Workshop 2A

The Transfer of Learning in Legal Education: Using Schema Theory to Connect the Curriculum
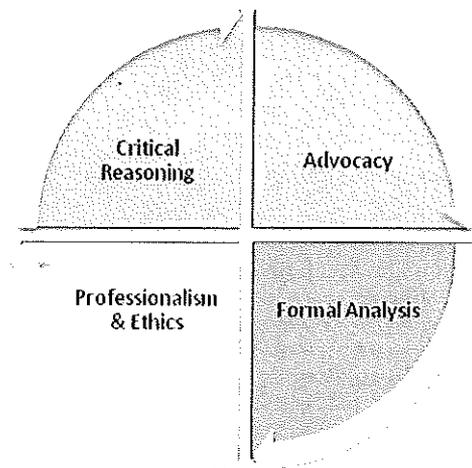
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The Core Skills Approach:
Four Steps for Better Transfer of Learning in Law School

Overview

The Core Skills Approach draws upon the best of the transfer of learning research to help students (1) integrate the curriculum; (2) anticipate how skills will apply in new and different contexts; (3) identify helpful strategies to transfer skills and knowledge to *any* new assignment; and (4) draw upon concrete knowledge and skills suitable for a very *specific* assignment. The steps are sequenced from general to specific.

Step One

To newer law students, the law curriculum usually seems disjointed. Even though their professors usually are trying to instill the same basic professional values and the same skills in analysis, critical thinking, advocacy, students typically do not make this connection until much later in law school or even in practice. Moreover, schema theory tells us that our brains encode information according to the environment and experiences we had when we learned it. Knowledge thus remains tied to particular courses, cases, exams, and professors and does not transfer easily. For these reasons, Step One is very simple: students use the compass and its accompanying list of core lawyering skills as a set of schema to view the curriculum as a continuum, unified by a set of constants in the form of the four core skills constellations.

Critical Reasoning | Advocacy

Professionalism & Ethics | Formal Analysis

Step Two

Classroom
•Blackletter Law
•Critical Reasoning
•Deep Theory

Exams
•Blackletter Law

Practice
•Blackletter Law
•Critical Reasoning
•Deep Theory
•Nonlegal solutions

Even when students learn to view the curriculum holistically, unified by core lawyering skills, they soon discover that those skills are expressed in different ways, depending on the context. In Step Two, the applied skills guides serve as an anticipatory schema, designed to help students determine when and how they can practice their developing skills sets. Each quadrant on the core skills compass has its own applied skills guide.
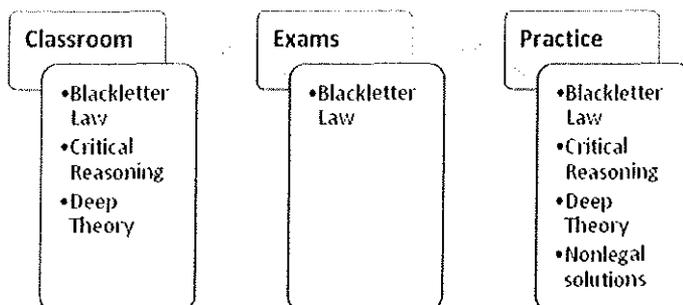
Step Three

In Steps One and Two, students learn to unify the curriculum using abstract core lawyering skills as constants, and then to anticipate how to apply skills to real problems in different contexts. Step Three is a general, reflective exercise designed to encourage students to draw upon transfer strategies whenever they encounter a new problem in their law courses or clerkships. Students can use this all-purpose exercise to analyze the expectations for the assignment; draw upon generalizable knowledge from prior learning; explore analogous learning for creative solutions; identify the skills required for the assignment; find and explore new resources; locate and troubleshoot potential models; anticipate future applications for new knowledge and skills gained through the assignment; and tap into holistic motivations that facilitate deeper learning and transferability.

Expectations	Generalized Knowledge
Analogous Situations	Lawyering Skills
New Resources	Models
Future Applications	Motivation

Expectations	Issue-Oriented Knowledge
Analogous Situations	Particular Applied Skills
Tailored Resources	Existing Models
Future Applications	Motivation

Step Four

Although Steps One through Three can stand alone as an effective approach to transfer, law professors can encourage even better transfer to the current assignment (and into practice) by tailoring a reflective exercise or checklist to the current problem in class. The exercise looks very much like that in Step Three, but emphasizes the doctrinal area(s), issues, skills, and resources involved in completing the task.

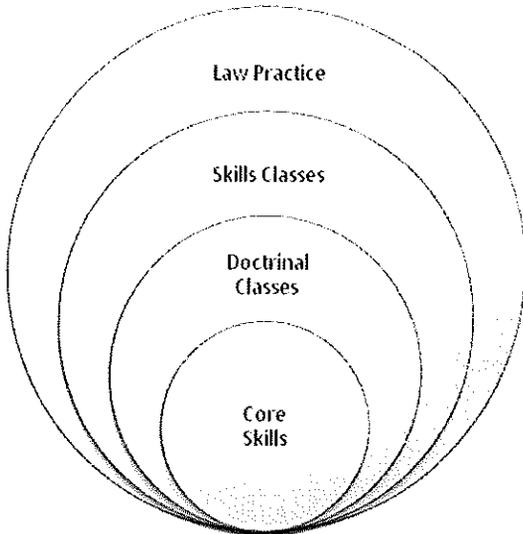\# For Steps 3 & 4, See the Transfer exercise in the materials for the Alaka-Kowalski presentation on June 18.
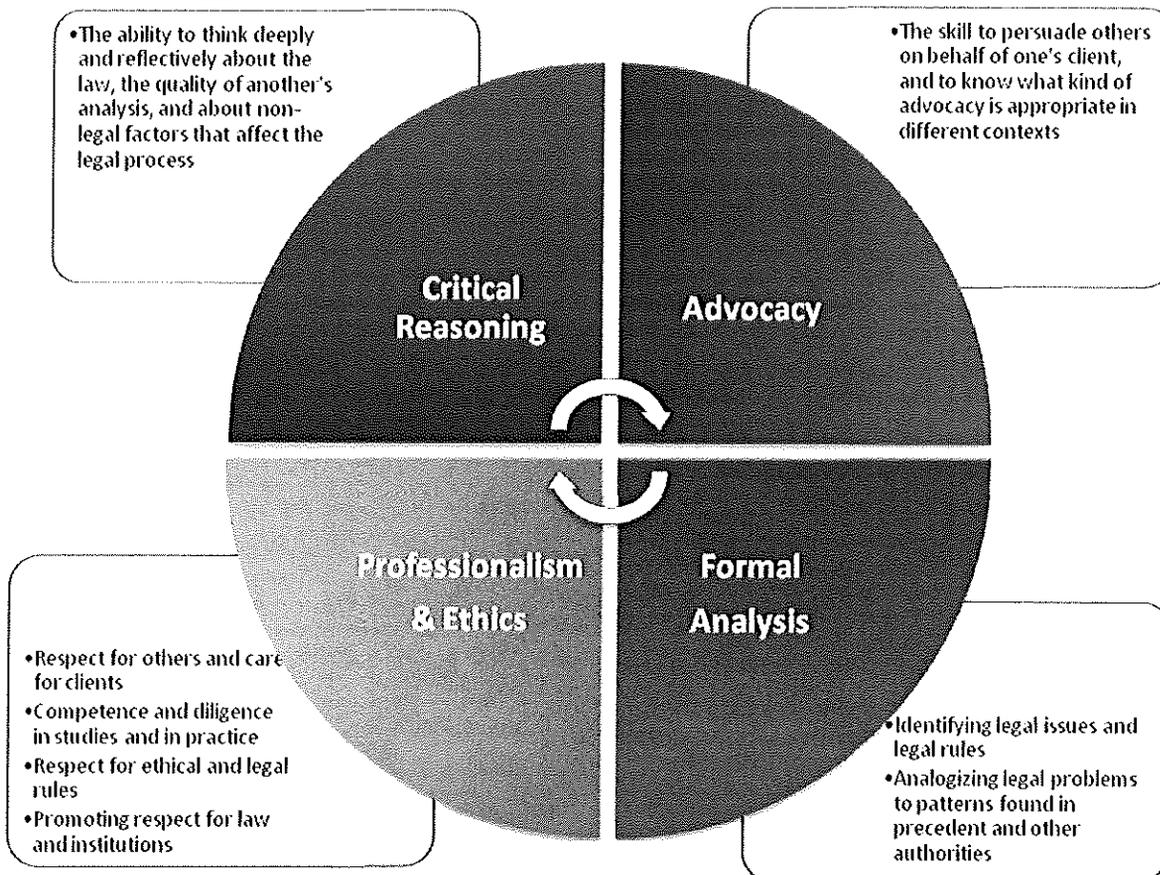
The Core Skills Approach

