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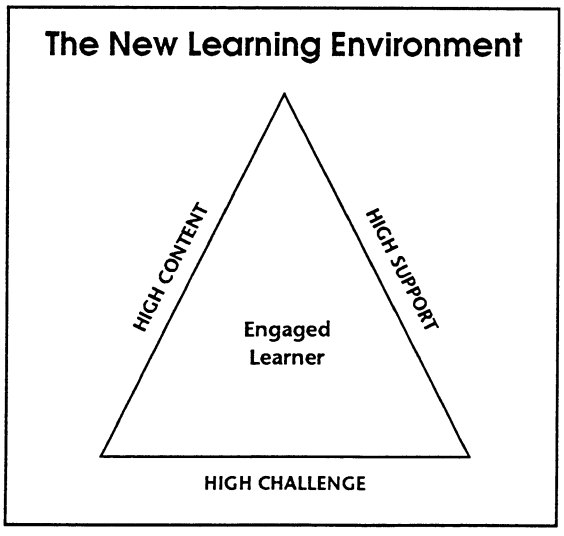
INTRODUCTION

An Overview of 12 Co-operative Interaction Designs

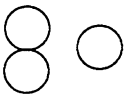
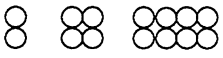
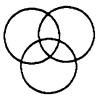
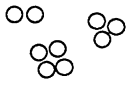
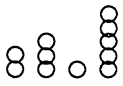
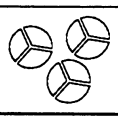
The many variables that come into play as teachers select the most appropriate interactive designs for their lessons include time, physical space, facilities, level and behavior of students, number of students, purpose of the lesson, background and experiences of the students, support materials, teacher expertise and innumerable other considerations.

In the high-content, high-support, high-challenge environment, the overriding goals are intense student involvement and the transfer of learning into life situations. *High content* refers to standard disciplines such as the sciences, humanities and the arts; *high support* cites the expectation for co-operative interactions; and *high challenge* highlights the need for meaningful and thoughtful learner activities.

By accumulating a repertoire of interactive designs and coupling learner involvement with information-processing models, the facilitator moves learning for all students to new depths.



As facilitators weigh the variables and survey the various designs, a particular interaction model or a combination of several emerges as more appropriate than the others. Equipped with these "variations on the theme" of involving students in interactive ways, selections can be made from the following:

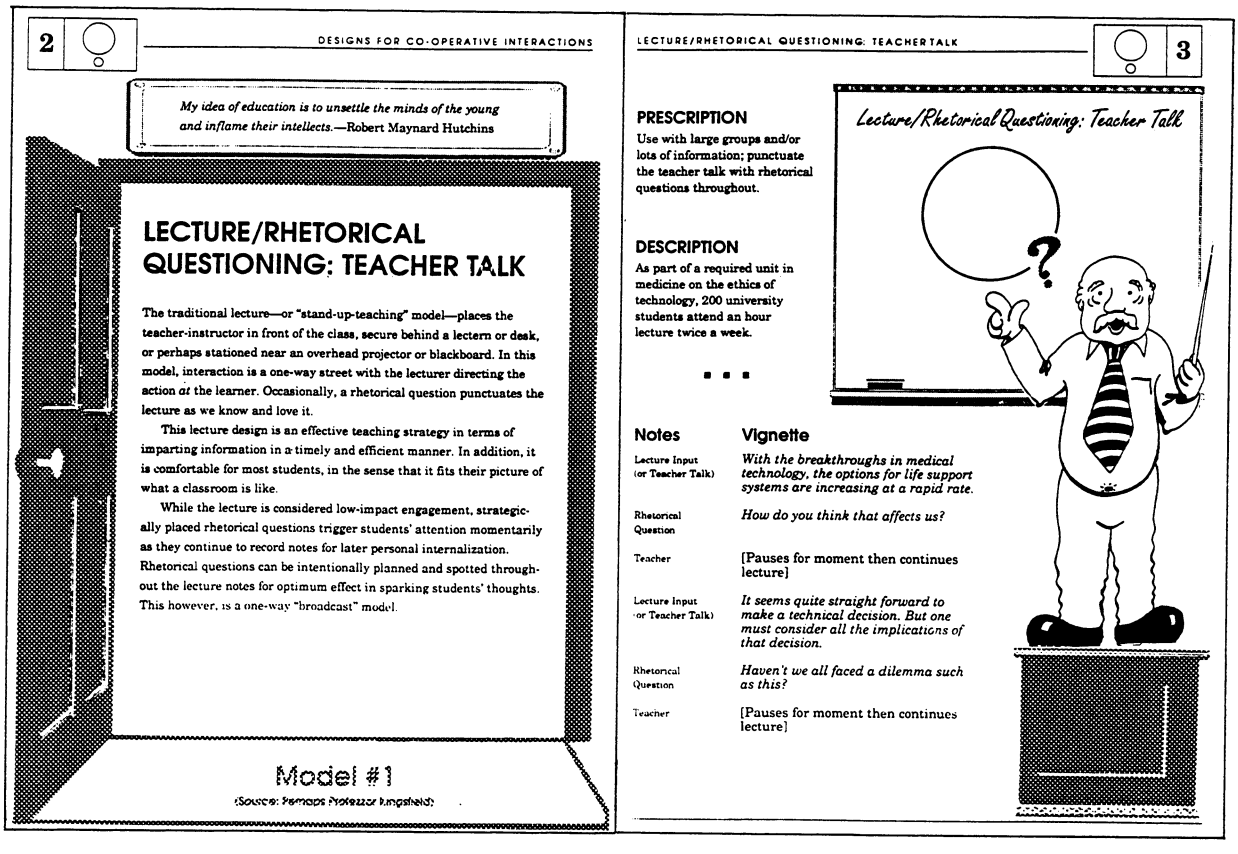
AN OVERVIEW: INTERACTIVE DESIGNS		
1	Lecture/Rhetorical Questioning: Teacher Talk	
2	Signals/Direct Questioning: Surveying	
3	Turn to Your Partner and . . . TTYPA	
4	Paired Partners: Talk Aloud	
5	Dyads: Think/Pair/Share	
6	Triads: Observer Feedback	
7	Tell/Retell: 2-4-8	
8	Co-operative Learning: Groups	
9	Travelling Clusters: People Search	
10	Forced Response: Wraparound	
11	Total Group Response: Human Graph	
12	Group Investigation: Jigsaw	

Each of the classroom interaction designs uses a different degree of student involvement. The designs at the top of the chart, such as *Lecture/Rhetorical Questioning*, require minimal learner participation while the designs at the bottom, such as *Co-operative Learning: Groups* and *Forced Response*, engage learners intensely by the very nature and structure of their strategies.

A Look at the Designs

Each of the 12 designs is introduced for easy application to any learning situation. Beginning with a *quote* and a *one-page description* of a design, each introduction also includes a **Source** for whom the author credits the foundations of the design.

Adjacent to the one-page description, is a quick reference page for choosing the right design for each activity. The reference page offers a **Prescription** for when the design would be appropriate to use. The *symbol* on the blackboard offers a visual reminder of the design and its components that structure learner interaction. Since the 12 interactive models work well with all levels—primary, secondary and tertiary—all of the levels are modelled in at least one **Description**. Facilitators may need to make moderate adjustments to the designs when tailoring them to specific learner needs. The **Vignette** provides a brief illustration of the interactive design as set up in the **Description**. The brief **Notes** are metacognitive cues or labels that clarify the actions in the vignette. (See the sample below.)



2 DESIGNS FOR CO-OPERATIVE INTERACTIONS

My idea of education is to unsettle the minds of the young and inflame their intellects.—Robert Maynard Hutchins

LECTURE/RHETORICAL QUESTIONING: TEACHER TALK

The traditional lecture—or "stand-up-teaching" model—places the teacher-instructor in front of the class, secure behind a lectern or desk, or perhaps stationed near an overhead projector or blackboard. In this model, interaction is a one-way street with the lecturer directing the action *at* the learner. Occasionally, a rhetorical question punctuates the lecture as we know and love it.

