Assignment- 01  “Just the Facts…”
Due: 14 Sep 08

For the remainder of the semester, a significant emphasis will be placed on the clarity and efficiency of your communications and on your ability to distinguish the relevant from the extraneous in the preparation of case studies.

Task:

From your past professional coop experience, identify a specific instance, in which poor coordination between or among an architect and a larger project team resulted in unanticipated design/construction costs and/or delays.

To accompany a concise three minute presentation during class, prepare a Storyboard of the facts of the case using only graphic information—Include, as required, illustration, imagery, diagrams, symbols, charts, matrices, etc.

For the benefit of your peers, your presentation must convey:

- **Setting:** Relevant project facts, including building type, schedule, cost,
- **Characters:** Protagonists and affected Stakeholders, etc.
- **Plot:** Roles and relationships of key players and what happened
- **Timeline:** Relevant milestone events

Readings:

http://en.wikipedia.org/wiki/Storyboard
http://www.everythingesl.net/downloads/storyboard.pdf

“Got Ethics!” Victoria Beach, AIA BSA Chapter Letter, September 2002
www.aias.org/chapter_resources/documents/ArchitecturalEthicsArticles-Beach.pdf
<http://www.aias.org/chapter_resources/documents/ArchitecturalEthicsArticles-Beach.pdf>

Note:

In order to safeguard their privacy and encourage an authentic account of events, the identity of the firm and individuals is to remain confidential.
Assignment- 02
Due: 16 Sep 09

Readings

Read: “Making the Case”, David Garvin, Harvard Magazine, 10/03 (pp. 56-65,107)

Assignment- 02
Due: 21 Sep 09

“Conventional Wisdom”

Reading

(AIA) Case Studies Initiative (http://www.aia.org/education/AIAS075234)

“Case Study: Anne Cahill (A) and (B)

Task

From the list of fifteen case studies provided by the American Institute of Architects, (AIA) Case Studies Initiative (http://www.aia.org/education/AIAS075234), select one project for careful review and critique.

In teams of two (and one of three) prepare a written summary (not to exceed two pages) and five minute verbal presentation critiquing your selected case study’s success in achieving the content objectives of the AIA Case Study Development Guideline, as excerpted below:

- **a concise abstract** describing the most significant elements of the case and identifying key team members, including the client and user representatives.

- **learning objectives** that articulate the topics to be studied and provide a guide to understanding the lessons learned from the project.

- **perspectives**, including protocols for decision-making, stories of practice, innovative ideas, and the value placed on innovation, measures of success, and graphic illustrations. Various “voices” should be considered, including client perspectives and those from the prime professional firm, consultants, contractors, and regulators.

- **analysis** of and reflection on the specific relevant details of the case, focused on a particular topic or considering a series of practice issues. The analysis may include measures of success or difficulty, often reconstructing decision-making to understand a project’s flow. Client concerns, business issues within the practice, design considerations, project delivery issues within the firm as well as project delivery in the construction process are among the issues to be considered. The format for this section can parallel that of The Architect’s Handbook of Professional Practice.

- http://www.aia.org/education/AIAS075229
Professional Practice: Project Case Studies I
Analysis of Practice in the Design Process

ASSIGNMENT- 4  Due- In class; 3 November 2008

Delivery Options

No delivery model is well suited to all projects. A primary goal of this semester’s sequence of assignments is to enable you to wisely design and execute a given project delivery in anticipation to their unique set of requirements and opportunities.

In the next exercise, you will look at the relative advantages of traditional and alternative forms of project delivery. Combined with the work done thus far to expand the definition of Teams, and Case Study formats (as a potentially interactive and personalized learning resource) this overview will prepare you for the third major project of the semester: to frame, develop, and deliver a proposal for a delivery model to suit the attributes of a specific set of real-world project parameters.

Assignment (divide the class into teams, as necessary, to cover the five topics)

Using the AIA’s Introduction to AIA Contract Documents (http://www.aia.org/movie/flash/docsprimer/start.htm) and Summary Chart (http://www.aia.org/docs_chart) as a starting points, with reference to the relevant AIA documents for detail (AIA Architects Handbook of Professional Practice CD - on reserve in the library), make a 10 minute presentation to your colleagues describing following five models of delivery:

- Conventional (Design-Bid-Build)
- Integrated Project Delivery / BIM
- CM Adviser Family
- Design-Build Family
- Interiors

Any generalizations should be backed up with reference to the language of the documents themselves.
7 October, 2009

Design Team,

Your young firm has been selected to participate in this limited competition based on your noteworthy performance on recent projects.

Our client has provided the funds necessary to underwrite the design and development of a new research endeavor. Two such projects are to be initiated on the same schedule. Only one will be chosen for further development and eventual release to the architectural community in the form of a Case Study Guide.

Our client is a highly successful consultant to federal governments pursuing international scale exhibitions and events for their major cities.

You are asked to develop an innovative collection of case studies to chronicle the architectural/planning strategies and resulting economic, cultural, and architectural/urban design impact of last 20 Olympic Games.

Include: Project identification, location; plans, context summary, building types, dates commissioned and completed; key design professionals, client name; program and built area; additional design consultants, construction cost; basic timeline;

The criteria for award of the Round Two development rights include: quality and depth of your analysis; innovation of the Case Study format; as well as exhibited professionalism in service.

Thank you,

Adrian Bernhard, Director
7 October, 2009

Design Team,

Your young firm has been selected to participate in this limited competition based on your noteworthy performance on recent projects.

Our client has provided the funds necessary to underwrite the design and development of a new research endeavor. Two such projects are to be initiated on the same schedule. Only one will be chosen for further development and eventual release to the architectural community in the form of a Case Study Guide.

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Include: Project identification, location; plans, context summary, building types, dates commissioned and completed; key design professionals, client name; program and built area; additional design consultants, construction cost; basic timeline;

The criteria for award of the Round Two development rights include: quality and depth of your analysis; innovation of the Case Study format; as well as exhibited professionalism in service.

Thank you,

Adrian Bernhard, Director
ASSIGNMENT

Due 28 Oct 09

New Friends

Following your successful analyses of the project delivery of several iconographic pieces of architecture and engineering, you will next address the delivery of examples considered to be “successful” in a more contemporary context.

A. On 7 October 2009, successfully negotiate, draft, and sign a contract with milestone schedule, between yourselves (design team) and your client’s representative to provide and present on 28 October “A document, suitable for publication”.

B. On 28 October, individually submit a summary of your role on the Team, how you assumed this role, who you worked most closely with, and in what capacity, who you reported to and who reported to you, what challenges you faced individually in completing your responsibilities to the Team. Assess the success of the team in accomplishing its goal, and, as objectively as possible, your part in that success.

C. Presentation:

   Comprehensive 30 minute presentation to Herren Veiderspahn and Thrush, 28 Oct 2009

D. Reference:

New Friends – Week 2

Maximizing the team’s potential for success:

A. Take one or both of the following Jung/Meyers-Briggs questionnaires online:

   http://www.humanmetrics.com/cgi-win/JTypes2.asp
   http://similarminds.com/jung.html

   After receiving your profile, review its unique profile traits and explore some of
   the others.

   http://www.personalitypage.com/portraits.html

   Consider your own unique strengths in the context of your firm’s team.

B. Selected Readings:

   “Understanding Teams” (pp 43-64). The Wisdom of Teams. Katzenbach, Jon R. and

   from Design Plus Enterprise: Seeking a New Reality in Architecture & Design. The American

C. Provide your client an Internal Team Diagram with Roles and Responsibilities, 19 October.

Framing a Clear Project Purpose:

D. Present your client with a Revised Project Proposal and Agreement, 19 October.

Professional Practice: Project Case Studies I
Analysis of Practice in the Design Process

Section I: Monday + Wednesday 8:00-9:40  Ruggles Studios- Crit Room
Section II: Monday + Wednesday 9:50-11:35  Ruggles Studios- Crit Room
Instructor: Daniel Hewett AIA LEED dmhewett@gmail.com 617-291-2102 (cell)

In-Class Self-Assessment  21 Oct 09

New Friends – Week 2

20 Minutes:

What instruction would you give to young architects on the brink of forming their first project team? In your experience, what are the three most detrimental mistakes new teams make? Use your role and your own personal experiences, good and bad, to illustrate the potential risks.
Design Team,

Your young firm has been selected to participate in this limited completion based on your noteworthy performance on recent projects.

Our client has provided the funds necessary to underwrite the design and development of a new research endeavor. Two such projects are to be initiated on the same schedule. Only one will be chosen for further development and eventual release to the architectural community in the form of a Case Study Guide.

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Include: Project identification, location; plans, context summary, building types, dates commissioned and completed; key design professionals, client name; program and built area; additional design consultants, construction cost; basic timeline;

The criteria for award of the Round Two development rights include: quality and depth of your analysis; innovation of the Case Study format; as well as exhibited professionalism in service.

Thank you,

Adrian Bernhard, Director
Case Studies in the Study and Practice of Architecture

Development Checklist and Submission Guidelines

prepared by
The American Institute of Architects
Case Study Work Group

a subcommittee of
The Large Firm Roundtable
The Educator/Practitioner Net

THE AMERICAN INSTITUTE OF ARCHITECTS
Case Studies in the Study and Practice of Architecture

Development Checklist and Submission Guidelines

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The Case Studies initiative has been made possible by the generous support of the AIA Large Firm Roundtable. The Case Study Work Group gratefully acknowledges the LFRT’s sponsorship of the project, as well as the financial assistance of the CNA/Schinnerer Insurance Programs.
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The idea of developing Case Studies in the Study and Practice of Architecture was proposed initially in October 1998 in Dallas, Texas, at a meeting attended by eleven representatives of the AIA Large Firm Roundtable (LFRT) and thirteen deans of schools of architecture. The intent of the meeting was to find ways to bridge the gap between the academy and the profession. The case study initiative has been endorsed at subsequent meetings of the LFRT as well as by the AIA Board of Directors, the AIA Educator/Practitioner Net, and at gatherings of the Association of Collegiate Schools of Architecture.

As the idea gathered momentum, the Case Study Work Group was formulated as a collaborative subcommittee of the LFRT and the Educator/Practitioner Net. Participation in the work group by practitioners from large, mid-size, and small firms as well as by representatives from schools of architecture has been critical. The Case Study Work Group met three times to develop and refine the Development Checklist and Submission Guidelines.

The intent of this collaborative effort is to develop a new body of knowledge regarding the practice of architecture through rigorous preparation of architectural case studies, for both traditional and nontraditional projects. The information developed will be available to students, faculty, interns, practicing architects, and the public, in an attempt to better inform all of these constituencies. The goal is to provide a context, based in the reality of individual projects, for continuing education of practitioners and, for students, a method of learning how to learn.

The deadline for submission of case studies is July 1. Following submission and review by the Case Study Work Group, 25 case studies will be selected for publication on the AIA’s Web site.

This document is the starting point of an iterative process of continuous review and monitoring to ensure the effort will result in the development of an excellent body of new knowledge. On behalf of all of the stakeholders, we believe that if the case study process is embraced and enthusiastically implemented, all facets of the profession will be enriched.

On behalf of the Case Study Work Group

Richard Green, FAIA, cochair
Marvin J. Malecha, FAIA, cochair and editor
Introduction

The case study method addresses the importance of learning how to learn as an essential element of continuous professional growth.

Education and practice are bound by a complex body of knowledge. When the processes of architecture are studied closely they reveal continuous and astute decision-making and provide students and professionals the opportunity to learn from each other. Each story will weave a different lesson: one scenario will emphasize firm management, another client interaction, and another contract negotiation. Case studies provide orientation to the complexity of practice for the novice and perspective for the seasoned professional. The case study

- Connects the project to prior experience.
- Explores new knowledge that has influenced the project.
- Records the interrelationships of people, ideas, contracts, and goods.
- Recognizes the configuration and reconfiguration of design teams.
- Celebrates the talents, expertise, roles, and boundaries of each team member.

Case studies create materials that are valuable to a wide range of constituencies:

- Students who develop the discipline of investigation.
- Interns who nurture an understanding of the culture of practice.
- Educators who gain a heightened awareness of the conduct of practice.
- Practitioners who pursue continuing education.
- Allied disciplines and related professionals who seek to make connections to architecture as consultants.
- Generalists who seek a greater perspective of practice.
- The public, including clients, who seek an accessible means of understanding architecture.