Step 1

The Core Skills Compass:
A Tool for Transferring Core Legal Skills throughout Law School and Practice

Law Practice

Skills Classes

Doctrinal Classes

Core Skills

Roughly four clusters of core legal skills will govern your education and your law practice, including your doctrinal law school classes, where you discuss law and policy at a deep, theoretical level; your skills classes, where you apply your new knowledge in a simulated practice environment; and your real-world law practice experiences, such as clinic, externships, clerkships, and your career after graduation. They are mutually-reinforcing and overlapping, rather than mutually exclusive.

Even though the same core skills are used across all of these different environments, novice attorneys often struggle to recognize them or to identify what is expected from them by their professors and supervisors. By using the core skills compass and accompanying navigational charts, you can better anticipate when and how to develop and use these skills. When in doubt, clarify with your professor or supervising attorney.

- The ability to think deeply and reflectively about the law, the quality of another's analysis, and about non-legal factors that affect the legal process

- The skill to persuade others on behalf of one's client, and to know what kind of advocacy is appropriate in different contexts

Critical Reasoning

Advocacy

Professionalism & Ethics

Formal Analysis

- Respect for others and care for clients
- Competence and diligence in studies and in practice
- Respect for ethical and legal rules
- Promoting respect for law and institutions

- Identifying legal issues and legal rules
- Analogizing legal problems to patterns found in precedent and other authorities

Applied Skills Guides

As seen in the Core Skills Compass, one way of seeing your law studies as a unified whole is to think of each course in terms of what core lawyering skills it aims to teach you. These charts can be used to help navigate your different courses, externships, clinical experiences, and clerkship experiences based on the skills represented by each of the four quadrants: Advocacy, Professionalism & Ethics, Critical Reasoning, and Formal Analysis.

The charts follow on the next four pages, and then are followed by Steps 3 and 4 in the Core Skills Approach.

Applied Skills Guide: Formal Analysis (Concrete to Theoretical)

