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Report No. 174

Adapting a Quality Function Deployment Model to Optimize Professional Education in Human Resources/ Industrial Relations Programs

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July 1999

CQPI
University of Wisconsin

Report No. 174

Report Series
in Quality and Productivity

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INTRODUCTION

Recent and dramatic changes in the roles of HR/IR professionals require not only new types of knowledge and skills but also enhanced abilities to combine these skills and knowledge in creative ways that add value to their organizations. These demands are reflected in what can best be described as "proficiencies." Increasingly, new job entrants must be equipped with a broad array of proficiencies that enable them to operate not only as traditional HR/IR professionals but also as key business partners in their organizations. These proficiencies require them both to draw on a wide range of knowledge and skills and to combine their knowledge and skills in ways not normally emphasized in their formal education. Since HR/IR practitioners are for the most part trained in professional, master's degree programs, their academic training must be adapted to help them acquire these proficiencies so they can meet the evolving demands of the workplace.

The challenge to academic HR/IR programs is determining whether, to what extent, and how to adapt their instruction to this new environment. Concentrating on traditional content knowledge will no longer suffice. Greater emphasis must be given to cultivating a broad set of skills to complement the standard array of taught knowledge. Crucial to the success of new graduates is their capacity to effectively combine the knowledge and skills they are acquiring. Essentially, they must be able to demonstrate their facility in using and applying what they have learned, what we call "proficiencies" (Hansen, 1986). This means doing much more than simply passing courses and completing formal program requirements.

This paper offers guidance on how to narrow the gap between what the changing labor market for HR/IR practitioners demands and the proficiencies brought to the labor market by newly graduated HR/IR masters degree holders. It concentrates on identifying the range of proficiencies required of HR/IR practitioners and then indicates what kinds of knowledge and skills are required to build these proficiencies. It suggests but does not take the next major step, which is to assess what particular types of instruction and learning opportunities can contribute the most to developing the skill and knowledge required to demonstrate the essential proficiencies. The larger purpose, then, is to establish the linkages among proficiencies and the skills and knowledge that contribute to building these proficiencies and, in turn, connect them with the instruction options that can help cultivate the skills and knowledge needed to demonstrate these proficiencies.

This analysis is illustrated by focusing on the Master's degree program of the University of Wisconsin-Madison's Industrial Relations Research Institute (IRRI). It begins by asking how the IRRI can better prepare its HR/IR graduates for challenging and rewarding careers in the new business milieu. More specifically, it asks what proficiencies the IRRI should seek to develop in its graduates so they can demonstrate, to the satisfaction of both the program and the labor market, their ability to use the knowledge and skills they acquire in the program and, thereby, truly add value to potential employers both as new and as continuing, long-term employees. To the extent that these proficiencies are not being developed as fully as might be possible, what steps can be taken to enhance their development by modifying the program's instructional approach?

The paper draws on three key sources. The first source is the literature pertaining to the changing role of HR/IR professionals. The second is the concept of proficiencies and the linkages of these proficiencies to the particular skills and knowledge that are emphasized, or not emphasized, in academic programs. The third is the Training Function Deployment (TFD) model, which is adapted here and described as the Instruction Proficiency Deployment (IPD) model. By showing how to bring these elements together, academic

*This is a slightly modified version of a paper presented at the Fourth Annual EDINEB Conference, Edinburgh, Scotland, September 1-3, 1997. The conference paper by Hansen, Mehlek, Murphy, and True (1999) will be published in Troy et al. (1999).

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programs will be able to respond more rapidly and effectively in preparing their graduates for the changing demands of the workplace.