The case study format is intended to structure a body of knowledge that is easily accessible. The format therefore consists of the following four elements: (1) a concise *abstract* and assessment of the relevance of the project and the team required to accomplish it; (2) *perspectives* related to the case that broaden the understanding of decision-making, the complexity of project constituencies, the stories of practice, the value placed on innovation, and the measures of success; (3) *analysis* of the specific relevant details of the case, including exploration of issues as diverse as obtaining work and the
nature of services provided; and (4) a learning plan that articulates topics to be studied and identifies those who will be using the material.

The role of the AIA is vital to the development of case studies. Providing information to a broad professional base and the resources to build and maintain a body of practice knowledge depends on the AIA to sustain a long-term effort. This effort includes sustaining the evolution of a new body of information, building partnerships between education and practice, and supporting the role of academic programs of architecture.

Exposure to the best examples of practice communicates excellence to the student. Learning with others is the essence of design practice. Learning to learn, learning excellence, and learning with others defines the essence of the case study process and also enhances the profession’s body of knowledge. Through case studies, connections to the lessons of practice can document the successes and failures of the profession.

Integrity, attention to fact and detail, and the high academic standards of serious scholarship must characterize the case study process. The partnership of students, faculty, and practitioners defines a case study, which evolves either as the result of students under the direction of faculty, through the efforts of a firm to develop a body of practice knowledge, or as individual faculty scholarship. The case study process holds great promise as a form of scholarship in teaching, application and integration. It brings disparate practice responsibilities into focus as a form of scholarship.
Submission of Case Studies

ACSA-member schools, members of the LFRT, and AIA members are invited to submit one comprehensive case study and one abridged case study annually. All submissions are due on July 1 and should be sent to the AIA national component for blind review. The AIA Case Study Work Group will make final selections. See page 41 for more details about submissions.

Abridged and Comprehensive Case Studies

A case study may vary from the scale of a specific building system to the evolution of an entire community. It may include the perspective of the services that affect the realization of buildings and places. Case studies may be submitted in one of two formats: comprehensive and abridged.

The abridged case study is an abbreviated practice assessment. It is shorter than the comprehensive format and is intended to be used as an exploratory document, to address a specific issue, to respect the confidentiality of a project, to update an already completed case study, and to raise further questions for investigations.

The comprehensive case study is a detailed and concise articulation of the facts and events that have combined in the realization of projects and the evolution of related services.

The development checklist and submission guidelines follow. The checklist is prepared as a guiding menu. It is not the intention of the process to address every issue raised within these guidelines. The authors must decide which topics will best explain the details of the case in a concise fashion.

Continuing education credits may be earned by participating in the development of case study materials.
The *abstract* is a statement of the most important elements of the case study and the lessons derived from its intense observation. The case study abstract is intended to provide critical information concerning the theme, type, and issues of the project. It takes into account the nature and scale of the case study, its most appropriate applications, and its importance as a seminal example of a particular building or service type. Assumptions, implications, conceptual positions, the measures of success, and alternative roles and services are considered. The project abstract should include a list of significant team members and client/user representatives.

*Not every question or topic from the following menu may apply to each case study. The preparation team must make choices to provide a detailed and concise analysis.*

<table>
<thead>
<tr>
<th>Considerations</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the case?</td>
<td></td>
</tr>
<tr>
<td>What is the most significant identifying feature of the case?</td>
<td></td>
</tr>
<tr>
<td>Who are the significant individuals, teams, and institutions?</td>
<td></td>
</tr>
<tr>
<td>What is the significant lesson derived from the case?</td>
<td></td>
</tr>
<tr>
<td>What are the appropriate teaching/learning applications?</td>
<td></td>
</tr>
<tr>
<td>Does this case represent alternatives or innovations in the accepted mainstream of professional practice?</td>
<td></td>
</tr>
</tbody>
</table>
Case study *perspectives* articulate point(s) of view from which the project history may be told. This section addresses critical thinking involved in understanding the impact of varying perspectives.

**Protocols: The Web of Decision-Making**

The established decision behaviors, verified by observation and documentation, indicate relationships and processes that may be replicated. This section articulates the pattern of decision-making and its impact on the project.

*Not every question or topic from the following menu may apply to each case study. The preparation team must make choices to provide a detailed and concise analysis.*

<table>
<thead>
<tr>
<th>Considerations</th>
<th>Remarks</th>
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</thead>
<tbody>
<tr>
<td>What is the primary decision chain related to the case?</td>
<td></td>
</tr>
<tr>
<td>Who are the most important decision makers?</td>
<td></td>
</tr>
<tr>
<td>What important roles are represented in the case?</td>
<td></td>
</tr>
<tr>
<td>Is it possible to chart graphically the decision structure of the project,</td>
<td></td>
</tr>
<tr>
<td>including individual roles, responsibilities, and relationships?</td>
<td></td>
</tr>
</tbody>
</table>
Constituencies: The Client Voice in Projects

Architecture and design practice are influenced by a complex network of constituencies from users and owners to neighbors and investors. Each of these constituents has a significant impact on the process of design and its fabrication or construction.

Not every question or topic from the following menu may apply to each case study. The preparation team must make choices to provide a detailed and concise analysis.

<table>
<thead>
<tr>
<th>Considerations</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>How is the client best defined?</td>
<td></td>
</tr>
<tr>
<td>What were the client’s aspirations?</td>
<td></td>
</tr>
<tr>
<td>Which client aspiration was most important in the case?</td>
<td></td>
</tr>
<tr>
<td>What were the architect’s aspirations?</td>
<td></td>
</tr>
<tr>
<td>How are the constituencies of this case best described?</td>
<td></td>
</tr>
<tr>
<td>Is it possible to chart the roles and responsibilities of all of the project participants?</td>
<td></td>
</tr>
</tbody>
</table>
Stories: The Episodes of Practice

Stories of practice inform the interrelated nature of events and people that cause buildings, places, and services to evolve. Each case study presents another story.

*Not every question or topic from the following menu may apply to each case study. The preparation team must make choices to provide a detailed and concise analysis.*

**Considerations**

- What are the generative ideas (concepts) of the case?
- Does the case have a special identifiable personality?
- What is the oral history of the case, including practice war stories?
- What are the anecdotal lessons learned from the case?

**Ideas: Innovation in Architecture Practice**

Ideas and innovation are closely associated with design services. The underlying idea and the related ways and means of accomplishing the idea are often defined by the willingness to venture and therefore innovate.

*Not every question or topic from the following menu may apply to each case study. The preparation team must make choices to provide a detailed and concise analysis.*

**Considerations**

- Are there any specific examples of innovation in the case?
- Are there any specific examples of innovation in service and technology?
- Has innovation been discouraged (“that is not the way we do it”)?

**Remarks**
Measures: Individual, Practice, and Client Measures of Success

The measures of success for a building or service extend beyond the personal satisfaction of a particular individual. This perspective poses the question of how an individual, team, or entire organization measures success as a continuous learning process.

*Not every question or topic from the following menu may apply to each case study. The preparation team must make choices to provide a detailed and concise analysis.*

<table>
<thead>
<tr>
<th>Considerations</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the community (context) measures of success in this case?</td>
<td></td>
</tr>
<tr>
<td>What measures evolved from the regulatory agencies, lenders, code officials, and environmental impact reviews that may affect this case study?</td>
<td></td>
</tr>
<tr>
<td>What are the client/user’s measures of success in this case?</td>
<td></td>
</tr>
<tr>
<td>What are the firm’s measures of success in this case?</td>
<td></td>
</tr>
<tr>
<td>What are specific individual measures of success in this case?</td>
<td></td>
</tr>
<tr>
<td>Are there any ethical questions and dilemmas in this case?</td>
<td></td>
</tr>
<tr>
<td>Were there any expectations for special recognition in this case?</td>
<td></td>
</tr>
</tbody>
</table>
**Illustrations: The Graphic Overview**

Images, drawings, and photographs that provide an overview and general description of the project for reader reference.

*Not every question or topic from the following menu may apply to each case study. The preparation team must make choices to provide a detailed and concise analysis.*

<table>
<thead>
<tr>
<th>Considerations</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the important drawings representing the project?</td>
<td></td>
</tr>
<tr>
<td>What are the most important photographic images of the project?</td>
<td></td>
</tr>
<tr>
<td>Are there important physical or digital models to be considered?</td>
<td></td>
</tr>
</tbody>
</table>
Project Analysis

The project analysis section of the case study is focused on the data, observations, and experiences of the project. Conclusions to be drawn from close observation depend on the clarity, openness, and accuracy of this section. Assessment of the project includes the relationship with the client, the business strategies of the professional design firm, the means by which design services are delivered, the nature of the services, and the resources required to deliver those services.

The Client

A description of the client, the influence of the client on the project, and the architect-client relationship.

Not every question or topic from the following menu may apply to each case study. The preparation team must make choices to provide a detailed and concise analysis.

<table>
<thead>
<tr>
<th>Considerations</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why did the client decide to hire an architect? Clients and change; Client strategies; Alternate facility development approaches</td>
<td></td>
</tr>
<tr>
<td>How and why did the client select the architect? Value-based selection; Competition-based selection; Relationship-based selection (referral)</td>
<td></td>
</tr>
<tr>
<td>Why did the architect choose to pursue this client? Understanding markets; Client-centered markets; Profit motivation</td>
<td></td>
</tr>
<tr>
<td>What was the working relationship with the client? Profiling the client; Focusing on service; Friendship</td>
<td></td>
</tr>
<tr>
<td>How did the architect come to understand the client? Nature of the client; Client values; Compatibility with societal values</td>
<td></td>
</tr>
</tbody>
</table>
## Business

A description of the professional office context for project work.

*Not every question or topic from the following menu may apply to each case study. The preparation team must make choices to provide a detailed and concise analysis.*

<table>
<thead>
<tr>
<th>Considerations</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the firm's (individual's) philosophy? Vision, Mission, Goals; Objectives, Strategies, Tactics; Logistics</td>
<td></td>
</tr>
<tr>
<td>What is the nature of the firm's (individual's) business planning? Firm identity and expertise; Strategic planning; Firm legal structure; Team ownership model; Strategic alliances; Local, regional, global context; Ownership transition; Merger and acquisition plans; Stock option plans, ESOP; Private holding and public offering</td>
<td></td>
</tr>
<tr>
<td>What are the marketing and community outreach strategies? Market planning; Identity; Strategies related to the project search; Project interview; Presentation; Public relations; Political involvement</td>
<td></td>
</tr>
<tr>
<td>What are the relevant financial implications of this case to the firm? Financial and accounting systems; Office and project management; Capital planning and the progress of the project</td>
<td></td>
</tr>
<tr>
<td>What are the human resource strategies related to this case? Team management issues and assignments; Performance assessment, Staff development, Team collaboration and composition</td>
<td></td>
</tr>
<tr>
<td>What were the firm's (individual's) profit projections? Other financial considerations</td>
<td></td>
</tr>
</tbody>
</table>
Design

A description of the building, system, or community design under consideration with all appropriate illustrations and photographs.

Not every question or topic from the following menu may apply to each case study. The preparation team must make choices to provide a detailed and concise analysis.

<table>
<thead>
<tr>
<th>Considerations</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the appropriate graphic analysis diagrams for the case?</td>
<td></td>
</tr>
<tr>
<td>What drawings or photographs connect aspirations to outcomes?</td>
<td></td>
</tr>
<tr>
<td>What drawings and photographs describe the project? Why?</td>
<td></td>
</tr>
<tr>
<td>Are there any important design references requiring citation?</td>
<td></td>
</tr>
</tbody>
</table>

Delivery

The management organization necessary for the realization of work defined as mainstream or as alternative practices.

Not every question or topic from the following menu may apply to each case study. The preparation team must make choices to provide a detailed and concise analysis.