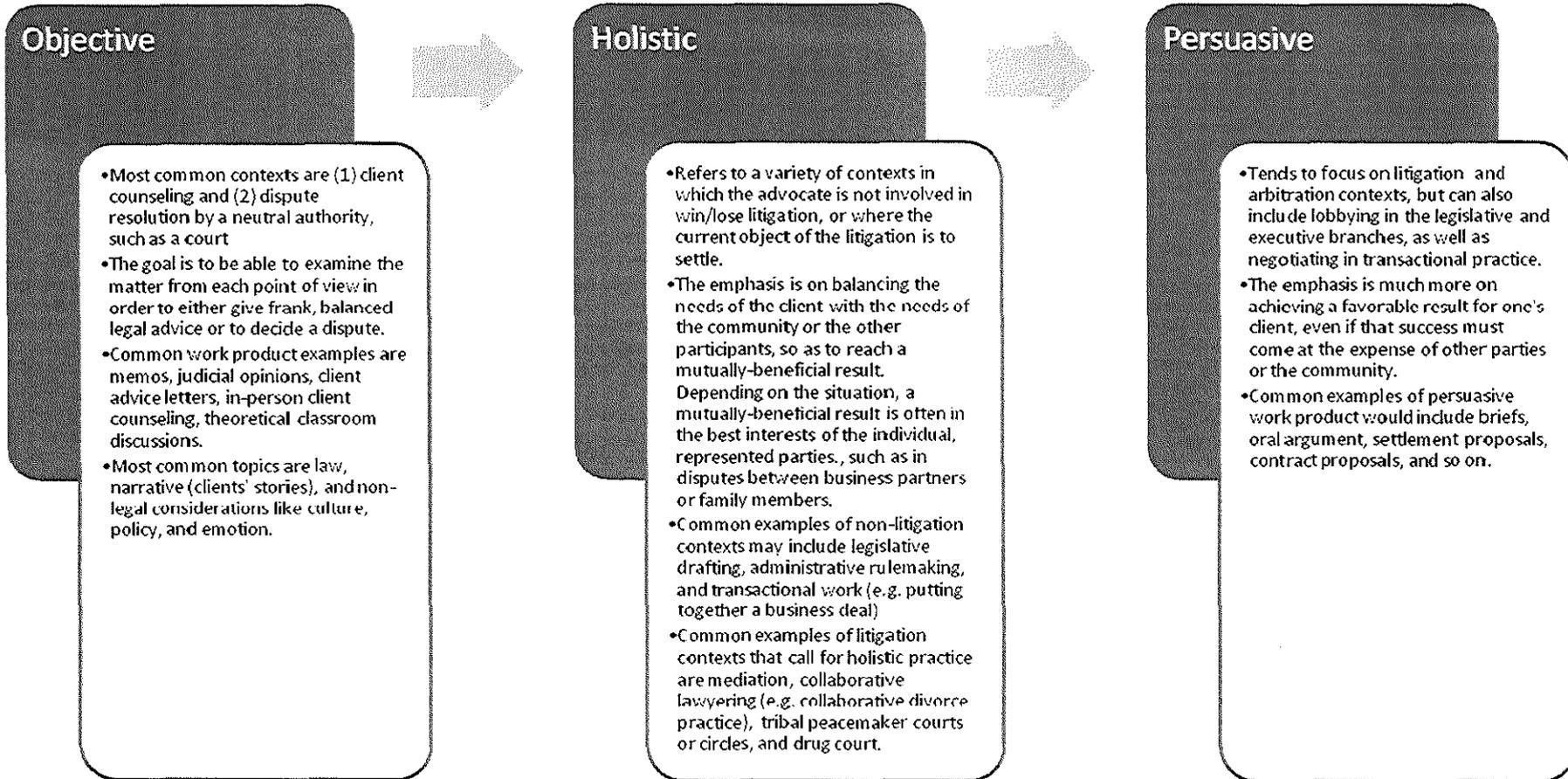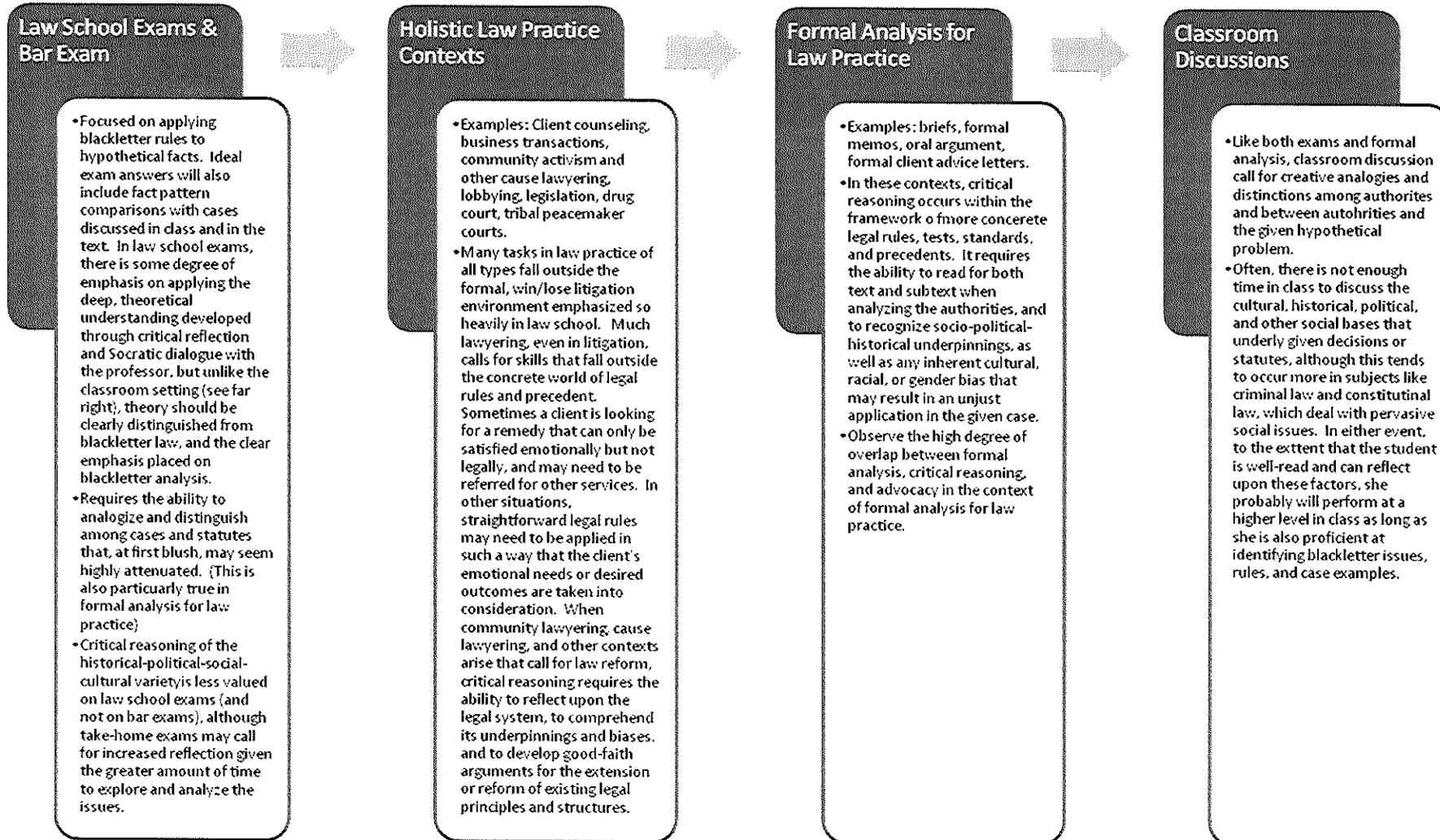| Law School & Bar Exams	Take-Home Exams	Informal Memos and Routine Briefs in Practice & Clinic	Formal Memos and Briefs for Practice, Clinic & LARW	Classroom Discussion
• (I) Intense focus on exhaustive issue-spotting, from the highly relevant to the tangential. • (R) Exclusively focused on generalized, blackletter rules extracted from model codes, restatements, and common law • (A) Focused on applying blackletter rules to hypothetical facts. Ideal exam answers will also include fact pattern comparisons with cases discussed in class and in the text. There is some degree of emphasis on applying the deep, theoretical understanding developed through Socratic dialogue with the professor, but unlike the classroom setting (see far right), theory should be clearly distinguished from blackletter law, and the clear emphasis placed on blackletter analysis. • (C) Predicts how a court would likely rule on the particular issue identified, and summarizes the reason why.	• (I) Usually the same as timed exams (to the left). The professor may want the (I) stated as a prediction/conclusion rather than an open-ended issue. • (R) High degree of focus on blackletter law. There may be some added expectation that the student will also compare jurisdictions. • (A) Increased emphasis on formally describing cases and other authorities, including the language of specific code provisions, as well as the facts, holding, and rationale in cases. Calls for more complex, detailed comparisons with authority, using multiple examples from different ranges of fact patterns. • (C) Predicts how a court would rule on the issue and briefly summarizes the reason why.	• (I/C) The focus is much different from law school exams. Instead of an exhaustive assessment of many issues, the writer must predict or persuade on just one or a few narrow, highly relevant issues of immediate concern. The issue now takes the form of a prediction/conclusion about one discrete issue. • (R) The rule must now focus on the law of the particular jurisdiction, rather than generalized, blackletter law. An informal memo or routine with a more conclusory analysis is usually called for only when the rule and application are relatively non-controversial or reasonably settled in the jurisdiction, requiring only a modicum of proof. • (A) Because the issue in this type of work product tends to require less complex analysis, the focus is on comparison with a small number of key, binding authorities. • (C) Predicts or argues how the court should rule. • Examples: research memo, motion for extension of time.	• (I/C) As indicated to the left, in a simulated or real law practice environment, the prediction or conclusion about how a court should rule on that issue, typically including a brief summary of the reason. • (R) Same as for informal or routine anaylisis, but there is often more call for deep proof of the rule for the jurisdiction, whether because it is unsettled, or because it has several sub-rules, exceptions, and historical applications that must be examined in order to understand it well. This is referred to by many professors as rule explanation, and thus an (E) is often added to IRAC here, to create IREAC, CREAC, and other variations on the formula. • (A) The application also typically is not as straightforward as in an informal memo or routine brief. Rather than merely demonstrating how the jurisdiction has ruled in like cases, the writer must engage in detailed analogy and distinction with binding and persuasive authorities that demonstrate a variety of fact patterns, reasoning, and holdings. • (C) Predicts or argues how a court would rule on the issue and briefly summarizes the reason why	• (I) In classroom conversations, the emphasis is usually on accurately identifying the major issue identified in a particular case. • (R) Emphasis on blackletter rules. • (A) Emphasis on identifying the applications from various key cases from the reading, and using thos examples, plus hypothetical variations deeloped by the professor and the text, to come to a highly theoretical understanding of the rule, including its logical extremes. Formal analysis for law practice also relies extensively on theory, but contrasts because there, the theory is grounded in legislative history and precedent rather than upon extreme hypothetical scenarios. • (C) Comes into play when a professor asks the student to predict how a court likely would rule in light of the understanding developed during the conversation. Here, as in exams, it is important to distinguish between hypothetical extremes and the the existing applications demonstrated by the authorities. Hypothetical extremes are designed to show the limits and possibilities of the rule, and to expose the political, historical, racial, and policy-oriented underpinnings.

