



## 10.2 | Analyze: Features & Affordances of Instructional Media

| Medium                              | Description/Capability                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| <b>Instructor/facilitator</b>       | <ul style="list-style-type: none"><li>• Highly interactive</li><li>• Some are flexible, empathetic, reliable, expensive</li><li>• Can provide specific feedback to individual students</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Print</b>                        | <ul style="list-style-type: none"><li>• Affordability - Conveys large amounts of information economically; duplication is inexpensive</li><li>• Portability &amp; Flexibility</li><li>• Refer-ability – the capacity for easy review</li><li>• Reliability</li><li>• Ease of creation and use</li><li>• Can be used as a supplement to other media</li><li>• Can provide cues to the learner through highlighting, underlining, bolding, italics, and color</li><li>• Suitable for use by individual users as well as groups</li><li>• Appropriate for learners with reading skills and ability to handle abstract representations</li><li>• But... for large quantities of information they are unwieldy; distribution requires time and effort</li></ul> |
| <b>Graphics</b>                     | <ul style="list-style-type: none"><li>• Supports and enhances text, audio or presentations</li><li>• Provides more concrete representation than text</li><li>• Can cue learners and demonstrate procedures</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Photos</b>                       | <ul style="list-style-type: none"><li>• Supports and enhances text or audio</li><li>• Provides more concrete representations than text or graphics</li><li>• Can use to gain attention, to simulate reality</li><li>• Good to use for affective objectives</li><li>• Can be optimized or resized for the Web using photo editing software</li><li>• Can take screen shots of the computer desktop or open programs</li></ul>                                                                                                                                                                                                                                                                                                                               |
| <b>Real Objects &amp; Equipment</b> | <p>Real objects provide hands-on, real-life experiences:</p> <ul style="list-style-type: none"><li>• Good for learners who need concrete representations</li><li>• Three-dimensional</li><li>• Alternative: Virtual Reality and Augmented Reality</li></ul> <p>Equipment for face-to-face interactions include white boards, interactive white boards, projection systems and sound systems, computer labs, and virtual reality labs</p>                                                                                                                                                                                                                                                                                                                   |
| <b>Audio</b>                        | <ul style="list-style-type: none"><li>• Includes speech, music, earcons (audio icons consisting of brief distinctive sounds that represent an event or information), and non-speech sound effects</li><li>• Provides verbal and nonverbal auditory events (sound effects)</li><li>• Format examples: CDs, cassette tapes, digital audio,</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                         |



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|                                  | <ul style="list-style-type: none"><li>• Deliver via Podcasting</li><li>• Inexpensive delivery</li><li>• Easily manipulated by the learner &amp; when recorded, material can be reviewed by the learner</li><li>• Appropriate for short segments</li><li>• When recorded, learner can enhance understanding by using variable speed player to speed or slow delivery slightly</li><li>• Can be used to provide discreet cues and feedback</li><li>• Supports instruction in languages, music, drama, and historical events</li><li>• Music can appeal to the emotions and/or set a mood</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Video &amp; Digital Video</b> | <ul style="list-style-type: none"><li>• Can display visual, moving images, action, visual techniques</li><li>• More realistic than print (color, sound, movement)</li><li>• Pacing can be controlled by learner (random access, still frame, step frame, slow play, etc.)</li><li>• Refer-ability – the capacity for easy review</li><li>• Authenticity - Demonstrates processes or procedures not normally possible due to their dangerous, difficult, expensive, or time consuming nature</li><li>• Zooming - Can focus attention of learner through zooming, camera angles and shot range (close-up, medium and long shots); these features also can be used to affect the emotions, perceptions, and impressions of the learner</li><li>• Ease of duplication and distribution to diverse audiences</li><li>• Lack of interaction between learner and instructor</li><li>• Can be delivered via streaming, or subscribed to and downloaded through RSS</li><li>• Quick Time Virtual Reality (QTVR) enables the examination of places and 3-D objects virtually</li><li>• Can use video screen capture tools to capture images or produce a video of actions on a computer monitor</li></ul> |
| <b>Computer &amp; Software</b>   | <ul style="list-style-type: none"><li>• Provides rich learning environment and enables the display of multimedia</li><li>• Meets needs of students with different learning styles and modality preferences</li><li>• Can provide interactive learning environment</li><li>• Variety of storage options provides portability of information (CD, DVD, jump &amp; zip drives, etc)</li><li>• Handles and holds large amounts of information</li><li>• Branching capabilities enables individualized instruction and feedback</li><li>• Can be used to store and analyze student responses and data</li><li>• Displays static and dynamic graphics, video, and other multimedia</li><li>• Adapts to the needs and input of the learner</li><li>• Can control learner access and progression through instruction or allow the learner to control access, pacing and branching</li><li>• <u>Software:</u><ul style="list-style-type: none"><li>- Proprietary or web-based software can be used as “Mindtools” in class, for cooperative learning and for projects and assignments</li></ul></li></ul>                                                                                                |