<table>
<thead>
<tr>
<th>Considerations</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the specific project delivery methods in this case?</td>
<td></td>
</tr>
<tr>
<td>Project delivery options; Services and compensation</td>
<td></td>
</tr>
<tr>
<td>What are the specific contracts and agreements?</td>
<td></td>
</tr>
<tr>
<td>Agreements with clients; Project team agreements; Construction agreements; Intellectual property agreements</td>
<td></td>
</tr>
</tbody>
</table>
What are the risk management issues?
Managing disputes; Mediation, arbitration, litigation; Insurance coverage; What is the standard of care?

What strategies are employed by the firm to assure quality?
Quality management; Firm peer review; Value engineering

What digital information systems were employed?
Information management; Digital applications; Documents; Production; Internet in practice

What were the project management strategies in this case?
Team formation; Project operations; Cost management; Life-cycle cost assessment

What local, regional, or national codes and regulations governed this case?
Community planning controls; Zoning; Building codes and standards (ADA, NFPA); Environmental codes
## Services

The articulation of the services necessary for project realization.

*Not every question or topic from the following menu may apply to each case study. The preparation team must make choices to provide a detailed and concise analysis.*

<table>
<thead>
<tr>
<th>Considerations</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the services required in this case? Comprehensive definition</td>
<td></td>
</tr>
<tr>
<td>What are the predesign services necessary to meet the responsibilities of this case? Consultant management; Due diligence studies; Economic feasibility; Environmental assessment; Facility surveys; Marketing studies; Master planning; Program management; Programming; Project financing; Property valuation; Research services; Security planning; Site analysis; Facility planning; Utility studies; Zoning processing; Others?</td>
<td></td>
</tr>
<tr>
<td>Are design, construction, and project implementation services relevant to this case? Accessibility; Acoustic studies; Building design; Code compliance; Documentation management; Procurement; Cost estimating; Demolition services; Design-build services; Energy analysis and design; Environmental graphics; Furniture; Equipment purchasing; Historic preservation; Interior design; Leasing; Marketing services; Lighting design; Materials research; Specifications Mock-up services; Model construction; Visual imaging; Move management Photography; Project promotion; Public relations; Record drawing; Rendering; Seismic analysis and design; Scheduling; Site design; Site surveying; Space planning; Sustainable analysis; Tenant services; Construction administration; Value engineering; Others?</td>
<td></td>
</tr>
</tbody>
</table>

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Case Studies Development Checklist and Submission Guidelines
Are there post-construction operation and maintenance services relevant to this case? Commissioning; Construction defect analysis; Energy monitoring; Facility management; HVAC consulting; Inventory services; Maintenance programs; Post-occupancy evaluation; Post-occupancy services; Start-up assistance; Others?

Are expanded services required? Financial management; Asset leveraging; Project foundation; Market positioning; Fund raising; Strategic planning; Regulatory management; Facility application consulting; Construction; Construction management; Commissioning; Facilities management; Real estate management; Others?

What allied disciplines and related professionals had important roles as members of the team? Special consultants; Contract management; Others?

Resources
A description of special resources employed for project realization.

Not every question or topic from the following menu may apply to each case study. The preparation team must make choices to provide a detailed and concise analysis.

<table>
<thead>
<tr>
<th>Considerations</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>What organizations were important to this case? Professional organizations; Community groups; Significant individuals</td>
<td></td>
</tr>
<tr>
<td>Were any particular special resources important to this case? Materials and people</td>
<td></td>
</tr>
<tr>
<td>Were particular skills, experiences, or individual talents important? Past experience; Individual talents; Team formation; Team collaboration; Strategic alliances</td>
<td></td>
</tr>
</tbody>
</table>
A learning plan is an essential component of the case study. This plan identifies the audience, the models selected for study, the learning experience of students, and the rigor of investigation. Critical thinking is necessary to examine the purpose of the study, the questions at issue, the relevant available information, the inferences drawn from the available data, the concepts and theories at play in the study, the assumptions leading to the end product, the consequences of decisions, and the many points of view represented in the architectural process. The learning plan articulates the importance of the case and the manner by which it may be used as an instructional tool.

Developing a Learning Plan

Not every question or topic from the following menu may apply to each case study. The preparation team must make choices to provide a detailed and concise analysis.

### Considerations

How was this case selected as a learning/teaching tool?
Professional office exercise for interns and professionals; Student exercises for class reading and presentation

How will this case be taught?
As an in-office/in-school teaching guide; As a continuing education instrument

What are the desired learning outcomes?
Observation, Research, Practice, Collaboration skills

Who is the anticipated audience of this case?
Students; Interns; Educators; Architects; Allied disciplines; Related professions; Generalists; Public

### Remarks
Submission of Case Studies

Two types of case studies may be submitted: abridged and comprehensive. Academic programs and architecture firms may submit one comprehensive case study and one abridged case study to the AIA for review by the Case Study Work Group annually. Preference will be given to submissions jointly prepared by academic programs and firms. Selected comprehensive case studies and abridged case studies will be posted on the AIA Web site. The format for the submission of each case study type follows.

Submission Deadline

Submissions are due at the AIA national component by July 1 of each year. Send submissions to:

Director of Education/Stakeholder Relations
The American Institute of Architects
1735 New York Avenue, NW
Washington, DC 20006-5292

Submission Requirements

Entries should consist of high-quality graphic material and text in an 8½" x 11" format. Submissions must be prepared for “blind” jury review; no indication of author should appear on or within the case study. A separate cover sheet must include the case study title, as well as the name(s), affiliation, email, fax and phone numbers, postal address, and signature of the author(s). The cover sheet serves as an agreement to submit the case study as a PDF file no larger than 2 MB if it is chosen for publication on the AIA Web site.

If material is to be returned after the jury process, please provide return packaging with sufficient postage with your submission. The AIA cannot accept liability for original material.

Submission Review Process

Submissions will be peer reviewed in a “blind” process requiring no fewer than three readings. These will result in a recommendation to the Case Study Work Group, comprised of three distinguished practitioners, three distinguished educators, and one representative-at-large from the AIA Board of Directors. The work group hopes to publish 25 studies annually on aia.org.
Submitting a Comprehensive Case Study

Abstract
The abstract defines the extent of the case study. It may comprise a series of options available to the design professional and be particularly relevant to the architectural profession. This section should not be more than two pages (approximately 500 words).
- Project type
- Services type
- Project and client team
- Key study factors
- Unique characteristics

Perspectives
The perspectives section of the case study should provide an understanding of the project beyond the architect’s realm and an awareness of the essence of the project. Each perspective should be less than two pages (approximately 500 words), and the entire case study perspectives section should not be more than ten pages (approximately 2500 words). Appropriate illustrations should be incorporated throughout the text.
- Protocols
- Constituencies
- Stories
- Ideas
- Measures

Analysis
This section is most concerned with the specific details of the case study. Its format corresponds directly to that of the Architect’s Handbook of Professional Practice. There is no limit on the length of this section, as each case study will require different levels of specificity.
- Client
- Business
- Design
- Delivery
- Services
- Resources
Learning Plan

Each case study presents an opportunity to provide an overview of how the material may be taught, a teaching approach or related discipline that may best serve the profession, and material that is best communicated to the various constituencies. This section may vary in length in accordance with the complexity of the case study. However, it should be no longer than two pages (approximately 500 words).

Verification

The case study is based on actual events. Each comprehensive case study must be accompanied by a signature page identifying the preparer(s) of the study, the responsible parties of the professional firm, and the signatures of the responsible academic officials. This page affirms the accuracy of the document. If actual names are used, then concurrence statements must accompany the document, indicating the permission of each named individual to be mentioned by name in the text.

Statement of Veracity:
A signed statement by the preparers of the study attesting to the truth of the case study.

Concurrence Statements:
A signed permission statement by the firm and the client regarding the use of the material and the right to cite specific individuals within the text.

Objectivity Statement:
A statement signed by the preparers of the case study indicating that the document was prepared without specific bias regarding its outcome.
Submitting an Abridged Case Study

Abstract
This section defines the extent of the case study. It may comprise a series of options available to the design professional that are particularly relevant to the architecture profession. This section should not be more than two pages (approximately 500 words). It should include the following:
- Project type
- Services type
- Project and client team
- Key study factors

Perspectives
Perspectives should provide an understanding of the project beyond the architect’s realm and an awareness of the project’s essence. Each perspective should be less than one page (approximately 250 words), and the entire case study perspectives section should not be more than five pages (approximately 1000 words). Incorporate illustrations as necessary.
- Protocols
- Constituencies
- Stories
- Ideas
- Measures

Verification
Each abridged case study must be accompanied by a signature page signed by the preparer(s) of the document. This page indicates the accuracy of the document. The use of actual names in an abridged case study is discouraged.
- Statement of Veracity:
  A signed statement by the preparers of the study attesting to the truth of the case study.
- Objectivity Statement:
  A statement signed by the preparers of the case study indicating that the document was prepared without specific bias regarding its outcome.
The case study method requires attention to teaching strategies that ensure intense observation, clarity, and competence in crafting a complex chronicle. The instruction guide is intended to provide insight and suggestions to the instructor who will lead students in the preparation of the case study.

Provide introductory instruction on the nature, complexity, and conduct of professional practice before starting the case study work.

The instructor should test students before and after the case study work in order to assess their learning progress.

Develop a close relationship and understanding with an architecture firm, especially with a senior partner, before beginning the case study work. A strong relationship of trust is necessary.

Identify the firm and academic contacts for the case study. The in-office coordination team should be comprised of individuals with complementary skills, responsibilities, and roles.

The instructor must direct the formation of a student team with complementary skills. These include:

- Team editor
- Team graphic designer/photographer
- Primary team contact with the participating firm
- Team researchers (preferably those with some experience in an architecture firm, if possible)

The instructor and the student team should develop a case study work plan and timeline.

Make a conscious effort to reduce the inevitable conflict between coursework and studio work.

Use Strunk and White’s *The Elements of Style* as the guide for writing and editing.

Use ample illustrations to complement the writing.
Identify case study readers to provide senior peer review as the work progresses. Readers may be faculty colleagues or professionals who have agreed to act as mentors. This should be considered part of an effort to make the case study process visible to an external constituency.

- Student peer reviewers
- Faculty reviewers
- Professional mentors

Establish 25, 50, and 75 percent submittal deadlines to assess progress of the team as well as to schedule reading sessions. This should include periodic conference calls and meetings.

Contact the participating firm at each submittal stage to ensure its concurrence with the work underway and to identify any problems that may have arisen.

Clearly identify the requirements of all involved parties for final sign-off on the distribution of the case study document.

The instructor should guide the process to provide the insight for how the material may be taught, what teaching approach may best serve the students, and how the material of the case study is best communicated to the various constituencies. The learning plan should address the following questions:

- Analytical—how
- Challenge—why
- Action—what
- Hypothetical—what if
- Predictive—what will
- Lessons—so what
The case study method is a commitment of time and energy. It requires strategies in the professional office that will ensure intense observation and competence in the crafting of a complex chronicle. The firm participation guide provides suggestions to the practitioner who will assist students or in-office staff members in the preparation of the case study. The case study requires openness regarding business and client development issues.

Identify a firm contact/coordinator for the case study. This individual must have the authority to release information and documents relating to the project in a timely manner.

The firm should consider the case study process an opportunity for professional development for interns and junior staff.

The firm should consider the case study format as an organizational outline for all project archiving.

The primary/responsible firm contact should have been thoroughly involved in all aspects of the case as it evolved to a finished project.

If a firm is developing a case study without any academic collaboration, a case study team should be identified with complementary skills. These include:

- Team editor
- Team graphic designer/photographer
- Team researchers

Coordinate contact on behalf of the case study team with all relevant project team members and knowledgeable client/user representatives.

Assemble all relevant documents and information relating to the case from the earliest awareness of the project to the final document.

Use Strunk and White’s *The Elements of Style* as a guide for writing and editing.

Use ample illustrations to complement the writing.
Be open in responding to brutally honest questions and queries.

Schedule time for case study team office visits, question and answer sessions, and the reading of 25, 50, and 75 percent submittals.

The firm contact should be in a regular information loop with those undertaking the case study to ensure the proper approvals at the 25, 50, and 75 percent submittal stages.

Make clear the firm requirements (i.e., timing, wording, review requirements, completeness) for a 100 percent sign-off.

Enlist other members of the firm in the effort to proofread the case study as it evolves.