Applied Skills Guide: Advocacy (Objective to Holistic to Persuasive)

Objective

- Most common contexts are (1) client counseling and (2) dispute resolution by a neutral authority, such as a court
- The goal is to be able to examine the matter from each point of view in order to either give frank, balanced legal advice or to decide a dispute.
- Common work product examples are memos, judicial opinions, client advice letters, in-person client counseling, theoretical classroom discussions.
- Most common topics are law, narrative (clients' stories), and non-legal considerations like culture, policy, and emotion.

Holistic

- Refers to a variety of contexts in which the advocate is not involved in win/lose litigation, or where the current object of the litigation is to settle.
- The emphasis is on balancing the needs of the client with the needs of the community or the other participants, so as to reach a mutually-beneficial result. Depending on the situation, a mutually-beneficial result is often in the best interests of the individual, represented parties., such as in disputes between business partners or family members.
- Common examples of non-litigation contexts may include legislative drafting, administrative rulemaking, and transactional work (e.g. putting together a business deal)
- Common examples of litigation contexts that call for holistic practice are mediation, collaborative lawyering (e.g. collaborative divorce practice), tribal peacemaker courts or circles, and drug court.

Persuasive

- Tends to focus on litigation and arbitration contexts, but can also include lobbying in the legislative and executive branches, as well as negotiating in transactional practice.
- The emphasis is much more on achieving a favorable result for one's client, even if that success must come at the expense of other parties or the community.
- Common examples of persuasive work product would include briefs, oral argument, settlement proposals, contract proposals, and so on.

Applied Skills Guide: Critical Reasoning (Law School to Law Practice) (Concrete / Emotional / Theoretical)

Law School Exams & Bar Exam

- Focused on applying blackletter rules to hypothetical facts. Ideal exam answers will also include fact pattern comparisons with cases discussed in class and in the text. In law school exams, there is some degree of emphasis on applying the deep, theoretical understanding developed through critical reflection and Socratic dialogue with the professor, but unlike the classroom setting (see far right), theory should be clearly distinguished from blackletter law, and the clear emphasis placed on blackletter analysis.
- Requires the ability to analogize and distinguish among cases and statutes that, at first blush, may seem highly attenuated. (This is also particuarly true in formal analysis for law practice)
- Critical reasoning of the historical-political-social-cultural varietyis less valued on law school exams (and not on bar exams), although take-home exams may call for increased reflection given the greater amount of time to explore and analyze the issues.

Holistic Law Practice Contexts

- Examples: Client counseling, business transactions, community activism and other cause lawyering, lobbying, legislation, drug court, tribal peacemaker courts.
- Many tasks in law practice of all types fall outside the formal, win/lose litigation environment emphasized so heavily in law school. Much lawyering, even in litigation, calls for skills that fall outside the concrete world of legal rules and precedent. Sometimes a client is looking for a remedy that can only be satisfied emotionally but not legally, and may need to be referred for other services. In other situations, straightforward legal rules may need to be applied in such a way that the client's emotional needs or desired outcomes are taken into consideration. When community lawyering, cause lawyering, and other contexts arise that call for law reform, critical reasoning requires the ability to reflect upon the legal system, to comprehend its underpinnings and biases, and to develop good-faith arguments for the extension or reform of existing legal principles and structures.

Formal Analysis for Law Practice

- Examples: briefs, formal memos, oral argument, formal client advice letters.
- In these contexts, critical reasoning occurs within the framework o fmore concerete legal rules, tests, standards, and precedents. It requires the ability to read for both text and subtext when analyzing the authorities, and to recognize socio-political-historical underpinnings, as well as any inherent cultural, racial, or gender bias that may result in an unjust application in the given case.
- Observe the high degree of overlap between formal analysis, critical reasoning, and advocacy in the context of formal analysis for law practice.

Classroom Discussions

- Like both exams and formal analysis, classroom discussion call for creative analogies and distinctions among authorites and between autohrities and the given hypothetical problem.
- Often, there is not enough time in class to discuss the cultural, historical, political, and other social bases that underly given decisions or statutes, although this tends to occur more in subjects like criminal law and constitutinal law, which deal with pervasive social issues. In either event, to the exttent that the student is well-read and can reflect upon these factors, she probably will perform at a higher level in class as long as she is also proficient at identifying blackletter issues, rules, and case examples.

The Core Skills Approach

Step 2 / Guide 4

Applied Skills Guide: Professionalism (Personal to Law School to Practice to Community)

Student Life

- Like medical students, social work students, and other professionals-in-training, law students are considered novice members of the professional community. Accordingly, the bench, bar, faculty, and student body will enculturate students into standards for professional behavior and will expect students to begin meeting those standards while in school.
- Obeying the law school's Honor Code
- Observing the rules of professional conduct for lawyers when engaged in any client-related work
- An attitude of respect toward all peoples and collegiality toward fellow members of the profession, including professors, classmates, and law school staff
- A strong work ethic and commitment to quality work product
- A developing commitment to pro bono service and social justice.
- Sample contexts: classroom, homework, exams, extracurricular activities, externships, clinic work, representing the law school to the community, representing the legal profession to the community

Client Representation

- Strict adherence to the formal rules of professional conduct in one's jurisdiction.
- Protecting the client's dignity; treating with respect
- Lifelong commitment to learning cultural literacy and communication skills
- Competent representation
- Diligent representation

Courtroom Advocacy

- Dignity and respect in conduct toward others, including not only the parties and judge(s), but also jurors, court staff, opposing counsel, and onlookers.
- Preparation
- Appropriate deference to authority figures and legal institutions
- Candor toward the tribunal
- Competent representation

Community Leadership

- Creating a positive public impression of the legal profession, rule of law, and legal institutions
- A commitment to social justice and pro bono

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Step One: Identify Particular Transferable Skills

Choose one class that you teach regularly, and brainstorm how different lawyering skills express themselves in your course content, classroom environment, and exercises.