I. LITERATURE RECAP

Since the late 1980s, studies conducted by human resource and industrial relations managers and scholars reveal that the role of HR/IR in American companies has undergone a rapid transformation (Kochan, Katz, & McKersie 1986; Dyer 1988). This dynamic environment can be directly attributed to the significant changes in external and internal forces affecting today's business enterprises (Siebert & Zaidi 1996). Global competition, rapid technological advances, shortages of highly skilled employees, growing diversity in the work force, customer demands for quality, increased employee demands, and heightened expectations among the general population top the list of challenges companies now face (Carnevale 1991). Concurrently, American business organizations are entering an era of renewal, with dramatic shifts in corporate vision, strategic planning, and responsiveness to customers. These shifts directly affect the roles and responsibilities expected of HR/IR professionals. Moreover, they point to the core competencies these professionals must possess to successfully take on these new roles and responsibilities.

Past practices indicate that HR/IR practitioners and their various functions have not been perceived as being "critical" to the overall success of the organization. Rather, they were viewed as playing a purely administrative role in their organizations. HR/IR professionals occupied staff positions and dealt with traditional functions, including hiring, training, benefits, and the like. Continued adherence to this traditional role led to what the Conference Board (1995b) recently described as a "crisis of confidence and credibility" for HR/IR professionals as the world of business undergoes dramatic changes.

In the new competitive environment, HR/IR professionals must be equipped to deal with a much wider range of people-related business issues. The challenges that businesses now face require human resource professionals to accept the role of strategic business partner, aligning their departments and functions with those of the business as a whole. Meeting this challenge requires rethinking the responsibilities of HR/IR professionals and holding them accountable for developing the essential competencies required to carry out those responsibilities.

The striking changes taking place in the HR/IR fields are captured in several recent studies, most notably, those by Kaufman (1994, 1996), Connolly and Mastranunzio (1994), and the Conference Board (1994a, 1994b, 1994c, 1995a, 1995b). These studies not only delineate the changing dimensions of the HR/IR field, but they also outline new roles and responsibilities expected of HR/IR professionals. They go on to specify the capabilities organizations need to meet these new challenges and outline the core competencies required of HR/IR professionals. However, these studies only hint at the corresponding changes needed in university HR/IR degree programs.

A principal complaint of corporate leaders is that HR professionals failed to understand business fundamentals. As a consequence, these professionals have created an atmosphere of dependence through an inward focus on issues, such as human resource management, compensation and benefits, and employee relations. Now, these business leaders see new roles and responsibilities emerging (Conference Board, 1995b). First, HR managers must act as strategic business partners; they must understand the business direction of the company, including what is the nature of the product or service produced, who are the typical customers, and how the company is positioned competitively in the market place. Second, HR managers must lead their companies in effecting this transformation by adding significant value to the business through facilitating change with the help of well planned strategies and processes. Third, HR needs to deliver functional expertise for traditional HR activities, whether the functions are performed internally or contracted out. Last, HR professionals must continue to serve as employee advocates, looking out for the people-related processes needed to gain the high commitment and performance that leads to business success.

Business leaders also argue that HR/IR programs should focus on developing new capabilities to overcome these deficiencies. Among the capabilities most frequently noted are consulting, organizational development, business/financial analysis, process improvement, and global awareness. Others cite team building, consulting-advising, and leadership styles that emphasize facilitation and coaching, as a few examples. The authors also identify business savvy and knowledge, change management, and global perspective as competencies now expected of HR professionals.

The deficiencies have led at least some faculty within HR/IR university programs to conclude that academic HR/IR programs do not provide their graduates with the skills and proficiencies today's HR/IR professionals need to fill their new roles (Kaufman 1994, 1996). Thus, it is crucial for academia to take a close look at changes in the HR/IR function and contrast them with how students are now being training in HR/IR programs.

II. HR/IR SKILLS: AN ASSESSMENT

This paper builds on the recent research (Hansen et al. 1996) which compares the skills needed by HR/IR practitioners as seen by employers, with the skills emphasized in HR/IR academic programs as seen by employers, faculty, and students. That research is based on 1994-1995 surveys of students, faculty, and recent alumni at a single master's degree industrial relations program, specifically, that of the UW-Madison. The surveys identified what skills are sought in the labor market for HR/IR professionals, what kinds of skills are produced in HR/IR master's degree programs, and what gaps exist between the two. Based on the views of experts, 20 skills and 14 areas of content knowledge, were identified as critical to the labor market success of graduates. The respective lists are shown in Figure 1.