Remember and understand that a case study is not prepared as a marketing document. It is an intense reflection and sometimes uncomfortably honest observation of professional practice.

Clearly identify the requirements of all involved parties for final sign-off on the distribution of the case study document.

The firm contact should guide the process to provide the insight for how the material may be taught, what teaching approach may best serve the profession, and how the material of the case study is best communicated to the various constituencies. The learning plan should address the following questions:

- Analytical—how
- Challenge—why
- Action—what
- Hypothetical—what if
- Predictive—what will
- Lessons—so what
Bibliography


Lynn Jr., Laurence E. *Teaching and Learning with Cases*. Chatham House Publishers, Seven Bridges Press, LLC.


MAKING THE CASE

Professional education for the world of practice

BY DAVID A. GARVIN

All professional schools face the same difficult challenge: how to prepare students for the world of practice. Time in the classroom must somehow translate directly into real-world activity: how to diagnose, decide, and act. A surprisingly wide range of professional schools, including Harvard’s law, business, and medical schools, have concluded that the best way to teach these skills is by the case method.

The Law School led the way. A newly appointed dean began to teach with cases in 1870, reversing a long history of lecture and drill. He viewed law as a science and appellate court decisions as the “specimens” from which general principles should be induced, and he assembled a representative set of court decisions to create the first legal casebook. To ensure that class time was used productively, he introduced the question-and-answer format now called the Socratic method.

The Business School followed 50 years later. Founded in 1908, it did not adopt cases until 1920, when its second dean, a Law School graduate, championed their use. After convincing a marketing professor to create the first business casebook, he then provided funding for a broader program of casewriting, built around real business issues and yet-to-be-made decisions. That program produced cases in multiple fields and their use in virtually all courses by the end of the decade.

The Medical School began using cases only in 1985. All were designed to cement students’ understanding of basic science by linking it immediately to practical problems—typically, the case histories of individual patients. These cases formed the foundation of the school’s revolutionary “New Pathway” curriculum that shifted students’ pre-clinical years away from lectures toward tutorials and active learning.

In each of these professions, Harvard faculty became evangelists for the case method, spreading this educational innovation around the world. Now, through close study of case-method teaching in law, business, and medicine at Harvard, we can see how the technique has been adapted for use in distinct disciplines—and how it might evolve, and be modified, to better meet the needs of twenty-first-century students and teachers.
LEARNING TO THINK LIKE A LAWYER
Christopher columbus langdell, the pioneer of the case method, attended Harvard Law School from 1851 to 1854—twice the usual term of study. He spent his extra time as a research assistant and librarian, hole up in the school's library reading legal decisions and developing an encyclopedic knowledge of court cases. Langdell's career as a trial lawyer was undistinguished; his primary skill was researching and writing briefs. In 1873, Harvard president Charles William Eliot appointed Langdell, who had impressed him during a chance meeting when they were both students, as professor and then dean of the law school. Langdell immediately set about developing the case method.

At the time, law was taught by the Dwight Method, a combination of lecture, recitation, and drill named after a professor at Columbia. Students prepared for class by reading “treatises,” dense textbooks that interpreted the law and summarized the best thinking in the field. They were then tested—orally and in front of their peers—on their level of memorization and recall. Much of the real learning came later, during apprenticeships and on-the-job instruction.

Langdell's approach was completely different. In his course on contracts, he insisted that students read only original sources—cases—and draw their own conclusions. To assist them, he assembled a set of cases and published them, with only a brief two-page introduction.

Langdell's approach was much influenced by the then-prevailing inductive empiricism. He believed that lawyers, like scientists, worked with a deep understanding of a few core theories or principles; that understanding, in turn, was best developed via induction from a review of those appellate court decisions in which the principles first took tangible form. State laws might vary, but as long as lawyers understood the principles on which they were based, they should be able to practice anywhere. In Langdell's words: “To have a mastery of these [principles or doctrines] as to be able to apply them with consistent facility and certainty to the ever-tangled skein of human affairs, is what constitutes a true lawyer.”

This view of the law shifted the locus of learning from law offices to the library. Craft skills and hands-on experience were far less important than a mastery of principles—the basis for deep, theoretical understanding. Of the library, Langdell observed, “It is to us all that the laboratories of the university are to the chemists and the physicists, the museum of natural history to the zoologists, the botanical garden to the botanists.” And because “what qualifies a person…to teach law is not experience in the work of a lawyer's office…not experience in the trial or argument of cases…not experience in learning law,” instruction was best left to scholars in law schools.

This view of the law also required a new approach to pedagogy. Inducing general principles from a small selection of cases was a challenging task, and students were unlikely to succeed without help. To guide them, Langdell developed through trial and error what is now called the Socratic method: an interrogatory style in which instructors question students closely about the facts of the case, the points at issue, judicial reasoning, underlying doctrines and principles, and comparisons with other cases. Students prepare for class knowing that they will have to do more than simply parrot back material they have memorized from lectures or textbooks; they will have to present their own interpretations and analysis, and face detailed follow-up questions from the instructor.

Langdell's innovations initially met with enormous resistance. Many students were outraged. During the first three years of his administration, as word spread of Harvard's new approach to legal education, enrollment at the school dropped from 165 to 117 students, leading Boston University to start a law school of its own. Alumni were in open revolt.

With Eliot’s backing, Langdell endured, remaining dean until 1895. By that time, the case method was firmly established at Harvard and six other law schools. Only in the late 1890s and early 1900s, as Chicago, Columbia, Yale, and other elite law schools warmed to the case method—and as Louis Brandeis and other successful Langdell students began to speak glowingly of their law-school experiences—did it diffuse more widely. By 1920, the case method had become the dominant form of legal education. It remains so today.

Of course, there are modern-day refinements. Most instructors assign multiple cases for class, typically selected because they appear to conflict with each other and require subtle, textured interpretation. Langdell's approach, says professor of law Martha L. Minow, “has been turned on its head.” Whereas Langdell believed that cases not readily conforming to doctrine, or allowing for conflicting interpretations, were wrongly decided and not deserving of study, law-school faculty today believe that these are precisely the cases that warrant the most attention—because, Minow says, “We have conflicting principles and are committed to opposing values. Students have to develop some degree of comfort with ambiguity.”

But preparation is little changed. There are, a second-year student observed, only a few “standard moves” among instructors. Students prepare—with little or no collaboration—with these moves in mind. Detailed questions are seldom assigned. Most professors expect students to be able to discuss each case’s facts, is-
sues, arguments, and holdings; they are especially interested in minimal and maximal interpretations of the associated doctrine and comparisons with holdings in other assigned cases. This is called “briefing the case”—in many ways the core skill in learning to think like a lawyer.

Professors prepare for class in much the same way. They, too, brief the case; like their students, they prepare largely without the support of others. But they also come armed with questions. Most pay special attention to “hypotheticals”—one or more questions that involve made-up situations or that slightly change the facts or issues in a case and so raise deeper, more fundamental tensions. “Suppose Mr. Jones’s home was located by the ocean, rather than along the highway. Would that change the applicable zoning laws?” “Suppose Mrs. Smith had no surviving relatives. Would her will still be valid?” There is an art to framing thoughtful, stimulating hypotheticals—the late Langdell professor of law Phillip E. Areeda argued that “the ideal hypothetical is one line long, often focusing on a single, easily stated fact.”

Most classes begin with a “cold call.” The professor turns at random to a student and asks her to state the facts or issues in the case. There is then considerable back and forth, with the opening student and others, as the professor follows up and guides the discussion by asking a series of narrow, tightly focused questions. These questions lie at the heart of Socratic teaching. Often, responses require a very close reading of the case.

This entire process puts the instructor front and center. It is very much hub-and-spoke: the professor exercises a firm, controlling hand and virtually all dialogue includes her. There are few student-to-student interchanges. Eventually, the questions cease and the instructor brings class to an end, but seldom with a conventional summary. There is limited closure and little attempt to tie up loose ends: most summaries have a strong dose of “on the one hand, on the other hand.” Students often leave class puzzled or irritated, uncertain of exactly what broad lessons they have learned.

And that is precisely the point. Learning to think like a lawyer means understanding and accepting the importance of small differences. Decisions often turn on matters of seemingly insignificant detail. Precedents may or may not apply in this particular set of circumstances. Doctrines and rules are seldom unequivocal or easy to apply.

Legal scholar Edward H. Levi, the late U.S. Attorney General and president of the University of Chicago, long ago observed that “the basic pattern of legal reasoning is reasoning by example...the finding of similarity or difference is the key step in the legal process.” But because not all examples or differences are relevant, lawyers must learn to distinguish appropriate from inappropriate analogies. The hallmark of a good lawyer, says Gottlieb professor of law Elizabeth Warren, is “the ability to make fine discriminations, to think of two things that are closely interconnected but keep them separate from one another.” And, equally important, to be capable of putting those differences into words: Byrne professor of administrative law Todd D. Rakoff, dean of the school’s J.D. program, says, “We are trying to teach a public language.” The ability to frame an argument or take a position is an essential legal skill. For litigators, the stakes are especially high, since they must be able to respond on their feet and under fire when judges ask for further explanation or analysis.

How are these habits of mind best developed? The answer, most law professors agree, is through a combination of tough, relentless questioning by instructors and the careful study of “boundary problems...[that] involve a clash of principles in which as much, or nearly as much, may be said on one side or the other,” in the words of Anthony T. Kronman, the dean of Yale Law School. Easy cases teach students far less than complicated decisions, where distinctions are murky and lines are hard to draw. Warren says, “You know the difference between daylight and dark? Well, we spend all of our time at the Law School on dawn and dusk.”

Because this approach emphasizes legal process and judicial reasoning, it prepares students to deal with the unknown, to engage emerging legal questions and apply their skills in changing or unforeseen circumstances. Still, the Socratic method of teaching is all too easily abused. Typically, students show their displeasure by rationing their participation or staying silent. (There is little penalty, since grades depend on anonymous final examinations, not class participation.) In many classes, only a few “gunners”—those who aggressively seek to ingratiate themselves with faculty and speak on every possible occasion—are steady, reliable contributors.

A second concern is that the method does not teach the full complement of legal skills. Visiting professor of law Michael Meltsner, director of the school’s First Year Lawyering Program, says that the case method “does what it does very well. But what
Donham recognized that for businessmen, the primary tasks were making and implementing decisions, often in the face of considerable uncertainty. Much less time would be devoted to underlying theories.

DEVELOPING THE COURAGE TO ACT

After Harvard Business School was founded in 1908, Edwin F. Gay, its first dean, wrote in the inaugural catalog that professors would employ “an analogous method [to the ‘case method’ used at the Law School], emphasizing classroom discussion, supplemented by lectures and frequent reports, which may be called the problem method.” The reality, however, was quite different. In the early years, courses were general and descriptive (“Economic Resources of the United States,” “Railroad Organization and Finance”) and taught primarily through lectures from the economist’s point of view.

The situation remained largely unchanged until the appointment in 1919 of a new dean, Wallace P. Donham, a graduate of Harvard Law School who later practiced law and had taught corporate finance at the business school. His background led him to see strong parallels between the two professions. In a 1922 article, he observed that the use of cases in law schools was made possible by “the vast number of published decisions, the thorough classification of the subject [by instructors], published case books, the elements in the typical law case, and the development of general principles from the discussion of individual cases. Of these elements, all, with the exception of the reported cases themselves, exist or may be supplied for teaching business.”

Business-school faculty therefore needed to develop cases of their own. But Donham recognized that these cases would have to be different from legal cases. For businessmen, the primary tasks were making and implementing decisions, often in the face of considerable uncertainty. In keeping with the then-prevailing philosophy of pragmatism, cases should describe real problems and students should be able to practice sizing up situations and deciding on appropriate action. For this reason, he said, a business case “contains no statement of the decision reached by the businessman...and generally business cases admit of more than one solution...[they] include both relevant and irrelevant material, in order that the student may obtain practice in selecting the facts that apply.”