Critical Reasoning	Advocacy
Professionalism & Ethics	Formal Analysis
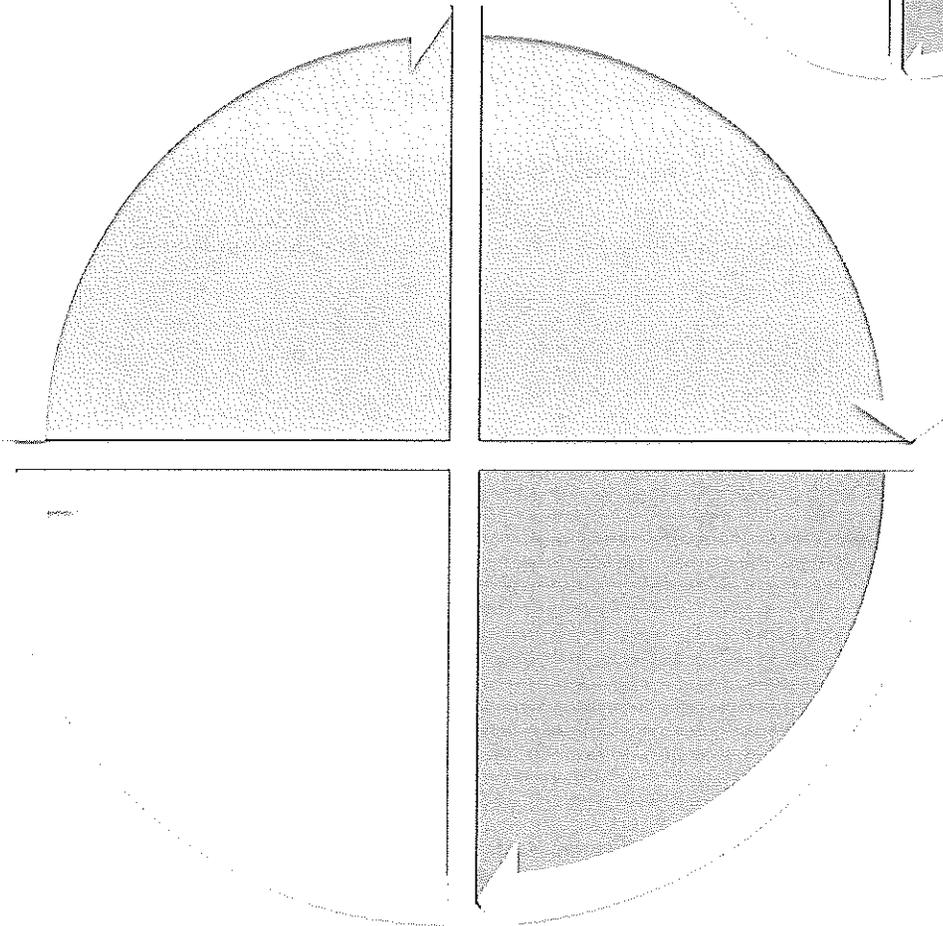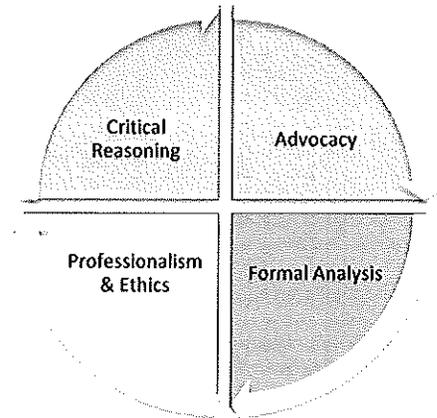
Step Two: Anticipate Applications

Now think about how those skills express themselves in at least two other contexts that students typically encounter, such as other courses, similar assignments, and law practice. See if you can articulate the differences in how those skills are used in varying situations.

Classroom
- Blackletter Law
- Critical Reasoning
- Deep Theory

Exams
- Blackletter Law

Practice
- Blackletter Law
- Critical Reasoning
- Deep Theory
- Nonlegal solutions
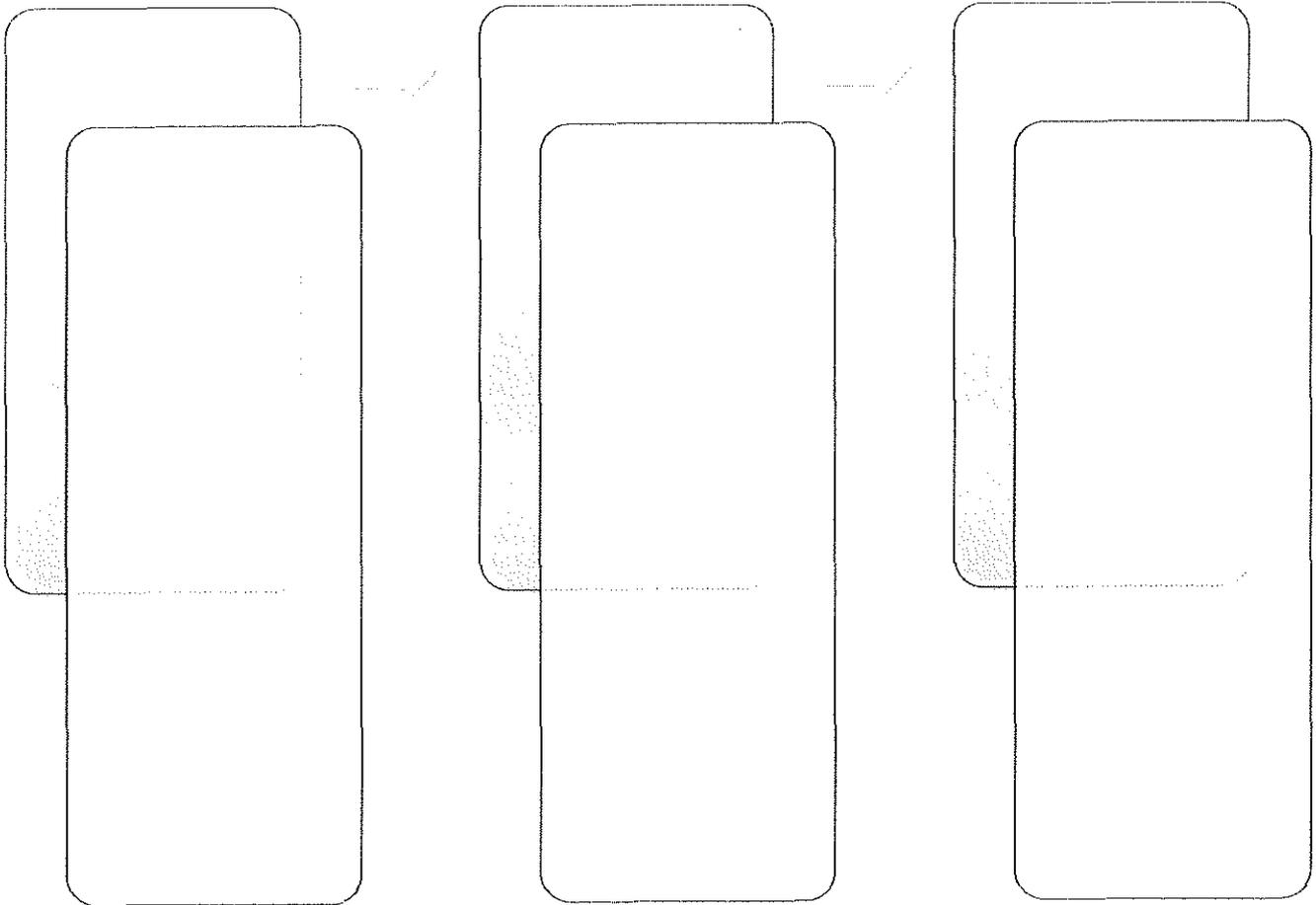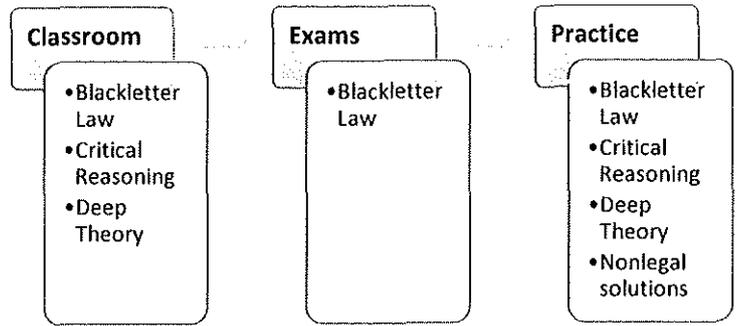
Steps Three & Four: Becoming a Better "Transfer Thinker"

Once students have received some training in how to identify transferrable skills and anticipate their other applications, they benefit from learning how to draw upon their many skill sets in later contexts. One useful tool for "forward- and backward-reaching transfer" is the reflective exercise. The tailored exercise in Step Four is very similar to the general exercise in Step Three, but emphasizes the doctrinal area(s), issues, skills, and resources involved in completing a very specific task.