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|                                                                     | <ul style="list-style-type: none"><li>- Presentation software enables either linear or non-linear presentations that include audio and video information and can link to Internet sites via hyperlinks</li><li>- Spreadsheet software allows for easy manipulation, sorting of, processing and access to data</li><li>- Word processing software enables the creation of instructional materials and completion of student assignments; can also be used for collaborative writing (e.g., “track changes” feature)</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Internet, Email, &amp; Instant Messaging (IM)</b>                | <ul style="list-style-type: none"><li>• <u>Internet</u>:<ul style="list-style-type: none"><li>- Provides for low-cost delivery of content to students with internet access</li><li>- Provides on-demand information</li><li>- Can deliver multimedia materials and appeals to different learning modalities</li><li>- Can be used with <i>WebQuests</i> to guide students to authoritative sources judged valuable by the instructor</li><li>- Enables delivery of asynchronous and synchronous courses</li></ul></li><li>• <u>Email</u>:<ul style="list-style-type: none"><li>- Enables easy asynchronous communication with students, class peers, instructors, and experts</li></ul></li><li>• <u>Instant Messaging (IM)</u>:<ul style="list-style-type: none"><li>- Enables easy, synchronous (real-time), communication with students, class peers, instructors, and experts</li><li>- Can be used to provide synchronous help to students during office hours without the necessity of a face-to-face meeting</li><li>- Allows users to send images, audio and video files, and other attachments.</li></ul></li></ul>                                                                                                                                                  |
| <b>EPSS, Learning Management Systems</b>                            | <ul style="list-style-type: none"><li>• <u>Electronic Performance Support Systems (EPSS)</u>:<ul style="list-style-type: none"><li>- Support knowledge management systems</li><li>- Provide on-demand information required to perform a task</li><li>- Reduce the complexity or number of steps required to perform a task</li><li>- Provide decision support to help the user identify the appropriate action for a particular set of conditions</li></ul></li><li>• <u>Learning Management Systems (LMS)</u> (both proprietary and open source):<ul style="list-style-type: none"><li>- Used to keep track of learner progress, administer and manage instructor-led and self-paced, synchronous and asynchronous instruction</li><li>- Supports distribution of course materials and learner access to resources on the web for face-to-face, online, blended and mobile instruction</li><li>- Provides a means for submitting assignments and communication between learners and between learners and the instructor/facilitator via discussion boards, live chats, email, virtual office hours, virtual groups, and email announcements</li><li>- Provides a virtual space for collaboration for courses, departments, work teams, and organizations</li></ul></li></ul> |
| <b>Course Tools for Synchronous &amp; Asynchronous Interactions</b> | <ul style="list-style-type: none"><li>• Enable real-time conduct of classes via video or interface through computers to remotely-located students</li><li>• Provide information visually and often aurally</li><li>• Synchronous instruction is provided “real-time” with the capability for students to ask questions and instructors to clarify misconceptions</li><li>• Asynchronous instruction is accessed by users when convenient</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |



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|                                              | <ul style="list-style-type: none"><li>Asynchronous discussions often provide a forum for expression for those students who would normally not share their thoughts in a face-to-face classroom</li><li>Examples:<ul style="list-style-type: none"><li>Interactive Video Conferencing</li><li>Centra – interact real-time with multiple users, with two-way audio, application sharing, web browsing, white-boarding, and text chatting.</li><li>Breeze – for developing online presentations and lectures</li><li>Camtasia – To produce high-quality, downloadable, online presentations.</li><li>Diploma - Create, manage and deliver exams and quizzes for your online course</li><li>Snag-It and other screen capture software</li></ul></li></ul> |
| <b>Student Response Systems (“Clickers”)</b> | <ul style="list-style-type: none"><li>Provide for active participation of all students and immediate feedback to both instructor (of students’ understanding) and students (of their own comprehension)</li><li>Enable instructor to evaluate student comprehension and mastery of content during instruction so that misunderstandings and erroneous impressions can be cleared up immediately</li><li>Can be used for assessment, although the success of this use of the medium is hotly debated.</li></ul>                                                                                                                                                                                                                                        |
| <b>ePortfolios</b>                           | <ul style="list-style-type: none"><li>Provide a virtual space to store artifacts of student work for assessment or evaluation purposes</li><li>Can provide a tool for show-casing student work for examination by potential employers or graduate programs</li><li>Provide a virtual space for faculty to collaborate on program planning or view student work</li><li>Provide a matrix view in which goals and assessment schedules can be built into the system; because of this, ePortfolios are beginning to be seen as a tool to assist in the accreditation process.</li></ul>                                                                                                                                                                  |
| <b>Social Networking Sites</b>               | <ul style="list-style-type: none"><li>Provide a means to build community and meet to discuss like interests</li><li>Provide a way to share ideas and resources</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Wikis &amp; Blogs &amp; Vlogs</b>         | <ul style="list-style-type: none"><li>Wikis – Web pages that can be viewed and modified by anyone with a Web browser and Internet access. Provide a space for online asynchronous group collaboration for creation and editing of documents. Some also use them as ePortfolios.</li><li>Blogs - shorthand for "Web log" - are online collections of personal commentary and links. Blogs can be viewed as online journals to which others can respond. Provide a forum for reflection and asynchronous discussion. Promote dialogue and expression of opinions.</li><li>Vlogs - video blogs that primarily utilize video rather than text or audio. Can be used to disseminate recorded lectures.</li></ul>                                           |