The survey results shown in Figure 2 reveal wide gaps between what skills the labor market demands and what skills newly hired HR/IR professionals bring with them to the labor market. Employers indicate that the level of skills required of new entry-level practitioners generally exceeds the actual level of skills they find in new employees, with the largest gaps in Written Communication, Active Listening, Presentation, Negotiation-Mediation, and Organizational Dynamics. Students recognize many of these same gaps between what employers seek and what they bring with them from their academic training, particularly Active Listening, Oral Communication, Decision-making, Facilitation, and Computer Skills. Faculty members also see many of these same skill gaps, the most striking of which are Sensitivity to Diversity and Resourcefulness.

The results also show what skills employers believe are most important. Employers identify Written Communication, Oral Communication, and Active Listening Skills as the most important skills needed by HR/IR practitioners. Students identify Research, Analytical, Written Communication, and Organizational Dynamics as the skills receiving the greatest emphasis in their current academic program. Faculty agree that Written Communication, Oral Communication, and Computer skills are strongly emphasized in the program but disagree about the importance of Organizational Dynamics. Of particular interest are the gaps perceived by faculty and employers. Thus, clear gaps exist between the skills deemed most important by employers and the skills emphasized in the academic program, whether seen by students or faculty. The authors conclude that current HR/IR programs concentrate on teaching subject matter knowledge but neglect the challenge of skill development.

Skills	Knowledge
Active Listening Skills	Benefits
Analytical Skills	Compensation
Adaptability	Employee Analysis
Computer Skills	Equal Employment Law
Creativity	Job Analysis
Decision Making Skills	Labor Markets
Group Problem Solving	Labor Law
Facilitation Skills	Negotiation and Mediation
Leadership Skills	Organizational Behavior
Negotiation Skills	Public Policy
Oral Communication Skills	Recruitment
Organizational Dynamics	Staffing/Evaluation
Planning/Organization Skills	Total Quality Improvement
Presentation Skills	Training
Research Skills	
Resourcefulness	
Risk Taking	
Sensitivity to Diversity	
Team Building Skills	
Written Communication Skills	

Figure 1: Skills and Knowledge Needed by Human Resources/Industrial Relations (HR/IR) Professionals
Source: Hansen et al. (1996)

To remedy the lack of skill development, the authors offer several suggestions. The first is for students to take a more active role by developing needed skills both within the program through their courses (although students have relatively little control over the emphasis given to skills) and also outside the program through participation in student-faculty committees, extracurricular activities, internships, and part-time jobs. Another suggestion calls for greater recognition among employers that they must also invest to enhance the skills of newly hired HR/IR personnel rather than expecting academic programs to tailor student skill preparation to the specific needs of employers. Third, and most important, academic programs must give more direct attention to developing the skills of their students. This can best be accomplished by infusing the teaching of skills into content courses, thereby producing greater interplay between the acquisition of both skills and knowledge, and