With these ideas in mind, Donham moved quickly on several fronts. He persuaded Melvin Copeland, a noted marketing professor, to change his planned textbook to a collection of business “problems.” Published in September 1920, it became the first business casebook. Donham also orchestrated a series of informal faculty discussions about the school’s methods of instruction. These meetings led to a broad commitment to case-method teaching and, in 1921, a formal faculty vote that officially changed the name of the school’s approach from the “problem method” to the “case method.” Most important, Donham established and funded the Bureau of Business Research, a dedicated group of scholars under Copeland’s direction that, from 1920 to 1925, developed and wrote cases for multiple courses. (Once a critical mass of materials was developed, Donham disbanded the bureau and insisted that the faculty as a whole assume responsibility for developing cases.)

Within the business school, cases had become the dominant mode of instruction by the mid 1930s, and acceptance was equally swift outside. By 1922 casebooks had been adopted by 85 institutions. Harvard faculty members helped the dissemination process by publishing books on the case method in 1931, 1933, 1944, 1959, 1981, and 1991, and offering seminars and case-teaching workshops. The most visible was the Visiting Professors Case Method Program, funded by the Ford Foundation between 1955 and 1965, in which more than 200 faculty members from leading business schools spent entire summers at Harvard researching, writing, teaching, and improving a case of their own. Today, business schools around the globe teach by the case method.

Modern cases retain the same basic features described by Donham. Typically, they average 10 to 20 pages of text, with 5 to 10 additional pages of numerical exhibits. The best cases describe real, not fictitious, organizations and real business issues. “A good case,” Donham professor of organizational behavior emeritus Paul Lawrence noted years ago, is “the vehicle by which a chunk of reality is brought into the classroom to be worked over by the class and the instructor.” Most cases require students to assume the role of the protagonist and to make one or more critical decisions. The information is often deliberately incomplete, allowing for many possible options.

Students are normally assigned one case per class. Preparation is guided by assignment questions, which have become increas-
ingly detailed over time. Thirty years ago, the focus was on action, and virtually the only question was, “What should Mr. Smith do?” Today, as management has become more sophisticated, with a wider array of technical theories and tools, detailed analytical questions are the norm. Students still come to class with a recommended decision and implementation plan, but also with extensive supporting analysis. Because of the workload—most cases take at least two hours to read and prepare, and two to three classes are scheduled per day—students often form their own three- to four-person study groups to share ideas and divvy up responsibilities.

Instructors prepare much as students do. They too read and analyze the case and prepare answers to assignment questions. But they attend equally to orchestrating class discussion most effectively. In this, they have help. All instructors who teach first-year courses, a mix of newcomers and old hands, are organized into teaching groups—collections of five to nine faculty members, led by an experienced professor, who teach the same subject and use the same cases. These groups meet regularly to analyze the cases and discuss classroom management. Detailed teaching notes present both the required analysis and likely discussion dynamics; most teaching notes even contain “blackboard plans” showing the best way to organize students’ comments on the five blackboards in the typical business-school classroom.

Classes begin either with a “cold call,” as at the law school, or a “warm call,” in which a student is given notice a few minutes before class that he will be asked to speak. The opening question—usually one from the assignment—typically requires taking a position or making a recommendation. Since as much as 50 percent of their grade is based on class participation, most students come well prepared. The opening student normally talks for five to 10 minutes with occasional interruptions by the instructor. Once he is done, instructors typically throw the same issue or question back to the class for further discussion.

Throughout the class, a primary goal is to encourage student-to-student dialogue. For this reason, business-school professors tend to pose broad, openended questions far more than their law-school colleagues do, and to link students’ comments by highlighting points of agreement or disagreement. They also are more likely to seek commentary from experts: students whose backgrounds make them knowledgeable about a country, a company, or an issue. Instructors are also more likely to provide closure at the end of a class or unit, with a clear set of “takeaways.”

In most classes, debate revolves around a few central questions that prompt conflicting positions, perspectives, or points of view. “There’s got to be a plausible tension in the case,” says W. Carl Kester, chair of the M.B.A. program and Industrial Bank of Japan professor of finance. “It’s what allows me to build a debate and get the students to talk with one another.”

The best questions involve issues where much is at stake, and where the class is likely to divide along well-defined lines. At times, they bring a difficult choice to life: “This new business requires completely different marketing and manufacturing skills, even though the exact same customers will purchase the product. Do you want to set up an independent unit, or put the business within an already established division?” Questions like these force students to take a stand on divisive issues and try to convince their peers of the merits of their point of view.

That, of course, is how managers spend their time. They regularly size up ambiguous situations—emerging technologies, nascent markets, complex investments—and make hard choices, often under pressure, since delay frequently means loss of a competitive edge. They work collaboratively, since critical decisions usually involve diverse groups and departments. And they discuss their differences in meetings and other public forums.

Cases and case discussions thus serve three distinct roles. First, they help students develop diagnostic skills in a world where markets and technologies are constantly changing. “The purpose of business education,” a business-school professor noted more than 70 years ago, “is not to teach truths…but to teach men [and women] to think in the presence of new situations.” This requires a bifocal perspective: the ability to characterize quickly both the common and the distinctive elements of business problems.

Second, case discussions help students develop persuasive skills. Management is a social art; it requires working with and through others. The ability to tell a compelling story, to marshal evidence, and to craft persuasive arguments is essential to success. It is for this reason that the business school puts such a heavy premium on class participation. Beyond grading, students also receive regular feedback from professors about the quantity, quality, and constructiveness of their comments.

Third, and perhaps most important, a steady diet of cases leads to distinctive ways of thinking—and acting. “The case system,”
For years, the “technology” of cases remained static. They were written documents consisting of text, tables, and illustrations. Today, however, information and communication technologies are transforming cases—and with them, the processes of class preparation and discussion—in ways that produce greater realism, engagement, and interaction.

The business school has invested heavily in “multimedia” cases. Faculty members, working closely with information-technology experts, have produced approximately 35 to date, on subjects ranging from the choice of an advertising strategy for Mountain Dew to the launch of a new software product by Microsoft. In addition to text, these cases include videos, simulations, and animated exhibits, all available on-line and navigable in multiple ways. Judy Stahl, the school’s chief information officer, says, “Students love them because they’re different—even though they require more time to prepare.”

The school’s first multimedia case, “Pacific Dunlap,” developed in 1996, examines the challenges of running a textile factory in China; it includes a virtual tour of the manufacturing floor, video interviews with case protagonists, and an interactive spreadsheet that students use to explore possible changes in the production process. The most recent multimedia case, “Paul Levy: Taking Charge of the Beth Israel Deaconess Medical Center,” contains hours of video interviews with the hospital’s new CEO, recorded during his first six months as he led a turnaround of the hospital, which had been losing more than $50 million annually. Every two to four weeks, Levy met with the casewriters and camera crew for lengthy question-and-answer sessions, thus diminishing the usual problem of first-person narratives, which are infused with the wisdom of hindsight. He also provided excerpts from his daily calendar, selected e-mail correspondence, internal memos, and reports, and news coverage, all of which are available through a single website. Students access these materials through a calendar of events that presents activities chronologically, as Levy worked through problems. The students can also follow his work by category—such as dealing with the board or formulating the recovery plan. And they can retrieve supplemental material on leadership style, managing diverse constituencies, and so on. (A brief video clip from the Levy case is available at www.harvard-magazine.com/on-line/03so/levy.html.)

Multimedia materials add richness and depth to cases, bringing students that much closer to reality. The medical school has carried the idea a step further, using technology to mimic real life. An experiment named ICON (“interactive case-based online network”) puts all case materials, research papers, and associated references on the Web for ready access and includes a module called “Virtual Contact” that allows students to interact directly with the protagonists in the case, who are played by medical-school faculty. Students pose questions, and the faculty members respond—true to form and wholly in character. A renowned specialist might curtly dismiss a naive question, while a family member might provide intimate details about a patient’s condition. Students in one tutorial were paged in the middle of class and told that their patient had been admitted unexpectedly to the emergency room at two in the previous morning. How did they plan to respond?

Efforts like these bring students int o the case problem, causing...
pounded by the continued influx of Ph.D.s with backgrounds in economics, political science, psychology, and sociology into business-school teaching. That leaves some professors wondering: how do we continue to teach the art and craft of management?

FOSTERING A SPIRIT OF INQUIRY

For most of the twentieth century, medical schools followed the model proposed by Abraham Flexner in a report to the Association of American Medical Colleges in 1910. The first two years of medical school were devoted to basic-science courses in biochemistry, anatomy, pharmacology, and other core disciplines. Most teaching was done in large lectures, and students were expected to memorize huge quantities of information. The following two years were devoted to clinical training—interactions with live patients in which students learned such skills as taking histories, conducting physical examinations, and making diagnoses. Most clinical training took place in small groups directly on the hospital floor. The preclinical and clinical years were largely separate.

For decades, critics complained about this approach, citing the tedium of the first two years, the force-feeding of material, the lack of connection between science and medical practice, and the weary, unhappy students who were the result. But despite repeated calls for action, there was little change.

When Daniel Tosteson, an alumnus, became dean of Harvard Medical School in 1977, he drew upon his prior experience as a professor of cell biology and as dean (at Chicago) and immediately convened a series of faculty discussions, workshops, and symposiums aimed at reforming medical education. A 1979 workshop examined “What do we want Harvard Medical School graduates to know how to do, and how does the learning environment foster or hinder the achievement of these goals?” A 1980 symposium examined the problem of information overload: with more than 600,000 biomedical articles published each year, how could students, and physicians, keep current?

These discussions resulted in a series of broad design principles and the commissioning of several planning groups, the first of which involved the Business School’s C. Roland Christensen, celebrated for his mastery of the case method and his case-teaching seminars. Additional case-method experience came from Gordon Moore, professor of ambulatory care and prevention, another medical-school graduate and also a recent graduate of the business school’s Advanced Management Program, who oversaw curriculum design and development. After pilot testing, the “New Pathway” was up and running in 1985. By 1992, it had become the school’s sole mode of instruction.

“Medicine,” Tosteson argued, was “a kind of problem solving,” and each medical encounter was “unique in a personal, social, and biologic sense... All these aspects of uniqueness impose on both physician and patient the need to learn about the always new situation, to find the plan of action that is most likely to improve the health of that particular patient at that particular time.”

them to invest heavily in the outcome. For even greater realism, the medical school relies on Stan the mannequin, a high-fidelity patient simulator. Stan is the ultimate in realistic cases: a life-size, computerized dummy with a heart that beats, lungs that breathe, pupils that dilate, and vital signs that are readily visible on nearby digital monitors. He has been programmed to experience a wide range of medical conditions, such as acute asthma attacks, renal failures, and congestive heart disease. On command, Stan’s breathing becomes labored, his pulse erratic; then, the monitors spring to life, with all the accompanying bells and whistles that indicate a real emergency. A voice transmitter, operated by a nurse or doctor in a back room, ensures that Stan airs his feelings personally.

Students respond as they would to a real patient: they check Stan’s blood pressure, administer drugs, insert breathing tubes, and give supplemental oxygen. The simulator then recovers (or dies) exactly as a patient would in real life—but with none of the risk. Many tutors now use Stan to supplement their written cases, providing students with a deeper, more experiential sense of the conditions they are studying. In the process, says James Gordon, director of the program on medical simulation, “They become emotionally attached, and learn at a different level.”

The law school has done the least to jazz up its curriculum with multimedia and simulation technologies. Appellate court decisions, after all, rely heavily on the written word. Instead, the school has used networks to improve connectivity, build community, and tighten the links between students and faculty. One tool is H2O, created by the law school’s Berkman Center for Internet and Society, a polling and messaging system with the ability to swap comments among students. A professor might ask members of her class to take a position on a hypothetical law, for example: are they for it or against it, and for what reasons? Arguments must be written up and submitted to the system. Then, at a preset time, H2O randomly trades students’ comments: every student in favor of the law is sent an argument from a student who is opposed, and vice-versa. Students must then frame rebuttals to the arguments they have received.

This process gives students the opportunity to engage each other during the preparation process, building a more cohesive group. It enables them to practice legal writing, an essential lawyering skill. And it provides instructors a better sense of the diversity of students’ opinions, as well as a preview of the most common and cogent arguments. Class time, says Jonathan Zittrain, Berkman assistant professor of entrepreneurial legal studies, is that much more productive: “I get to see where the fault lines are. Sometimes, it’s 90 percent for and 10 percent against, when I expected it to be completely different.”