Reflect on a typical lawyering task where you observed yourself or your students missing opportunities to apply existing skills. Drawing upon the categories like the ones to the right, brainstorm some questions that you wish your students would ask themselves (or that you wish you would have asked yourself). Try to be more specific than just restating the category as a question.

Expectations	Generalized Knowledge
Analogous Situations	Lawyering Skills
New Resources	Models
Future Applications	Motivation

Specific Assignment or Task:

Motivations for Accomplishing the Task:

Teacher/Employer Expectations:

General/Content Knowledge:

Analogous Situations from Experience:

Specific Lawyering Skills Involved:

New Resources Needed:

Sources for Models/Samples:

How to Teach
for Transfer

Robin Fogarty

David Perkins

John Barell

Figure 11 Sample Three "Somes" Worksheet

Three "Somes" Worksheet

Topic _____   Date _____

SOMETHINGS	SOMEHOWS	SOMEWHERES

SOMETHINGS

Knowledge
information, facts, data

Skills
prediction, inference, compare and contrast

Concepts
courage, conflict, systems

Attitudes
fear, hope

Principles
laws, rules, theorems

Dispositions
perseverance, cooperation

Criteria
list of criteria used to determine the "somethings" for transfer

SOMEHOWS

Hugging – Low Road

Setting Expectations   Modeling

Matching   Problem-based Learning

Simulating

Near Transfer

Bridging – High Road

Anticipating Applications   Parallel Problem Solving

Generalizing Concepts   Metacognitive Reflection

Using Analogies

Far Transfer

SOMEWHERES

Within Content
Previous Unit
Previous Lesson
Subsequent Unit
Subsequent Lesson

Across Disciplines
Math
Science
Social Studies
Language Arts
Practical Arts

Into Life
Personal
School
Work
Play

♦ S O M E W H E R E S ♦

Glossary

ANTICIPATING APPLICATIONS (BRIDGING STRATEGY)   In this strategy, the teacher asks students to brainstorm where else some knowledge or strategy they have been studying might be used. Or the teacher may suggest several areas of application outside the current focus and provide brief practice with them. Thus, applications of the knowledge or strategy to the other contexts are anticipated rather than left to spontaneous transfer.

For example, a history teacher might introduce concept mapping to help students represent causal patterns in historical events. After the students gain some familiarity with the technique, the teacher might ask them to brainstorm possible applications of concept mapping to other subject matters—diagramming stories in English or concepts in mathematics, for instance.

BO PEEP THEORY OF TRANSFER: *TRANSFER TAKES CARE OF ITSELF*   The tacit theory of transfer behind most educational practice is that transfer takes care of itself: students learn knowledge and skills in one context and automatically transfer what they learn to other appropriate contexts. One might call this the "Bo Peep" theory, because it treats transfer the way Bo Peep treated her sheep: "Leave them alone, and they'll come home, wagging their tails behind them." Unfortunately, research shows that the Bo Peep theory is generally mistaken. Transfer does not occur without special attention. (See "Lost Sheep theory" and "Good Shepherd theory.")

CRITERIA FOR WHAT TO TEACH FOR TRANSFER   Teaching for transfer involves selecting *something* to be transferred—certain knowledge, concepts, skills, or whatever. This, in turn, calls for thoughtful consideration of what elements of the curriculum are worth teaching

for transfer (not to mention worth teaching at all!). What makes a topic worthwhile as a candidate for transfer is, of course, its potential significance in other areas. In appraising a topic's potential, one can check the following three areas:

- *Significance within the disciplines*—does the topic have broad significance within its own and perhaps other disciplines?

- *Societal significance*—does the topic speak to problems and concerns of society at large?

- *Student needs/interests/aspirations*—does the topic resonate with students' hopes, desires, curiosities, needs, and so on?

FAR TRANSFER   A rough distinction is drawn between "near transfer" (see) and "far transfer." Far transfer refers to transfer between contexts that are very different. Here are some examples of far transfer:

- Using problem-solving skills acquired in mathematics to puzzle out an exercise in English.

- Using knowledge of history to understand current events unfolding in the daily paper.

- Using knowledge from literature to think about one's own life situations.

Of course, the distinction between near and far transfer is only a rough one and there are many intermediate cases.

GENERALIZING CONCEPTS (BRIDGING STRATEGY)   In this strategy, the teacher scaffolds a discussion beginning with a particular topic, leading students to generalize

from it in far-reaching ways. For example, working from a short story that students have read, the teacher might call for generalizations about human nature, and examples of those generalizations from other stories and everyday experience.

GOOD SHEPHERD THEORY OF TRANSFER: *TRANSFER WILL HAPPEN WITH SHEPHERDING* Both research and classroom experience argue that we can obtain considerable near and far transfer if we teach in ways that foster transfer. Such teaching might be called "shepherding transfer," because teachers act as guides and prompters to "shepherd" knowledge and skills from one context to another.

HIGH ROAD TRANSFER High road transfer is one of two fundamental mechanisms of transfer identified by Gavriel Salomon and David Perkins. High road transfer occurs through *mindful abstraction* of knowledge or skills from one context and *mindful application* in another context. It is a thoughtful, effort-demanding process, intellectual in character.

High road transfer is particularly important as a way of achieving far transfer, because the mechanisms of low road transfer do not readily bridge large gaps (*see* "Low road transfer").

- A student abstracts some diagramming strategies from mathematics studies for representing problems; the student applies these diagramming strategies in English to understand the structure of a story.

- A student notices how two siblings in a novel treat one another, sometimes getting along, sometimes not getting along; the student becomes more mindful about interactions at home with a sibling, improving the relationship.

- A student learns about the principle of entropy in physics. The student abstracts the general idea that random events tend to lead to an accumulation of haphazardness, and recognizes that entropy is at work in making his or her desk and class notes messy.

Of course, learning situations can easily mix low road and high road transfer. Both mechanisms can operate at once.

INERT KNOWLEDGE Considerable research shows that a startling amount of the knowledge that people acquire in subject matter instruction is "inert." This means that the knowledge is "there" in memory for the multiple-choice quiz. But the knowledge is passive. It is not retrieved in contexts of active problem solving or creativity, such as writing an essay. So inert knowledge does not really contribute much to the cognitive ability of the learner except for performance on school quizzes. One of the goals of teaching transfer is teaching for active rather than inert knowledge.

KWL CHART This is a graphic organizer that helps in assessing prior knowledge and current questions for a learning task, and then helps assess what was actually learned after the task is completed. It is a triple T-Chart with the headings, "What We Know," "What We Want to Find Out," "What We Learned."