HR/IR Practitioner Skills	Market Entry Skills* As Seen by Professionals		Actual Program Skills Emphasis** as seen by		Gaps Between Needed Market Entry Skills and Actual Program Skills***		
	Needed (1)	Actual (2)	Students (3)	Faculty (4)	Professionals (5)	Students (6)	Faculty (7)
Written Communication Skills	4.0	2.9	2.8	2.2	1.1	1.2	1.7
Active Listening Skills	3.6	2.4	2.0	2.0	1.2	1.6	1.6
Oral Communication Skills	3.6	2.8	2.2	2.3	0.8	1.4	1.3
Decision Making Skills	3.4	2.7	2.0	1.8	0.7	1.4	1.6
Analytical Skills	3.4	2.7	3.0	2.9	0.7	0.4	0.5
Adaptability	3.3	2.6	2.1	2.0	0.7	1.2	1.3
Computer Skills	3.3	2.5	2.0	2.3	0.8	1.6	1.0
Planning/ Organization Skills	3.3	2.7	2.3	2.1	0.6	1.0	1.2
Presentation Skills	3.3	2.3	2.2	2.0	1.0	1.1	1.3
Sensitivity to Diversity	3.3	2.8	2.1	1.8	0.5	1.2	1.5
Resourcefulness	3.2	2.7	2.1	1.8	0.5	1.1	1.4
Group Problem Solving	3.1	2.4	2.6	2.1	0.7	0.5	1.0
Organizational Dynamics	3.0	2.0	2.7	1.9	1.0	0.3	1.1
Team Building Skills	3.0	2.3	2.0	1.8	0.7	1.0	1.2
Leadership Skills	2.9	2.2	1.8	1.6	0.7	1.1	1.3
Facilitation Skills	2.9	2.1	1.5	1.6	0.8	1.4	1.3
Creativity	2.8	2.6	1.7	2.1	0.2	1.1	0.7
Risk Taking	2.7	2.2	1.4	1.4	0.5	1.3	1.3
Negotiation Skills	2.7	1.7	1.9	2.0	1.0	0.8	0.7
Research Skills	2.6	2.8	3.3	3.1	-0.2	-0.7	-0.5
Averages	3.2	2.5	2.2	2.0	0.7	1.0	1.1

Figure 2: *Gaps Between Needed and Actual Market Entry Skills, and Between Needed Market Entry Skills and Actual Program Skills Emphasis*

Note: **Needed and Actual Market Entry Skill levels are averages of Very Skilled = 4; Skilled = 3; Somewhat Skilled = 2; and Not Skilled = 1.*

***Actual Program Skills Emphasis levels are averages of Strongly Emphasized = 4; Emphasized=3; Somewhat Emphasized = 2; and Not Emphasized = 1.*

****Column 5 is difference between columns 1 and 2; column 6 is difference between columns 1 and 3; and column 7 is difference between columns 1 and 4.*

Source: Hansen et al. (1996)

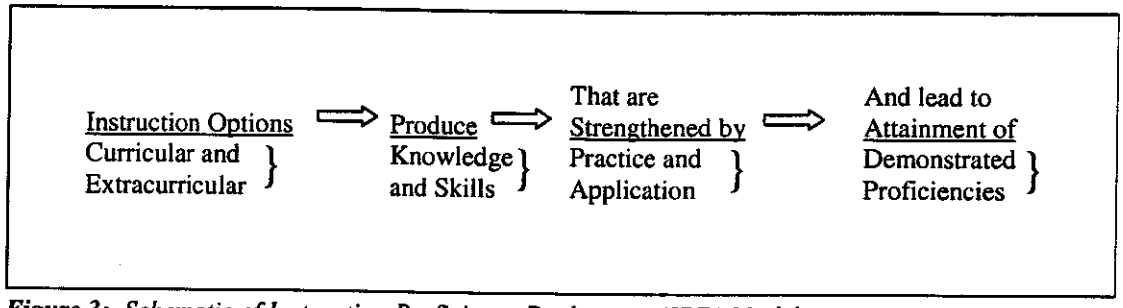

Figure 3: Schematic of Instruction Proficiency Deployment (IPD) Model

in the process stimulating the development of HR/IR proficiencies.[1] The authors conclude by suggesting a Kaizen (Imai 1986) approach to address the skills training gap, one that enlists students, faculty, and employers to work toward a common goal through continuous quality improvement.

III. INSTRUCTION PROFICIENCY DEPLOYMENT MODEL

The methodological tool employed in this analysis is what we call an Instruction Proficiency Deployment (IPD) model. This model is an adaptation of the Training Function Deployment (TFD) model developed by Stampen and Stampen (1995) and elaborated by Stampen (1997); that model is adapted, in turn, from the Quality Function Deployment (QFD) model (Akao 1990). This model is widely used in industry and is beginning to see use in higher education (Akao, Nagai, & Maki 1996; Stampen 1995). Whereas QFD seeks to build quality into new products and services by understanding and deploying customer needs, TFD focuses on understanding what abilities are required in specific job positions, what knowledge and skills are required to create these abilities, and what kinds of training programs can help produce such skills and knowledge.

