

## Jadual 2.8

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Sumber: Rothwell, W.J., & Kaznas, H. C. (1992). *Mastering the instructional design process: A systematic Approach*. San Francisco: Jossey-Bass Publisher.

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## 1. Contextualizing Instruction

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### Gaining the attention of the learner

arouse learner with novelty, uncertainty, surprise  
 pose question to learner  
 learner pose question to be answered by lesson

### Relate the goals of instruction to the learner's needs

explain purpose or relevance of content  
 present goal for learner to select  
 ask learner to select own goals  
 have learner pose questions to answer

### State the outcomes of instruction

describe required performance  
 describe criteria for standard performance  
 learner establishes criteria for standard performance

### Present advance organizers

verbal expository: establish context for content  
 verbal comparative: relate to content familiar to learner  
 oral expository: establish context for instruction  
 oral comparative: relate to content familiar to learner  
 pictorial: show maps, globes, pictures, tables

### Present structured overviews and organizers

outline of content: verbal (see also 1.4.1, 1.4.2)  
 outlines of content: oral (see also 1.4.3, 1.4.4)  
 graphic organizers/overviews  
 combinations of verbal, oral, and pictorial overviews

### Adapt context of instruction

content adapted to learner preference (different situations)  
 content adapted to prior knowledge

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## 2. Present and cue lesson content

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### Vary lesson unite size

large chunks  
small chunks

### Present vocabulary

present new terms plus definitions  
student looks up lists of new terms  
present attributes of rule definition, concept, principle  
paraphrase definitions, present synonyms  
present definitions  
derive definitions from synonym list

### Provide examples

prototypical examples  
matched example / non-example pairs  
divergent examples  
close-in non-examples  
vary the number of examples  
model appropriate behavior

### Use cuing systems

provide graphic cues: lines, colors, boxes, arrows,  
highlighting  
provide oral cues: oral direction  
provide auditory cues: stimulus change (e.g., music, sound  
effects, voice change)  
provide type style cues: font change, uppercase, type size,  
headings, hierarchical numbering system, indentation.  
present special information in windows

### Advise learner

instructional support needed: number of examples, number  
of practice items, tools, materials, resources  
learning strategies to use

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## 3. Activating learner processing of instruction

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### Elicit learner activities

review prerequisite skills or knowledge  
learner selects information sources  
learner selects study methods  
learner estimates task difficulty and time  
learner monitors comprehension  
learner relates questions to objectives

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learner recalls elaborations  
learner evaluates meaningfulness of information

Elicit recall strategies

underline relevant material  
rehearse/ repeat / re-read  
use mnemonic strategies  
cloz reading activities  
identification with location (loci method)  
create summaries: hierarchical tiles  
create summaries: prose  
create summaries: diagrammatic / symbolic (math)  
create summaries: mind maps

Facilitate learner elaboration

imaging (creating images)  
inferring from information  
generating analogies  
creating story lines: narrative description of information

Help learner integrate new knowledge

paraphrase content  
use metaphores and learner generated metaphors  
generating examples  
note-taking

Help learner organize information

analysis of key ideas  
create content outline  
categorize elements  
pattern note techniques  
construct concept map  
construct graphic organizers

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#### **4. Assessing learning**

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Provide feedback after practice

confirmatory, knowledge of correct response  
corrective and remedial  
informative feedback  
analytical feedback  
enrichment feedback  
self-generated feedback

Provide practice

massed practice session  
distributed practice session  
over learning

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apply in real world or simulated situation (near transfer)  
 change context of circumstances (far from transfer)  
 vary the number of practice items

Testing learning

pretest for prior knowledge  
 pretest for prerequisite knowledge or skills  
 pretest for endpoint knowledge or skills  
 embedded questions throughout instruction  
 objective referenced performance  
 normative referenced performance  
 incidental information, not objective referenced

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**5. Sequencing instructional events**

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Sequencing instruction in logic order

deductive sequence  
 inductive sequence  
 inductive sequence with practice

Sequencing instruction in learning prerequisite order

hierarchical, prerequisite sequence  
 easy-to-difficult  
 concrete-to-abstract

Sequence instruction in procedural order

procedural, job sequence  
 information processing sequence (path sequencing)  
 algorithmic presentation  
 procedural presentation

Sequence instruction according to content organization

general-to-detail (progressive differentiation)  
 conceptual elaboration  
 theoretical elaboration

Sequence instruction according to story structure

Narrative sequence

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\***Key steps of instruction are in bold print**; tactics are underlined.

Source: Jonassen, D., Grabinger, S., & Harris, N. Analyzing and selecting instructional strategies and tactics. *Performance Improvement Quarterly*, 1990, 3(2), 34-38.