In his course on “The Internet and Society,” held in one of the school’s wired classrooms, Zittrain uses the network to stimulate class participation. Students can contribute verbally or via the Internet. Rather than raising their hands, they can e-mail questions and comments to a teaching fellow sitting with an open computer at the front of class. Periodically, Zittrain turns to the teaching fellow and asks if anything interesting has come in; if so, those comments become fodder for discussion. Foreign students, in particular, find the opportunity to put their thoughts in writing helpful, as do those who are least comfortable speaking extemporaneously.

As these examples suggest, technology is slowly infusing the case method. Used wisely, it offers greater realism, a closer connection with the external world, and a heightened sense of community. But it is not a panacea. Technology can enhance and deepen cases, but only a skilled teacher can bring them to life.
The goal is still to ensure that students master the underlying science, but do so in ways that lead to deeper understanding and personal development. This process requires a shift in the focus of medical education from a purely technical orientation toward the integration of scientific and clinical concepts. The New Pathway emphasizes active participation and self-directed learning, allowing students to develop essential attitudes and skills. Tutors play a critical role in guiding this process, but the real learning occurs when students recognize gaps in their knowledge and initiate independent study.

Medicine is constantly changing. Doctors must learn how to learn, collaboratively and individually. They discover that choosing what to learn is the hard part; learning it is a lot easier.
improved retention. The method draws heavily on the findings of modern cognitive science: learning and retention improve markedly when students are motivated, when prior knowledge is activated by specific cues, and when new knowledge is linked to a specific context. Vivid, evocative cases featuring patients and their illnesses serve these purposes admirably.

They also lead to a more cooperative spirit, which is essential to modern team-based medicine. Students in tutorials are forced to listen carefully and work together closely because their independent reading leads them in different directions. As one student put it, “In a traditional curriculum, you hope your classmates don’t study, so you can appear brilliant; in the New Pathway, you hope your classmates do study, because we learn from each other.” Only by pooling their findings can the students fully explain the phenomenon being studied.

But the method has its detractors. The biggest problems are accountability and rigor. When students are unmotivated or tutors are unskilled, participation can quickly evaporate. Faltering discussions lead nowhere and are difficult to redirect. Because tutorials are ungraded and tutors are discouraged from taking students through the preferred reasoning process, there is little they can do to command involvement or attention, or to ensure disciplined, efficient analysis.

Still, many medical schools are moving rapidly in Harvard’s direction, even if few have made the same curriculum-wide commitment to cases. (In part, the reason is cost. Because discussion groups are so small, staffing is an issue. Harvard, with 165 students per class, requires 300 tutors to lead the tutorials in the first two years of its program.)

Moreover, the superiority of this approach is not yet fully documented. Careful studies comparing the performance of the pilot group of New Pathway students—who were randomly selected and could thus be compared scientifically with their traditionally taught peers—found comparable scores on board certification tests. There were no significant differences in biomedical knowledge, and New Pathway graduates reported being more committed to careers in primary care and psychiatry, more comfortable interpersonally, more competent dealing with psychosocial issues, and more likely to display humanistic attitudes. But studies of problem-based learning at other medical schools have shown some fall-off in performance on basic science examinations, despite high levels of student and faculty satisfaction and equal or better performance on clinical examinations.

Broadening the Portfolio

The case method is now firmly established at Harvard’s law, business, and medical schools. Each school has tailored the method to its own ends, focusing on distinctive aptitudes and skills. Each has selected a different center of gravity—diagnosis or decision making, competition or collaboration, analytical pre-

(please turn to page 107)
MAKING THE CASE
(continued from page 65)

how to tackle a problem strategically and technically” before they encounter detailed, structured, analytical assignments. The medical school has been moving on two fronts: adding more structure to tutorials, and reexamining the process of clinical education (the latter initiative prompted by the changing economics of healthcare and the difficulty of finding hospital-based instructors for clinical rotations, not by concerns about pedagogy). Faculty members have long known that tutorials lose steam in their second year as the process becomes repetitive, students master the mechanics, and become bored. Changes “that add complexity and are developmentally appropriate,” as professor of medicine and of biological chemistry and molecular pharmacology David Golan puts it, are underway, at least experimentally. In one, students are assigned multiple cases simultaneously; they share responsibilities much as a ward team would. In another, students are assigned different medical roles for each case and then respond according to their specialties; they trade roles as the tutorial progresses. In a third, based on discussions with business-school faculty, cases take on a decision-making focus, requiring students to move beyond diagnosis to debates about difficult medical choices.

With these innovations, the boundaries among the three case methods have started to fall. Each school is beginning to broaden its pedagogical portfolio, learning from, and borrowing from, the others. Much as the College is overhauling the undergraduate curriculum, the law, business, and medical schools are moving in their own ways to better prepare their students for the demands of twenty-first-century professional practice.

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11 Ibid., pp. 19-22.
12 Ibid., p. 20.
13 The program brought together 11 groups of 20 professors and deans each, one group per summer.
20 The New Pathway involves all medical and dental students, but not students in the joint Harvard-MIT program in Health Science and Technology.
Team Basics: A Working Definition and Discipline

WHY define "team"? The primary reason is to clarify what we mean by team because the word conveys different things to different people. Some think entirely of sports, where coaching, "individual bests," and practicing hard to win matter most. Some think about teamwork values like sharing, cooperating, and helping one another. Some think that any group that works together is a team; some believe any management grouping is a team; and some think primarily of two-person pairings like those found in marriage and partnership.

In addition, we encounter many views on the benefits and costs of teams. Like us, some believe teams are a powerful vehicle for performance. Some believe their main value is to support and build self-confidence in their members, or to promote involvement, empowerment, and broad-based teamwork. Some believe teams add value only to short-term project work. On the other hand, many people believe teams waste time, squander resources, and get in the way of decisive individual action and performance. Still others believe teams expose them to unpleasant personal risks like the loss of hierarchical control.

Because of these differences, we need to provide a clear definition for interpreting the stories and lessons in our book. We also want to clarify what we are not trying to do. We are not debating the
semantics of what “team” should mean to other people. The groups described in this book could be labeled in many ways. We could have called them “effective groups” or “performance cadres.” Or we might have invented a new term. We chose instead to call them teams (actually “real teams,” as you will see). Readers should feel free to use whatever terminology is most helpful. Our rationale for supplying a definition is to convey the meanings most relevant for this book, not to advocate particular labels. We want to focus on what teams do, not what they are called.

At the heart of our definition of team lies our fundamental premise, namely that teams and performance are inextricably connected. We believe that the truly committed team is the most productive performance unit management has at its disposal—provided there are specific results for which the team is collectively responsible, and provided the performance ethic of the company demands those results.

Yet most potential teams, as well as the companies they are part of, pay too little attention to either the company’s performance standards or the purpose and goals of individual teams. As a result, too many teams fall short of their potential. Within teams, there is nothing more important than each team member’s commitment to a common purpose and set of related performance goals for which the group holds itself jointly accountable. Each member must believe the team’s purpose is important to the success of the company, and collectively they must keep each other honest in assessing their results relative to that purpose. It is not just that “the monkey is on the back” of every individual member, but that the same monkey is on all their backs together. Without this internal team discipline, the team’s potential accomplishments will come up short.

Within an organization, no single factor is more critical to the generation of effective teams than the clarity and consistency of the company’s overall performance standards—or “performance ethic.” Companies with meaningful, strong performance standards encourage and support effective teams by helping them both tailor their own goals and understand how the achievement of those goals will contribute to the company’s overall aspirations. A company’s performance ethic provides essential direction and meaning to the team’s efforts.

The crucial link between performance and teams is not our invention. Rather, it is the most significant piece of wisdom we learned from the teams and nontteams who helped us with this book. In thinking about the subject of teams, we read dozens of excellent articles and books to find out what experts had to say on the topic. These were very helpful, and we have included them in the section “Selected Readings” at the end of the book. But it was really only by listening to people who are or have been part of teams and potential teams that we developed our definition that distinguishes a team from a mere group of people with a common assignment:

A team is a small number of people with complementary skills who are committed to a common purpose, performance goals, and approach for which they hold themselves mutually accountable.

We will emphasize this definition throughout the book because it is all too easy for potential teams to overlook it. In fact, we think of it less as a definition than an essential discipline that, if applied, will produce both teams and performance.

SMALL NUMBER

Virtually all the teams we have met, read, heard about, or been members of have ranged between two and twenty-five people. The majority of them, like the Burlington Northern Intermodal Team, have numbered less than ten. Consequently, we have included “small number” in our team definition.

We admit size differs from meaningful purpose, specific performance goals, common approach, complementary skills, and mutual accountability. Those five aspects of teams are absolute necessities. “Small number” is more of a pragmatic guide. A larger number of people, say fifty or more, can theoretically become a team. But groups of such size more likely will break into subteams rather than function as a single team.

Why? Because large numbers of people—by virtue of their size—have trouble interacting constructively as a group, much less agreeing on actionable specifics. Ten people are far more likely than fifty to successfully work through their individual, functional, and
hierarchical differences toward a common plan and hold themselves jointly accountable for the results.

Large groups face logistical issues like finding enough physical space and time to meet together. They also confront more complex constraints, like crowd or herd behaviors, that prevent the intense sharing of viewpoints needed to build a team. As a result, large groups tend to settle on less clear statements of purpose that, typically, get set by the hierarchical leaders, and they look to teamwork values as their working approach. Then, when teamwork values break down, the groups revert to formal hierarchy, structure, policies, and procedures.

Even small groups of people fail to become teams on teamwork values alone. Listen, for example, to Sandy Charlap, a teacher at the Dutchess Day School in Millbrook, New York. Like other faculty and staff, Sandy went through team training in the hopes of improving her effectiveness as a teacher and counselor to the kids. For several months following the training, the teamwork values practiced among the teachers and administrators improved and positively influenced the school environment.

But when asked if she and others became a team, Sandy says, "No. We treat one another somewhat better. And we meet periodically to keep the team topic alive. But beyond some general notion of wanting 'things to improve,' we don't really know why we're doing this. In fact, I've noticed that our meetings lately have become a chore—something we do more because we think we have to than because we want to."

When meetings become a chore, it is a sign that most of the people in the group are uncertain why they have gathered, beyond some notion of getting along together better. Most people consider this a waste of time. Large groups usually reach this breaking point much sooner than small numbers of people.

Thus, groups much bigger than twenty or twenty-five have difficulty becoming real teams. As the Burlington Northern story illustrates, however, sizable groups can function as extended teams whose performance is stimulated well beyond what one would expect in a hierarchy because of the influence of a real team in their midst. The most powerful extended teams occur when the real team operates at the top, as in Burlington Northern Intermodal. But other teams can have the same kind of effect. In the next chapter, for example, we tell the story of a frontline team called "ELITE" who stimulated many of their colleagues to behave as an extended team that, in turn, significantly enhanced the performance of their company.

Still, the distinctions here are critical because of the limits to the team concept. Extended teams, powerful as they are, are not real teams. For all the reasons discussed above, large numbers of people usually cannot develop the common purpose, goals, approach, and mutual accountability of a real team. And when they try to do so, they usually produce only superficial "missions" and well-meaning intentions. As a result, and perhaps counterintuitively, extending the benefits of a team to a large group is better accomplished by challenging subsets of the group to tackle significant performance goals and then helping those subgroups to become real teams. One real team in the midst of a large group will influence overall group performance more effectively than any number of mission or teamwork statements.

COMPLEMENTARY SKILLS

Teams must develop the right mix of skills, that is, each of the complementary skills necessary to do the team's job. These team skill requirements fall into three categories:

- **Technical or functional expertise.** It would make little sense for a group of doctors to litigate an employment discrimination case in a court of law. Yet teams of doctors and lawyers often try medical malpractice or personal injury cases. Similarly, product development groups that include only marketers or engineers are less likely to succeed than those with the complementary skills of both.