The TFD model breaks new ground by focusing on the training that is essential to the effectiveness of the QFD model. Without trained personnel, the ability to implement QFD will be short-circuited. The challenge is to determine what training is most appropriate for an individual or group of individuals occupying specific job positions. The model helps do this by emphasizing the importance of leveraging, that is, securing through carefully designed training the greatest possible improvement in the performance of stated job functions for specific job positions. The potential for leveraging is identified in two ways. The first involves assigning weights to the importance of the various job functions and to the gap between the capacity and potential of individuals to perform these functions. The second assigns a sharply skewed set of weights to rank the strength of the relationships among the various categories of skills and knowledge and the ability to perform in the workplace, and then between the training options and developing the needed knowledge and skills.[2]

The IPD model takes the analysis several steps further. Most important, it focuses on a particular labor market and the academic training professional programs provide to entrants into that labor market.[3] It then identifies the proficiencies expected of program graduates; these are best described as indicating what graduates should be able to do, i.e., how they can use their knowledge and skills to engage in activities that will be value-adding to future employers. The idea is not to train graduates to do particular tasks in some future job, as implied by the TFD model. Rather, it is to prepare graduates to combine their wide-ranging knowledge and skills for dealing with the full range of issues they will encounter in their future jobs. Specifically, the challenge is to identify a broad set of proficiencies, figure out what knowledge and skills are required to demonstrate these proficiencies, and then determine what kinds and combinations of educational activities can be most effective in producing this knowledge and skills, and thereby stimulate the development of these proficiencies in program graduates. The model is sketched out in Figure 3.

The IPD model employed here gives attention not to training but rather to instruction offered through the formal education system. It seeks to link the labor market demand for a particular occupational group to a professional degree program through the concept of proficiencies. The term proficiencies describes the capacity of professional program graduates by the time they graduate to perform a wide range of activities of the kind they are likely to perform in their future jobs. These proficiencies are akin to the concept of "capabilities" used by Stephenson and Weil (1992) and to the term "abilities" used by Stampen and Stampen (1995).

[1]The traditional curricular focus of these problems is described by Way (1996).
[2]Stampen (1997) has developed software to facilitate the process of identifying the possibilities for leveraging knowledge and skills and also training options.
[3]The model has the flexibility of being able to deal with individual students and designing an appropriate educational program for them, based on the knowledge and skills they possess on entering the program. This aspect of the model will not be developed here.

Quality Function Deployment	Training Function Deployment	Instruction Proficiency Deployment
Identify Key Customer Groups	Identify the Position for which a Training Program is being developed	Identify the Demands on the Organization for educated personnel
Identify the Needs of Customer Groups	Identify the Abilities required for this position	Identify the Proficiencies employers require of newly hired employees to meet these demands
Identify the Results the organization produces to meet Customer needs	Identify the Knowledge and Skills that are required for these Abilities	Identify the Knowledge and Skills that must be combined to demonstrate these required Proficiencies
Identify the Processes that produce the key results Knowledge and skills	Identify the appropriate Training Program to develop the required Knowledge and Skills	Determine the Instruction Options available to develop the required Knowledge and Skills, both separately and jointly.
		Assess the effectiveness of the Instruction Options in giving Learners Practice in demonstrating these Proficiencies, and to check on the effectiveness of the entire system

Figure 4: Contrasting Three Deployment Models
Source: First two columns adapted from Stampen and Stampen (1995) p. 934.

We prefer the term "proficiencies" because the term "capabilities" is too vague and the term "abilities" is often interpreted as representing what might be viewed as people's natural rather than acquired abilities.

