

Guided Design Process



This slide show is based on the following resources:

Wales, C. E., & Stager, R. A. (1978). *The guided design approach*. Englewood Cliffs, NJ: Educational Technology Publications.

White, G. P., & Coscarelli, W. C. C. (1986). *The guided design guidebook: Patterns in implementation*. Morgantown, WV: West Virginia University, National Center for Guided Design.

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Definition

- an educational strategy that uses real world problems to teach decision making skills within a content area
- began at West Virginia University in 1969, to teach engineering students
- widely used in high school and for business/industry training

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Components

- self-instruction provides for...
 - prerequisite knowledge
- can be print, web-based, computerized
- group projects provide opportunity to practice decision-making skill and intellectual thinking:
 - recall, translate, manipulate, interpret, predict, choose



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Group Projects

- groups consist of 4-7 students
- defining roles can help promote participation: leaders, planners, researchers
- after self-instruction, instructor guides students through open-ended problems in class, provides feedback

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Group Project Steps

- define problem
- state objectives
- list constraints limiting solutions, assumptions one must make, and facts to be known
- generate possible solutions, and evaluate using criteria
- select one solution, synthesize



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Project Steps (continued)

- present results and recommendations as a report, or other product
- implement decision
- evaluate results
- feedback should be provided indicating how an “experienced” decision maker might have performed



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Instructor Roles

- creates self-instruction and problems
- listens to small group discussions
- asks leading questions
- encourages students to participate in decision-making process
- assesses understanding
- provides feedback, remediation

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Research

- over 6 year period, graduation rate from engineering program increased
- grade point averages increased



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Advantages

- obvious sequence of steps
- increased interest, motivation, perseverance
- better work and questioning attitudes
- improved verbal skills
- application of knowledge improves retention of knowledge



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Disadvantages

- preparation of materials takes time
- difficult to manage many small groups in large classes
- resistance to self-instruction material by unmotivated students
- instructors/students may prefer lecture mode, traditional auditory delivery



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Decision-Making

- guided design is specifically geared toward helping students develop decision-making skill in various domains
- can you think of a relevant example for your subject area?

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Physical Education Sample

- self-instruct on strategies for winning close games when ahead by 1 point versus down by 1 point
- provide game scenario for students to DECIDE on an appropriate “play”
- teacher provides feedback and debriefs students on the expected outcome of their decisions

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English Sample

- self-instruct on different forms of letter writing: informal, formal, business
- provide scenarios through which students must **DECIDE** on specific formats for new letters

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Math, Accounting Sample

- self-instruct on determining loan interest given principal and rate
- provide scenario through which students must **CHOOSE** from a variety of loan options (which car to buy, given varying down payments, interest rates, etc.)

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Science Sample

- self-instruct on a scientific process (e.g., determining when a volcano may “blow” from the warning signs)
- provide scenario through which students must **DECIDE** whether or not to evacuate an area

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