LOST SHEEP THEORY OF TRANSFER: *TRANSFER DOESN'T HAPPEN* Discouraged by the track record of spontaneous transfer, some theorists have concluded that people simply do not transfer very well, especially for "far transfer" (see). Knowledge and skills acquired in one context do not apply very well to other contexts. By and large, learners have to learn anew in each distinctive context. However, considerable research shows that this theory is mistaken. Under the right conditions, learners transfer a lot. (*See* "Bo Peep theory" and "Good Shepherd theory.")

LOW ROAD TRANSFER Low road transfer is one of two fundamental mechanisms of transfer identified by Gavriel Salomon and David Perkins. Low road transfer occurs by the *automatic triggering* of well-learned knowledge or skills by perceptually similar situations. It is not a very thoughtful, intellectual process, but more of a spontaneous, reflexive one. It is thus more efficient than high road transfer, but as a trend yields near transfer much more than far transfer.

Low road transfer can reach somewhat further over time, because knowledge and skill can gradually spread from one context to a similar one, to another similar one, and so on. Thus, low road transfer is facilitated by practicing knowledge and skill in a variety of similar contexts, thus "spreading out" the knowledge or skill in question over them.

Here are some examples of low road transfer:

- A student learns basic arithmetic skills in arithmetic; these are automatically evoked when an arithmetic problem arises in science.

- Students learn a problem-solving strategy for one kind of arithmetic problem. The teacher immediately gives a somewhat different kind of problem, but with some similarity. Students carry over the strategy to the new kind of problem, thus "spreading" its utility more widely.

- The English teacher teaches some basic reading strategies, giving students practice in several different kinds of reading to "spread" the habit across multiple genres.

Of course, learning situations can easily mix low road and high road transfer. Both mechanisms can operate at once.

MATCHING (HUGGING STRATEGY)   Matching simply means making the instructional experience just the same as the desired transfer outcome. You engage students in the very performances you are trying to develop, so there is no gap left between the instructional experience and the performance.

For example, if we want students to take a stand, advocate a position, and support it with detail, we need to engage them in doing just that, for instance through class or small group debates. If we want students to learn how history speaks to contemporary events, we should engage them in thinking about exactly that.

METACOGNITION   Metacognition is a technical term that means "thinking about thinking"—your own, or someone else's, or thinking about thinking in general. Most typically, what is meant is thinking about your own thinking.

There are many aspects to thinking that one can fruitfully think about—for example, how one solves problems, how one remembers and memorizes (sometimes called "metamemory"), how one monitors one's attention and keeps oneself on track (sometimes called "attention monitoring").

Metacognition is a mental activity important to high road transfer. Research shows that people who are aware of their own thinking and reflect upon it are more likely to achieve transfer by way of the high road.

MODELING (HUGGING STRATEGY)   Modeling means demonstrating the desired behavior while giving a running metacognitive monologue (or followed by a metacognitive discussion) cuing the key elements. In other words, the teacher shows and labels a model of the behavior the students are to adopt. For example, demonstrating a "pre-reading" strategy, a teacher might read aloud the headings and captions of an article, speculate aloud as to what they suggested about the whole article, and generate some questions to ask aloud while reading the article fully.

NEAR TRANSFER   A rough distinction is drawn between "near transfer" and "far transfer" (see). Near transfer refers to transfer between contexts that are quite similar. Here are some examples of near transfer:

- Using a problem-solving skill you acquired in math for another kind of problem in math.

- Using a piece of historical knowledge in thinking about another episode in history, making a comparison.

- Using driving skills for driving a car for driving a small truck.

Of course, the distinction between near and far transfer is only a rough one and there are many intermediate cases.

PARALLEL PROBLEM SOLVING (BRIDGING STRATEGY)   In this bridging strategy, students solve problems with parallel structure and content in two different areas. The students gain an appreciation for the similarities and contrasts between the areas, along with a better sense of the problem-solving processes themselves. Often, although not necessarily, one of the areas concerns personal or everyday life. For example, students from an inner city area might reason about the causes of gang warfare. Then, in similar manner, reason about the causes of international rivalry and war.

PROBLEM-BASED LEARNING (HUGGING STRATEGY)   Problem-based learning means engaging students in learning a body of facts, ideas, and/or procedures through active, open-ended problem solving. The name "prob-

lem-based learning" suggests a goal of improving problem-solving skills, and problem-based learning may do so. But this is not its principal goal! Instead, the aim is to develop *active* rather than *inert* knowledge, that is, knowledge likely to be retrieved in open-ended problem-solving situations in the future. Problem-based learning is a hugging strategy because its philosophy is, "If you want active use of knowledge later, build active use of knowledge into the learning process."

SCAFFOLDING Scaffolding is an established technical term for a pattern of interaction between learners and a teacher, parent, or other person in a teaching role. In scaffolding, the teacher neither leaves the learners alone nor provides "how to" information (although the teacher may provide some information to kick things off). Rather, the teacher interacts with the learners, offering leading questions, hints, and prompts to help the learners along. These questions, hints, and prompts are the "scaffold" that allows the learners to work through the problem at hand as much on their own as possible.

The art of scaffolding is a balancing act. The teacher scaffolds as little as possible, but enough to keep up the pace of the activity. The teacher reduces the scaffolding as the learners gain knowledge and confidence.

SETTING EXPECTATIONS (HUGGING STRATEGY) At the beginning of a piece of instruction, teachers can alert students to the expectation that the students will find what they learn useful in other related situations. Teachers can encourage students to anticipate using what they learn and try to be alert and flexible in seeking opportunities to do so.

For example, teaching a reading skill in English class, the teacher can alert students to the idea that this skill can also be used for similar kinds of reading later in the term, or in history class.

SIMULATING (HUGGING STRATEGY) Simulating is like "matching" (see), but serves in situations where it is impossible, inconvenient, or imprudent to replicate the actual situation to which you want transfer. Instead, therefore, you simulate it. Students experience an approximation in actions and feelings of the actual situation by means of the simulation. For example, students might role-play the trial of the Big Bad Wolf of "The

Three Little Pigs" to learn about bias and jury selection. Students might undergo mock job interviews to prepare for real ones.

SOMETHING, SOMEHOW, SOMEWHERE This is a shorthand reminder for three things to think about when you are planning to teach for transfer. In a sentence, you are going to transfer some*thing* (some skill, knowledge, strategy, etc.) to some*where* (some other context of application—a different subject matter, everyday life, etc.). And, to do that, you have to do it some*how*. You have to utilize one or more strategies of hugging or bridging.

In summary, you can organize your planning of teaching for transfer by asking yourself:

- What are the some*things* (knowledge, skills, strategies, etc.) I want to transfer?
- What are the some*hows* (hugging and bridging strategies) I'm going to use to promote transfer?
- What are the some*wheres* (other subject matters, everyday life) I want to transfer to?

TRANSFER "Transfer of learning" simply means the use in a new context of knowledge and skills acquired in an earlier context. The knowledge or skills transferred can be very specific—a fact about history or grammar. Or they can be very general—a theory, a principle, a thinking skill.

USING ANALOGIES (BRIDGING STRATEGY) The teacher poses (or draws from the students) a potential analogy between two very different areas and scaffolds the students in "unpacking" the analogy—elaborating on it and exploring how well it holds up, examining the similarities and differences.

For example, a teacher might invite comparisons between the atom and the solar system: In what ways are they analogous, in what ways dissimilar? In the same spirit, a teacher might invite comparisons between the family and the government of a state or nation.