The IPD model can best be understood by direct comparison with both the QFD and TFD models, as shown in Figure 4. The IPD model, displayed in right-hand column, begins by identifying the demands on business organizations for educated professionals of a particular type. It goes on to translate those demands into a set of proficiencies that professional programs should seek to develop in their graduates. Because proficiencies build on both content knowledge and related skills, the contribution of knowledge and skills to the development of proficiencies must be established. As a result, it becomes possible to identify and organize educational and instructional options for helping students develop these proficiencies. To help leverage the Instructional Options, the linkages between the knowledge and skill categories must also be established. Thus far, the parallels between IPD and QFD/TFD are very similar.

The IPD contains one additional feature. To ensure that these proficiencies are acquired, attention must also be given to those educational and instructional options that allow students to practice these proficiencies. Only in this way can they enhance their ability to demonstrate these proficiencies by the time they graduate from the program.

The parallels among the three models should be apparent by reading across each line of entries in Figure 4. In the first row, Customers equals Position equals Demands. In the second row, Needs equals Abilities which equals Proficiencies. In the third row, Results equals Knowledge and Skills which equals Knowledge and Skills. In the fourth row, Processes equals Training Programs which equals Instruction Options. The key difference is the addition of a fifth row which identifies the Instruction Options that provide students opportunities to Practice using their proficiencies before entering the labor market. Of course, these Proficiencies will continue to be honed on the job; the point of the separate entry is to emphasize the development of these proficiencies prior to beginning a job.

IV. IDENTIFYING PROFICIENCIES REQUIRED FOR HR/IR PROFESSIONALS

What proficiencies should we seek to develop among our graduates so as to demonstrate to us and to others that they can use the knowledge and skills they acquire in the program and thereby add substantial value to potential employers both as new and later as continuing employees? If current HR/IR graduates are not gaining these proficiencies, what can be done to enhance the development of these proficiencies?

We begin knowing that most professional degree programs require completion of an undergraduate degree. What this means in terms of foundation knowledge and skills is unclear. In principle, high school graduates entering college bring with them a core of essential knowledge and skills acquired through the first 12 years of school (SCANS 1990; Educational Equity Project 1983). During their college years, the breadth of their core knowledge is expanded through general education requirements, and the depth of their knowledge is extended through their undergraduate major. Little or no explicit attention is given to proficiencies in either high school or college, largely because the concept remains relatively new (Hansen 1986), although several efforts are underway to apply the concept to the undergraduate economics major (Wyrick 1994, 1995) and to graduate education in economics (Hansen 1991).

When students enter Master's level HR/IR programs, they arrive with widely different backgrounds. The knowledge and skills they bring vary greatly because they attended different colleges and universities, completed different undergraduate majors, and picked up different mixes of skills and knowledge in their courses. Increasingly, many arrive with considerable job experience. All this diversity makes it difficult to assess not only the ability of applicants to benefit from the program but also what proficiencies they have already acquired.

But the more important question is this: what proficiencies are expected, if not required, for HR/IR professionals in the new economy of the 21st Century? This project's central challenge was to find a way of translating the changing role of HR/IR professionals into a meaningful set of proficiencies. To start this process, the seminar participants engaged in an exhaustive search of the literature and lengthy discussion to identify the key proficiencies. This required reviewing, in addition to the materials already cited, the literature on undergraduate and graduate economics education (Siegfried 1990; Hansen 1991), business education (Porter & McKibben 1988), human resource management education (Legge 1995), and professional education generally (Eraut 1994; Schon 1987). This process yielded four broad categories of proficiencies.

The first of these, HR/IR Proficiencies, represents the core knowledge and skills required by people working in this particular field of employment. The next two proficiencies capture the broader role HR/IR professionals are being called upon to play within their organizations. One is Business Proficiencies which reflects the new role of HR/IR professionals in helping create profitable enterprises that serve their customers effectively. The other is Leadership Proficiencies, which reflect the new role of HR/IR professionals not as staff people but as part of the core decision-making groups leading these enterprises. The fourth, which we label Learning Proficiencies, is quite different. It reflects the demands of a new knowledge-based economy where success lies in creating and sustaining learning organizations whose members bring the best newly discovered knowledge to their work and are able to continue learning over their professional careers. These proficiencies run the gamut, from the most general, the Learning Proficiencies, to the most specific, the HR/IR Proficiencies, with Business and Leadership Proficiencies standing in the middle.