This lecture design is an effective teaching strategy in terms of imparting information in a timely and efficient manner. In addition, it is comfortable for most students, in the sense that it fits their picture of what a classroom is like.

While the lecture is considered low-impact engagement, strategically placed rhetorical questions trigger students' attention momentarily as they continue to record notes for later personal internalization. Rhetorical questions can be intentionally planned and spotted throughout the lecture notes for optimum effect in sparking students' thoughts. This however, is a one-way "broadcast" model.

Model #1

(Source: Perhaps Professor Kingsfield)

LECTURE/RHETORICAL QUESTIONING: TEACHER TALK 3

PRESCRIPTION

Use with large groups and/or lots of information; punctuate the teacher talk with rhetorical questions throughout.

DESCRIPTION

As part of a required unit in medicine on the ethics of technology, 200 university students attend an hour lecture twice a week.

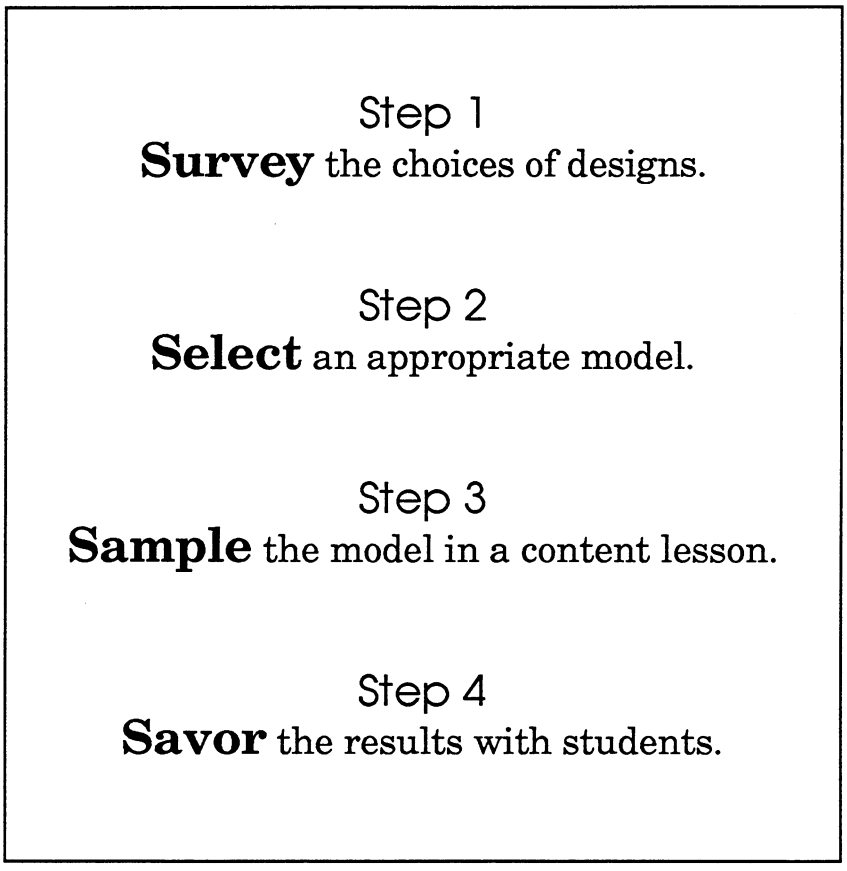
• • •

Lecture/Rhetorical Questioning: Teacher Talk

Notes	Vignette
Lecture Input (or Teacher Talk)	*With the breakthroughs in medical technology, the options for life support systems are increasing at a rapid rate.*
Rhetorical Question	*How do you think that affects us?*
Teacher	[Pauses for moment then continues lecture]
Lecture Input (or Teacher Talk)	*It seems quite straight forward to make a technical decision. But one must consider all the implications of that decision.*
Rhetorical Question	*Haven't we all faced a dilemma such as this?*
Teacher	[Pauses for moment then continues lecture]

How to Use this Book

To use this book of interactive designs most effectively, a four-step approach seems appropriate.