- **Problem-solving and decision-making skills.** Teams must be able to identify the problems and opportunities they face, evaluate the options they have for moving forward, and then make necessary trade-offs and decisions about how to proceed. Most teams need some members with these skills to begin with although many will develop them best on the job.
- Interpersonal skills. Common understanding and purpose cannot arise without effective communication and constructive conflict that, in turn, depend on interpersonal skills. These include risk taking, helpful criticism, objectivity, active listening, giving the benefit of the doubt, support, and recognizing the interests and achievements of others.

Common sense tells us that it is a mistake to ignore skills when selecting a team. A team cannot get started without some minimum complement of skills, especially technical and functional ones. And no team can achieve its purpose without developing all the skill levels required. Still, it is surprising how many people assemble teams primarily on the basis of personal compatibility or formal position in the organization.

Interestingly, however, an equally common error is to overemphasize skills in team selection. Much of the popular literature on teams, for example, stresses skill mix as a prerequisite to selection, almost like recipes—particularly for interpersonal skills. Yet, in our research, we did not meet a single team that had all the needed skills at the outset. We did discover, however, the power of teams as vehicles for personal learning and development. Their performance focus helps teams quickly identify skill gaps and the specific development needs of team members to fill them. The shared commitment in teams encourages a healthy fear of failure as opposed to debilitating insecurity among those challenged to learn. Finally, each team member’s sense of individual accountability to the team promotes learning. Once harnessed to a common purpose and set of goals, natural individualism motivates learning within teams. Except for certain technical and functional skills, most of us have the potential to learn the skills needed in teams. And individualism drives the majority of us to find some way to make our own distinctive and individual contribution to the team. Accordingly, as long as the skill potential exists, the dynamics of a team cause that skill to develop.

Not a single person on Burlington Northern’s Intermodal Team, for example, had a specific marketing background for what, in some respects, was a classic marketing challenge. Yet, as that story illustrates, many of the advantages and rewards of a team come in the opportunities for personal growth after people join the team. Other teams have experienced similar growth. For example, a plant manager who was part of a team at Weyerhaeuser charged with developing a business strategy felt he was holding back the team because of his inexperience with computers. But he wanted to be part of the team so much that he spent hours on his own developing computer skills. General Electric routinely trains new members in interpersonal and problem-solving skills as a foundation for what they will need to become effective team members. At Motorola, when a member of one self-managing team who could not read asked to be replaced so she would not slow down the rest of the team, the team insisted on teaching her to read and went on to achieve its goals. Thus, the challenge for any potential team lies in striking the right balance between selection and development as the means for building the full set of complementary skills needed to fulfill the team’s purpose over time.

COMMITTED TO A COMMON PURPOSE AND PERFORMANCE GOALS

A team’s purpose and performance goals go together. Indeed, we have yet to find a real team without both. The team’s near-term performance goals must always relate directly to its overall purpose; otherwise, team members become confused, pull apart, and revert to mediocre performance behaviors.

1. A common, meaningful purpose sets the tone and aspiration. Teams develop direction, momentum, and commitment by working to shape a meaningful purpose. Building ownership and commitment to team purpose, however, is not incompatible with taking initial direction from outside the team. The often-asserted assumption that a team cannot “own” its purpose unless management keeps completely away from the team actually confuses more potential teams than it helps. In fact, it is the exceptional case—for example, entrepreneurial situations—when a team actually creates a purpose entirely on its own.

Most teams shape their purposes in response to a demand or opportunity put in their path, usually by management. The team of
Xerox scientists who invented personal computing developed their purpose after the chairman of Xerox called for the creation of an “architecture of information.” The Rockingham Dri-Loc Team at Sealed Air Corporation began shaping its purpose with the instruction from management to cut waste and reduce downtime. The Deal-to-Steel Team at Enron Corporation created its purpose to vastly improve Enron’s pipeline construction deals in response to senior management’s expressed frustration over barriers and bureaucracy.

Direction from management helps teams get started by broadly framing the performance requirements of the company. This is what Bob Waterman and Tom Peters call “solution space”; that is, defining the boundaries and scope of authority clearly enough to indicate direction, but flexibly enough to allow the modification required for commitment to develop. Figure 3-1 is one of the best illustrations we found of a management guideline for teams. It was developed at Procter & Gamble during its impressive major change and performance turnaround between 1985 and 1991. It makes clear the charter, the rationale, and the performance challenge for the team, but leaves plenty of solution space for the team to set specific goals, timing, and approach.

The best teams invest a tremendous amount of time and effort exploring, shaping, and agreeing on a purpose that belongs to them both collectively and individually. In fact, real teams never stop this “purposing” activity because of its value in clarifying implications for members. With enough time and sincere attention, one or more broad, meaningful aspirations invariably arise that motivate teams and provide a fundamental reason for their extra effort.

Listen, for example, to how three people describe the purpose and implicit values of the Kodak “Zebra Team,” which manages fifteen hundred Kodak employees responsible for producing seven thousand different black and white film products:

“Black and white, black and white. Everybody’s a partner.”
“We’re so pleased with what we’re doing and the results we’re getting that we want the rest of the company to learn from us.”
“We’re crazy. We’ll do anything.”

These comments, like those of most teams, have more meaning to the team than to a casual, first-time observer because of the time invested by the team in understanding what it is trying to do and why. If you ask the Zebra Team members to interpret, however, they will say they are describing their collective aspirations of leading broad-scale corporate change throughout Kodak, building values
of partnership and risk taking, and proving the worth of black and white film at Kodak, where color has been in the limelight.

Make no mistake—the Zebra Team set clear performance objectives aimed at increasing profits, reducing cycle-time along with work-in-progress inventory, cutting production costs, increasing customer satisfaction, and improving on-time deliveries. Without such goals, it would not have become or remained a team. Yet a few years into continual team discussions, decisions, actions, and more discussions, the three people quoted here are describing a mission that goes well beyond operational economics.

Groups that fail to become teams rarely develop a common purpose that they own and can translate into specific and actionable goals. For whatever reason—an insufficient focus on performance, lack of effort, poor leadership—they do not coalesce around a challenging aspiration. The Executive Committee of a leading financial services company provides a good example. After many years of industry leadership, this company’s competitive position began to erode in the late 1980s. As with most entrenched industry leaders, it took awhile before the Executive Committee ever talked about, much less recognized, the threat.

By 1991, however, the company had crafted a credible competitive strategy that, by any standard, promised to put it back on course. Unfortunately, the Executive Committee did not convert the strategy into an effective team purpose. Its deep-seated habits of individualism, reinforced by strong, articulate personalities and, probably, ignorance about the need for a team purpose prevented it from developing a specific team purpose and, hence, from becoming a team. Without mutual commitment to a broader team purpose, groups like this Executive Committee are forced to operate without a sense of direction that they understand in common.

But what makes purposes like that of Kodak’s Zebra Team so powerful? First, a team purpose is a joint creation that exists only because of the team’s collaborative effort. As such, it inspires both pride and responsibility. The better teams often treat their purpose like an offspring in need of constant nurturing and care. Naturally, they spend relatively more time in the beginning shaping their purpose; but, even after the team is operative, the members periodically revisit the purpose to clarify its implications for action. They continue such “purposing” activity indefinitely.

Next, because of the intense discussions that mold a team’s purpose, the purpose itself conveys a rich and varied set of meanings to guide what the team needs to do, particularly in meeting its goals. Scores of scenarios get painted about customer needs, competitor capabilities, governmental or other requirements, and external as well as internal constraints. Consequently, when challenges arise, team members can respond, confident that they have the trust and support of their teammates—so long as the actions taken make sense in light of the team purpose. In other words, risks that otherwise might not be taken get done as a matter of course.

Most important, team purposes give teams an identity that reaches beyond the sum of the individuals involved. This team identity keeps conflict—something both necessary and threatening to teams—constructive by providing a meaningful standard against which to resolve clashes between the interests of the individual and the interests of the team. Armed with team purpose, everyone on the team knows when an individual may be getting out of line and must put the team first or else risk breaking it apart.

2. Specific performance goals are an integral part of the purpose. Transforming broad directives into specific and measurable performance goals is the surest first step for a team trying to shape a common purpose meaningful to its members. Specific goals—like getting a new product to market in less than half the normal time, responding to all customers within twenty-four hours, or achieving a zero defect rate while simultaneously cutting costs by 40 percent—provide clear and tangible footholds for teams for several reasons.

First, they define a team work-product that is different from both an organizationwide mission and the summation of individual job objectives. To be effective, team work-products must require roughly equivalent contributions from all the people on the team to make something specific happen that, in and of itself, adds real value to company results.

Second, the specificity of the performance objectives facilitates clear communications and constructive conflict within the team. For
example, one of Sealed Air Corporation’s* plant-level teams set a goal of averaging two hours for machine changeover. The clarity of that goal forced the team to concentrate on what it would take to achieve it—or, alternatively, to seriously reconsider whether the goal should be changed. When such goals are clear, team discussions can focus on how to pursue them or whether to change them; when goals are ambiguous or nonexistent, such discussions are much less productive.

Third, the attainability of specific performance goals helps teams maintain their focus on getting results. A product development team at Eli Lilly’s Peripheral Systems Group set definite yardsticks for the market introduction of an ultrasonic probe to help doctors locate deep veins and arteries in patients. The probe had to have an audible signal through a specified depth of tissue, be manufacturable at a rate of 100 per day, and have a unit cost less than a pre-established amount. Moreover, the team committed itself to develop the product in less than half the usual time frame for its division. Because each of these objectives was attainable and measurable, the team knew throughout the development process where it stood. Either it had achieved its goals or it had not.

Fourth, as Outward Bound and other team-building programs illustrate, specific objectives have a leveling effect conducive to team behavior. When a small group of people challenge themselves to get over a wall or walk a mountain or through a desert—or to reduce cycle time by 50 percent—their respective titles, perks, and other “stripes” fade into the background. Instead, the teams that succeed evaluate what and how each individual can best contribute to the team’s goal and, more important, do so in terms of the performance objective itself rather than a person’s status or personality.

Fifth, specific goals should allow the team to achieve small wins as it pursues its purpose. Small wins are invaluable to building members’ commitment and overcoming the inevitable obstacles that get in the way of achieving a meaningful long-term purpose.

Last, performance goals are compelling. They challenge the people on the team to commit themselves, as a team, to make a difference. Drama, urgency, and a healthy fear of failure combine to drive teams who have their collective eye on an attainable goal. The Eli Lilly medical probe team, for example, put its pride on the line when it committed to getting a new product to the market in record time. Nobody beyond the team could make it happen. It was their challenge.

3. The combination is essential to performance. A team’s purpose and specific performance goals have a symbiotic relationship; each depends on the other to stay relevant and vital. The specific performance goals help a team track progress and hold itself accountable; the broader, even nobler aspirations in a team’s purpose supply both meaning and emotional energy. For example, the combination of the Zebra Team’s aspirations, such as “putting black and white film back on Kodak’s map,” and specific goals, such as reducing cycle-time and improving on-time delivery, provide a terrific example of what it takes to sustain teams over time—namely, purposes and performance goals that are both economic and social, rational and emotional, performance-focused and meaningful.

Usually, a team’s aspirations and purpose will grow out of a persistent pursuit of specific performance goals. The Tallahassee Democrat’s ELITE Team described in the next chapter transformed its initial goal of reducing advertising errors into the more meaningful purpose of providing overall better customer service. Sometimes, however, a team starts with a compelling and noble aspiration and works hard to translate it into specific and attainable performance objectives. For example, the PBS program “Schools in America”* described four economically hard-pressed schools whose faculty leadership teams were determined “to prove that our youngsters could be as successful as affluent youngsters in public education in America.” Only later did the teams shape measurable goals having to do with test scores, attendance, and graduation. Some teams begin with clear performance objectives, others

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*Sealed Air is a high-performing producer of packaging materials and systems. Its efforts to develop world-class manufacturing skills through extensive use of teams is described in Chapter 10.

*More detail is given in Chapter 7.
only get there after stumbling around for awhile. Whatever the sequence, the directional intensity so necessary for successful team performance comes from the continuing integration of purpose and performance goals.