What do these proficiencies mean? Each proficiency is defined and then divided into a set of specific proficiencies. What emerges from this process is four subcategories for each proficiency. Each subcategory is followed by a brief example of what that proficiency entails.

A. HR/IR Proficiency:

Industrial relations is a broad social science field that focuses on all aspects of the employment relationship. Its history is rooted in the analysis of labor problems and the role played by unions and government in their amelioration. In recent decades, its emphasis has broadened to include human resource management along with the traditional areas of concentration. The University of Wisconsin-Madison's Industrial Relations Research Institute Master's degree curriculum, like that of most comparable programs, is designed to provide students with both the breadth of knowledge and the analytical tools they need to understand and contribute in a rapidly changing economy while remaining competitive in their field. This program is structured to include student exposure to four broad fields, namely, labor markets and employment policy, human resource management and organizational behavior, unionization and non-union employee relations, and labor and employment law. Thus, upon graduation, IRRI master's students should possess the ability, or the competence, to perform the activities within the HR/IR function to the standards expected in employment. In the words of Critten (1993): "Competence is a wide concept which embodies the ability to transfer skills and knowledge to new situations within the occupational area." (p. 43). If HR/IR practitioners expect to be considered competent and effective in their positions, they must convey this message through their ability to perform on the job. A fuller description follows.

HR/IR Proficiency—A Definition: Possesses a broad, in-depth knowledge and understanding of all aspects of the HR/IR function in an organization.

1. Facilitates and Maintains Employment Relationship. Knows how market forces and employment policies affect the supply and demand for labor, and the quality of labor desired. Knows how to attract and retain employees.
2. Manages Diverse Workforce. Is aware of the role that the economic and social environments have on developing human resource policies, and how these policies, once formulated, are implemented within the organization.
3. Handles Organization's Labor Relations and Employment Agreements. Understands the evolution, current state, and future of employee-management relations in the United States, including a union and non-union perspective.
4. Maintains Compliance with Government Regulations/ Guidelines. Knows and understands labor and employment law principles developed by the courts governing employer-employee relations in the work place and how to interpret them.

B. Elaboration of Business Proficiency

The UW-Madison IRRI program is an interdisciplinary unit with faculty participants from several colleges (Letters and Science, Business, Law, and Engineering). Historically, it has had a strong social science orientation even though a number of its human resource courses are taught in the School of Business. Unlike Master's degree graduates in the School of Business who specialize in Management and Human Resources, IRRI students are not required to take the standard set of Business Foundation courses (finance, accounting, management, marketing, etc.) and as a consequence have spent little time studying the broader business environment. Because of the changing role of HR/IR professionals, greater knowledge of business is required of graduates from HR/IR master's degree programs.

Business Proficiency—A Definition: Understands the business and acts as a value-adding partner by aligning HR/IR activities with the business needs in a bottom-line orientation of increasing profits and containing costs.

1. Designs HR/IR Strategy to Meet Current Business Needs. Designs HR/IR projects to achieve goals in current year. Revises/designs new HR programs (e.g., a recent purchase of a new product line requires revision of some current HR programs/policies).
2. Designs HR/IR Strategy to Meet Future Strategic Business Goals. Designs HR/IR Project to meet strategic business goals associated with acquisition of new business unit. Analyzes current HR programs/policies to update them with the goal of providing the company with a competitive advantage in the future.
3. Analyzes Economic Impact of HR/IR Programs. Conducts cost-benefit analysis of new HR programs/policies/ contracts to determine whether the they should be implemented.
4. Participates on Cross-Functional Teams. Performs on cross-functional business teams that address business issues (e.g., development of the business unit's strategic plan)

