Best Practices**

- **Making learning goals and expectations clear to students.** Clearly stating the learning objectives and providing a timeline for meeting those objectives. Objectives are integrated throughout the coursework. The Connector provides real-time visual data to show each student how his/her progress compares to the expected progress to finish by the deadline.

- **Using multiple opportunities and different modes of learning.** Students may need more than one method of learning in order to master the content. Curriculum is customized for each individual student based on his/her learning needs.
- **Prompt and constructive feedback.** Students need feedback. Our learning system has a practice mode, which provides the student instant feedback on coursework. Instructors are expected to promptly grade and provide constructive feedback to students with assignments.
- **Rigor.** Each student needs to be challenged with a curriculum that is tailored to his/her individual needs.
- **Relevance.** Students have a need for information to be linked to the real world.
- **Relationships.** Instructors need to build positive relationships with students. Students need an environment that supports and encourages inquiry. Learning does not have to be limited to textbooks. By building relationships with students, instructors can better customize curriculum to engage students in areas of interest.
- **Reflection.** Each student should reflect and participate in evaluation of the quality and validity of his/her work.
- **Life-long learner.** Students should never stop learning. Each student needs to discover how he/she learns best, and how he/she can be effective a life-long learner, which includes adapting to the changes that will occur throughout life after the completion of initial formal education.