COMMITTED TO A COMMON APPROACH

Teams also need to develop a common approach—that is, how they will work together to accomplish their purpose. Indeed, they should invest just as much time and effort crafting their working approach as shaping their purpose. A team’s approach must include both an economic and administrative aspect as well as a social aspect. To meet the economic and administrative challenge, every member of a team must do “equivalent” amounts of real work that goes beyond commenting, reviewing, and deciding. Team members must agree on who will do particular jobs, how schedules will be set and adhered to, what skills need to be developed, how continuing membership is to be earned, and how the group will make and modify decisions, including when and how to modify its approach to getting the job done. Agreeing on the specifics of work and how it fits together to integrate individual skills and advance team performance lies at the heart of shaping a common approach. It is perhaps self-evident that a working approach that delegates all the real work to a few members (or staff outsiders) and thus relies on review and discussion meetings for the only “work together” aspects of the approach cannot sustain a real team.

Often many teams treat the social aspect of work as unrelated to performance. But effective teams always have team members who, over time, assume important social as well as leadership roles such as challenging, interpreting, supporting, integrating, remembering, summarizing. These roles help promote the mutual trust and constructive conflict necessary to the team’s success. In the best teams, each member assumes different social roles, depending on the situation. As a result, teams develop their own unique processes for energizing and supporting one another and for keeping each other honest and on track. We emphasize, however, that such roles evolve over time to meet performance needs. People make a mistake if, upon reading a description of useful social roles, they think they must assemble a team at the beginning with “all the right parts.”

The three-man team who led the Irvington Division of Garden State Brickface from last to first in terms of division performance never stopped discussing and improving its approach to becoming number one—just as it never stopped discussing the importance of being number one. Garden State is a small construction company specializing in applying decorative brickface and stucco for clients ranging from middle-class homeowners to world-famous architects. Each job is a custom effort in which hundreds of slip-ups ranging from cracking, to color or texture deficiency, to damaging the house or building can disappoint customers.

When Charlie Baum, Doug Jimmink, and John Patterson set their sights on turning around Irvington, the division had a history of poor performance. Projects ran too long, costs were out of control, and quality was spotty. Dissatisfied customers often refused to pay. Stealing, accidents, and drug and alcohol abuse were common. Sales blamed production for all the problems and vice versa.

Each man brought his own strengths and weaknesses to the team. Charlie, the general manager, was an Ivy League graduate and former consultant with strong process and analytic skills and a deep faith in the value of fairness and integrity. Charlie, however, neither looked like a brickface guy nor knew much about the complicated job of doing brickface work. Nor did he have much in common with Irvington’s workers.

Doug, the vice president of sales, was a born salesman who knew all the con games. Though he had a fiery personality that inspired the sales force, he had little interest in the administrative details of his job.

John, the vice president of production, was an up-from-the-ranks leader who understood brickface work inside out and the lives of the men who did it. Unlike Charlie and Doug, he had no formal management experience, and lacked broad understanding of the business of brickface—that is, what really produced bottom-line results.

As these three men worked out their approach to make Irvington the number one division of Garden State, their job titles faded into the background as more relevant roles, skills, and practices emerged:
- Charlie became the prime customer service contact, goal suggester, educator, arbitrator of fairness, and liaison with corporate headquarters. He was also Mr. Integrity.

- Doug motivated, challenged, and inspired the team as well as his sales force. With John, he figured out how best to keep sales and production working constructively to meet the goals Charlie suggested.

- John promoted Charlie’s belief in fairness with the men, kept Charlie practical, and became the prime challenger and supporter of the work force. He was also Charlie’s “lead student” in learning about the business economics of brickface, providing a critical role model to the division at large.

- They used customer expectations, job-by-job “brickface” economics, and employee skill development as the yardsticks for planning and problem resolution.

- All three men played games (e.g., basketball, softball, and darts) to provide a comfortable and open context for raising, discussing, and resolving team issues. Says Doug, “That dart board resolved more problems than you would ever believe.”

Obviously, these roles, skills, and practices did not exist the first day the three men met, nor were they dictated by Charlie (the boss). They took shape out of endless conversations about how the team could achieve its purpose in the face of the challenges it faced. The power here comes from perpetually adjusting the team approach with reference to purpose and goals. As the Garden State Brickface Team carved out ways to work best together, it developed the insight and courage required to tackle many knotty obstacles; for example:

- Early on, John accepted an order from a salesman who had submitted such a low-ball bid that there was no way Garden State could make money. Previous production vice presidents had always rejected such jobs. John, however, knew the link between sales and production was more critical to Garden State’s approach than the profitability of a single job. Since the commission on the order was crucial to the salesman, he wanted to demonstrate that he and the production crews would do whatever they could to make the job work.

- The team shaped new approaches to compensation, training, and information to emphasize the profitability of each job. It provided each new crew with the necessary information to influence job profitability, trained the crews in how to use the data to improve performance, and rewarded crews on the basis of job-by-job results.

- The men developed a “Brickface University,” conducted during the cold, slow winter months, that was aimed at enriching everyone’s understanding of the whole business—an on-the-job educational effort that later won national recognition from Congress.

- The team changed job assignments from a functional-specialty basis that mixed and matched different individuals on different days to a crew-based approach that kept crews intact. Then they conducted a crew draft along the lines of professional sports teams that put the job of forming crews in the hands of the frontline workers. As a consequence, Irvington was able to reduce its cost base significantly while simultaneously improving job quality.

Certainly, any of these men, acting as an individual in a hierarchy, might have done some of these same things. But we argue that such initiatives—both separately and cumulatively—are far more likely to emerge out of a commonly agreed on and continually updated team approach. When individuals approach a team situation, especially in a business setting, each has pre-existing job assignments as well as strengths and weaknesses reflecting a variety of backgrounds, talents, personalities, and prejudices. Only through the mutual discovery and understanding of how to apply all its human resources to a common purpose can a group really develop and agree on the best team approach to achieve its goal. At the heart of such long and, at times, difficult interactions lies a commitment-building process in which the whole team candidly explores who is best suited to each task as well as how all the individual roles will come together. In effect, it establishes a social contract among members that relates to their purpose, and guides and obligates how they must work together.
MUTUAL ACCOUNTABILITY

No group ever becomes a team until it can hold itself accountable as a team. Like common purpose and approach, this is a stiff test. Think, for example, about the subtle but critical difference between "the boss holds me accountable" and "we hold ourselves accountable." The first case can lead to the second; but, without the second, there can be no team.

At its core, team accountability is about the sincere promises we make to ourselves and others, promises that underpin two critical aspects of teams: commitment and trust. By promising to hold ourselves accountable to the team's goals, we each earn the right to express our own views about all aspects of the team's effort and to have our views receive a fair and constructive hearing. By following through on such a promise, we preserve and extend the trust upon which any team must be built.

Most of us enter a potential team situation cautiously; ingrained individualism discourages us from putting our fates in the hands of others. Teams do not succeed by ignoring or wishing away such behavior. Mutual promises and accountability cannot be coerced any more than people can be made to trust one another. Nevertheless, mutual accountability does tend to grow as a natural counterpart to the development of team purpose, performance goals, and approach. Accountability arises from and reinforces the time, energy, and action invested in figuring out what the team is trying to accomplish and how best to get it done. When people do real work together toward a common objective, trust and commitment follow. Consequently, teams enjoying a strong common purpose and approach inevitably hold themselves, both as individuals and as a team, responsible for the team's performance.

The specific performance goals of teams also provide clear yardsticks for accountability: for example, the Sealed Air Team that wanted to reduce machine changeover time by two hours or the Eli Lilly Team that wanted to introduce its new medical device in record time. As such goals are discussed and the approaches to them developed, the people involved—over time—have a clearer and clearer choice: they can disagree with the goal and the path the team selects and, in effect, opt out of the team; or, they can pitch in and become jointly accountable with their teammates.

Accountability, then, provides a useful litmus test of the quality of a team's purpose and approach. Groups that lack mutual accountability for performance have not shaped a common purpose and approach that can sustain them as a team. The Executive Committee at the financial services firm mentioned earlier illustrates this point. Each of the individuals on that committee is an experienced professional who has shown repeatedly the readiness to sign on and follow through on any assignment. Individual accountability is familiar to each of them. Throughout the crisis, however, the members of the Executive Committee failed to demonstrate that they held themselves mutually accountable, as a team, for any aspect of the company's performance. They remained accountable as individuals only, a sure sign that they lacked a common team purpose, work-product goals, or mutual agreement on how best to proceed. By contrast, if you observe a group of people who are truly committed and accountable for joint results, you can be almost certain they have both a strong team purpose and an agreed-on approach.

CONCLUSION

Despite the fact that most of us are familiar with teams, we are imprecise in thinking about them. For that reason, gaining a clear understanding of what a team is and is not—and particularly how teams and performance depend on each other—can provide useful insights in how to strengthen the performance of your group. Imprecise thinking about teams, however, pales in comparison to the lack of discipline most of us bring to potential team situations. Teams do not spring up by magic. Nor does personal chemistry matter as much as most people believe. Rather, we believe that by persistently applying the definition offered here, most people can significantly enhance team performance. And focusing on performance—not chemistry or togetherness or good communications or good feelings—shapes teams more than anything else.

As a starting point, we urge you to think about each of the six
basic elements of teams when you assess your group's current situation: 1) Are you small enough in number? 2) Do you have adequate levels of complementary skills and skill potential in all three categories necessary for team performance? 3) Do you have a broader, meaningful purpose that all members aspire to? 4) Do you have a specific set of performance goals agreed upon by all? 5) Is the working approach clearly understood and commonly agreed upon? and 6) Do you hold yourselves individually and mutually accountable for the group's results?

While these questions are relatively straightforward, it is probably worthwhile to probe each one further to obtain practical and actionable insights for improvement. Specifically:

1. Small enough in number:
   a. Can you convene easily and frequently?
   b. Can you communicate with all members easily and frequently?
   c. Are your discussions open and interactive for all members?
   d. Does each member understand the others' roles and skills?
   e. Do you need more people to achieve your ends?
   f. Are sub-teams possible or necessary?

2. Adequate levels of complementary skills:
   a. Are all three categories of skills either actually or potentially represented across the membership (functional/technical, problem-solving/decision-making, and interpersonal)?
   b. Does each member have the potential in all three categories to advance his or her skills to the level required by the team's purpose and goals?
   c. Are any skill areas that are critical to team performance missing or underrepresented?
   d. Are the members, individually and collectively, willing to spend the time to help themselves and others learn and develop skills?
   e. Can you introduce new or supplemental skills as needed?

3. Truly meaningful purpose:
   a. Does it constitute a broader, deeper aspiration than just near-term goals?

4. Specific goal or goals:
   a. Are they team goals versus broader organizational goals or just one individual's goals (e.g., the leader's)?
   b. Are they clear, simple, and measurable? If not measurable, can their achievement be determined?
   c. Are they realistic as well as ambitious? Do they allow small wins along the way?
   d. Do they call for a concrete set of team work-products?
   e. Is their relative importance and priority clear to all members?
   f. Do all members agree with the goals, their relative importance, and the way in which their achievement will be measured?
   g. Do all members articulate the goals in the same way?

5. Clear working approach:
   a. Is the approach concrete, clear, and really understood and agreed to by everybody? Will it result in achievement of the objectives?
   b. Will it capitalize on and enhance the skills of all members? Is it consistent with other demands on the members?
   c. Does it require all members to contribute equivalent amounts of real work?
   d. Does it provide for open interaction, fact-based problem solving, and results-based evaluation?
   e. Do all members articulate the approach in the same way?
f. Does it provide for modification and improvement over time?
g. Are fresh input and perspectives systematically sought and added, for example, through information and analysis, new members, and senior sponsors?

6. Sense of mutual accountability:
a. Are you individually and jointly accountable for the team’s purpose, goals, approach, and work-products?
b. Can you and do you measure progress against specific goals?
c. Do all members feel responsible for all measures?
d. Are the members clear on what they are individually responsible for and what they are jointly responsible for?
e. Is there a sense that “only the team can fail”?

Answering the preceding questions can establish the degree to which your group functions as a real team, as well as help pinpoint how you can strengthen your efforts to increase performance. They set tough standards, and answering them candidly may reveal a harder challenge than you may have expected. At the same time, facing up to the answers can accelerate your progress in achieving the full potential of your team. In Part II, we will describe in more detail how potential teams actually go about improving their “scores” on these questions and, more important, their performance.