Survey: Using the chart on the next page, *survey* and explore the various designs for co-operative interactions. Then, turn to the new learning designs and find out more about their varying degrees of interaction.

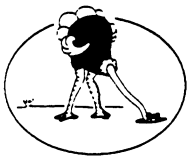
DESIGN	EXPLANATION
Lecture/Rhetorical Questioning: Teacher Talk	Stand-up teaching; speaking to whole class.
Signals/Direct Questioning: Surveying	Speaking to class; interrupting with signals by group or for answer by one student.
Turn to Your Partner and . . .: TTYPA	Informal sharing by partners in which interaction is brief and quick.
Paired Partners: Talk Alouds	One partner reflecting the thinking of the other partner who is talking aloud as s/he thinks through a problem.
Dyads: Think/Pair/Share	Partners first thinking alone and then sharing ideas—sometimes coming to one idea for their pair.
Triads: Observer Feedback	Partner interaction enhanced by objective observer feedback.
Tell–Retell: 2-4-8	Two people telling ideas; two sets of two retelling their partners' ideas; a group of eight retelling all ideas.
Co-operative Learning: Groups	Small groups of three or four students working interdependently, but all members accountable for all the work.
Travelling Clusters: People Search	Students moving from group to group, forming informal clusters as they share information and gather signatures.
Forced Response: Wraparound	Round-robin style, students responding in turn to a lead-in statement cued by the facilitator.
Total Group Response: Human Graph	Students lining up on an imaginary graph to indicate their preferences.
Group Investigation: Jigsaw	In groups of three, each member researching a third of its group's work and then teaching it to the other members.

Select: To select an appropriate design, determine the *purpose* of the session. Then, target the design most helpful for achieving the desired outcome. For example, if the purpose is to get a grasp of a new concept, a *Turn to Your Partner and . . .* might be the best approach for a quick processing of the idea and anchoring of that idea through partner articulation.

Sample: Once a design is selected, *sample* it in a content lesson. To introduce students to the new strategy, give the design explicit attention as part of the content of the lesson. Let students sample the interaction methodology as well as the subject content. Prior to the lesson, use the lesson planner pages accompanying each design to personalize its application. Begin in the left-hand column with the Think Abouts. Then jot down your ideas on the right-hand side under My Lesson Idea.

LESSON PLANNER

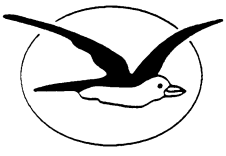
Think Abouts . . .



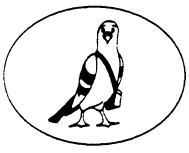
What is an appropriate use? What is an inappropriate use? When might I *overlook* this strategy? Why?

Can I use the idea illustrated in the vignette? Do I want to *duplicate* it?

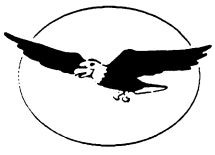
Is there an existing activity I can redesign to *replicate* this strategy?



How can I fold this into an activity I've planned? Does it *integrate* or connect with something I already do?



How can I bridge this into several areas? Where else can I *map* this for additional practice and transfer?



What idea is percolating? Can I *innovate* using some key aspect of this strategy?

My Lesson Idea

Topic or Unit: *Maths Problem Solving*

My purpose for this session:
To survey strategies and approaches for solving the "Problem of the Day".

My idea . . . in a nutshell:
Have students, in groups of three, plot their ideas on a web for working on "the problem of the day". This web would be done on large paper with all three members contributing ideas using the response-in-turn model.

Why this strategy seems right:
This seems like the best strategy because co-operative groups of students will articulate their ideas to each other as they prepare this web. Then they can prioritize the best strategies for doing problems.

Other thoughts:
In groups, students will see what other students do to solve the problem. Student will get new ideas about approaching it.