Use this planner to scan for the possibilities of "somethings" worth teaching for transfer.

The Model
Finding the "Somethings"

Topic: _____

Knowledge	Skills

Concepts	Attitudes

Principles	Dispositions

Criteria

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The Model
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Topic:

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HUGGING

Setting Expectations
Your Example

THINK AHEAD...to a lesson, unit, topic, chapter, or theme. Note some ways to *set expectations* for future use; *anticipate relevance*; *develop rationale* for shepherding transfer of the targeted somethings. Include ways to set expectations prior to the instruction (Why bother to learn this?), throughout the instructional unit (What does this remind you of?), and for short-term and long-term use following the teaching (How can you use this?). *Design* by setting expectations to hug for transfer.

Focus:

Beginning of the Lesson

Identify somethings with transfer potential.

Middle of the Lesson

Remind students of targeted somethings and how they might be used.

End of the Lesson

Where else might we use this?

NEAR TRANSFER

HUGGING

Matching
Your Example

THINK AHEAD ...to a lesson, unit, topic, chapter, or theme. Note some ways to *engage students in the desired performance; immerse students in the expected learning; or construct an experiential design* to shepherd transfer of the targeted somethings. Include: procedural guided learning tasks (step-by-step recipes); experiential hands-on approaches (manipulation or lab experiments); or immersion into the field of study (a French immersion class or an archaeological dig). *Design* with matching to hug for the desired transfer.

Focus:

Beginning of the Lesson

What do I want students to be able to do?

Middle of the Lesson

Are students practicing the desired behavior?

End of the Lesson

Can students do what I wanted them to do?

NEAR TRANSFER

HUGGING

Simulating
Your Example

THINK AHEAD...to a lesson, unit, topic, chapter, or theme. Note some ways to *simulate the "real thing"; to role play or act out; and to personify or pretend* in order to shepherd transfer of the targeted somethings. Include ways to simulate (setting up prototypes); role play or act out (assigning specific parts); personify or pretend (assuming actions and feelings of another). *Design* for transfer of the targeted somethings.

Focus:

Beginning of the Lesson

How can we simulate the real thing?

Middle of the Lesson

How realistic is the simulation?

End of the Lesson

How accurate has our simulation been?

NEAR TRANSFER

HUGGING

Modeling
Your Example

THINK AHEAD...to a lesson, unit, topic, chapter, or theme. Note some ways to *model, show*, or *demonstrate* to shepherd transfer of the targeted somethings. Include ways to model prior to the lesson (Here's a finished sample), during the lesson to provide needed scaffolding (Notice how this is done), and for short-term and long-term use following the teaching (How does yours compare?). *Design* with modeling to hug for the desired transfer.

Focus:

Beginning of the Lesson

Present an example of the product or process.

Middle of the Lesson

Do you have the key elements of the model?

End of the Lesson

How did you vary from the model? Why?

NEAR TRANSFER

Problem-based Learning

Your Example

THINK AHEAD...to a lesson, unit, topic, chapter, or theme. Note the opportunities to *create problematic situations or construct experiential episodes or field work in which students pull together or locate relevant information* to shepherd transfer of the targeted somethings. Include: prototypical scenarios (set up a mock trial or voyage); real-life experiences (outdoor education); and field work (taking over as principal for the day). *Design* for transfer of the targeted somethings.

Focus:

Beginning of the Lesson

How can I create a problem-solving situation?

Middle of the Lesson

Monitor the experience for universal learnings.

End of the Lesson

How does this help us understand?

BRIDGING

Anticipating Applications
Your Example

THINK AHEAD...to a lesson, unit, topic, chapter, or theme. Note opportunities to *anticipate applications; predict future use; scout for relevant transfer; or speculate on applications* to shepherd transfer of the targeted somethings. Include: ways to anticipate applications (How might you use this in science class?); ways to predict future use (Imagine using this when _____.); ways to scout for relevant transfer (Brainstorm or survey others for possible uses of this ___. Where might it apply?). *Design* applications to bridge for transfer.

Focus:

Beginning of the Lesson

How might we use this elsewhere?

Middle of the Lesson

Look for ways to use this beyond this science class.

End of the Lesson

Where can we apply this in life?

FAR TRANSFER

BRIDGING

Generalizing Concepts
Your Example

*THINK AHEAD...*to a lesson, unit, topic, chapter, or theme. Note opportunities to *generalize concepts; pull out the generic piece; apply universally; find underlying truths or "big ideas"* to shepherd transfer of the targeted somethings. Include ways to pull out the generic piece (What is a common thread running through both stories?); ways to apply universally (What is the moral or lesson here?); ways to find underlying truths (Find a meaningful quote for this); ways to highlight the "big ideas" (What is the most important thing to remember here?). *Design* for transfer.
Focus:

Beginning of the Lesson

Be alert to key characteristics.

Middle of the Lesson

What ideas seem to have transfer potential?

End of the Lesson

What are the big ideas that we can use?

FAR TRANSFER

BRIDGING

Using Analogies
Your Example

THINK AHEAD...to a lesson, unit, topic, chapter, or theme. Note opportunities to *use analogies; analyze analogies; compare and create metaphors; and make creative connections* to shepherd transfer of the targeted somethings. Include ways to use analogies (How is an atom like the solar system?); ways to analyze analogies (Let's examine all the ways a suitcase is like fear. The handle is like the grip it has on you.); ways to compare metaphors (Describe how a good book is like a summer romance.); ways to make connections (Both thinking and golf require a clear direction.). *Design* for transfer.

Focus:

Beginning of the Lesson

Think how the topic is like something else.

Middle of the Lesson

What similarities are you noticing?

End of the Lesson

Analyze these metaphors.

FAR TRANSFER

BRIDGING

Parallel Problem Solving
Your Example

*THINK AHEAD...*to a lesson, unit, topic, chapter, or theme. Note ways to *structure parallel problems; associate one idea with a similar idea; parallel a personal situation with a similar, but more universal situation* to shepherd transfer of the targeted somethings. Include: ways to structure parallel problems (Think of a personal instance when you were afraid to ask. What did you do?); ways to associate one idea with a similar idea (What does this remind you of?); ways to parallel personal situations with similar but more universal situations (Compare the structure of our presidency to the English monarchy.). *Design* for transfer to the targeted somethings.

Focus:

Beginning of the Lesson

Think of a similar conflict situation.

Middle of the Lesson

How are these situations similar/dissimilar?

End of the Lesson

How do our learnings in one situation transfer to the other?

FAR TRANSFER

BRIDGING

Metacognitive Reflection
Your Example

THINK AHEAD...to a lesson, unit, topic, chapter, or theme. Note opportunities to *reflect on one's own behavior; plan ahead; monitor or track one's progress; or map or evaluate one's thinking and behavior* to shepherd transfer to targeted somethings. Include: ways to plan ahead (How will you approach this topic?); ways to monitor or track (Periodically check your progress by comparing notes with your partner.); ways to strategically map one's procedure (Mark your stumbling blocks on a chart.); reflective evaluation (Look back and comment on your strengths and weaknesses in this effort.). *Design* for transfer to the targeted somethings.

Focus:

Beginning of the Lesson

How can I engage students in planning an approach?

Middle of the Lesson

How will students monitor their progress?

End of the Lesson

How will students reflect and evaluate their progress?

FAR TRANSFER