C. Elaboration of Leadership Proficiency

Recent literature on the transformation of the HR/IR field identifies leadership as one of the key elements of change. In particular, Connolly and Mastranunzio's survey (1996) of top managers reveals that leadership is a required competence for today's HR/IR professionals. Leadership is considered to be a vital element for HR/IR professionals if they are to become the strategic business partners of top management. Several already-mentioned reports of the Conference Board indicate that many leading organizations are demanding that HR/IR professionals lead change within the organization to enhance quality and performance. In addition, Kaufman (1996) reports that leadership is a competency that companies are looking for in HR/IR graduates in order to fulfill their future roles as top HR/IR professionals. The particular leadership proficiencies described here come from several sources that specifically define them. These sources include practical training manuals for the professional trainer (Carnevale, Gainer, and Miltzer 1990), a book that specifically defines leadership as a competency (Critten 1993), and another recent book on human resource management (Legge 1995). These sources, among others, help to explain the elements of leadership that are necessary for HR/IR graduates and professionals.

Leadership Proficiency—A Definition: Leads, influences, and inspires others to align the organization toward realizing its vision.

1. Facilitates Effective Working Relationships with Internal and External Customers. Influences and inspires others toward organization's vision. Plans, allocates, and evaluates work carried out by teams and individuals that motivates others
2. Empowers Individual/Team Development to Enhance Organizational Performance. Facilitates others/teams. Creates, maintains, and enhances effective working relations through perceptive facilitation processes and conflict resolution.
3. Pursue Organizational Vision and Continuous Learning. Empowers others. Develops teams and individuals to enhance performance in carrying out duties aimed at achieving the company's vision.
4. Acts as Change Agent. Initiates and implements change or improvement in services, products and/or systems.

D. Elaboration of Learning Proficiency

The inclusion of "Learning Proficiencies" reflects several recent developments. Among them are the growing emphasis on knowledge work (Drucker 1992; Garvin 1993); the concept of creating learning organizations (Senge 1990); and the more central role of HR/IR practitioners in their organizations (Conference Board 1995b). These developments mean that HR\IR practitioners must be much more broadly focused, able to utilize the rapidly expanding knowledge base, and themselves become continuous learners. The specific Learning Proficiencies come from earlier work by the senior author who proposed five learning proficiencies in the context of educating undergraduate economics majors (Hansen 1986). These learning proficiencies are quite similar to those, identified in a quite different context, in a recent study on improving knowledge work processes in industry (Davenport, Jarvenpas, & Beers 1996).[4]

[4] The importance of continuous learning is described more fully by Argysis (1991), Davis and Botkin (1994), and Senge (1990).

Skills		Knowledge	
Active Listening	Negotiation	Accounting	Management
Adaptability	Oral Communication	Benefits	Marketing
Analytical	Organizational Dynamics	Budgeting	Negotiation/Mediation
Computer	Planning/Organization	Compensation	Organizational Behavior
Creativity	Research	Employee Analysis	Production Processes
Decision Making	Resourcefulness	Equal Employment Law	Public Policy
Facilitation	Risk Taking	Finance	Recruitment
Group Problem Solving	Sensitivity to Diversity	Job Analysis	Staffing/Evaluation
Initiative	Team Building	Labor Markets	Quality Improvement
Leadership	Written Communication	Labor Law	Training

Figure 5: Skills and Knowledge Needed by Human Resources/Industrial Relations (HR/IR) Professionals

Learning Proficiency—A Definition: Locates and uses new and existing knowledge, creates new knowledge, and fosters a spirit of curiosity and inquiry.

1. Accesses Existing Knowledge. Displays good library and electronic search skills, and wide acquaintanceship with information sources
2. Displays Command of Knowledge. Evidences wide-ranging reading and networking to build personal knowledge base that will be of use to organization
3. Assembles and Packages Knowledge. Demonstrates good thinking, writing, and organizing skills that enable individual to produce in timely fashion well-organized and effectively composed presentations
4. Applies Existing Knowledge. Sees how to bring available knowledge to bear on new issues and problems
5. Creates New Knowledge. Recognizes the constant need to develop new knowledge, and knows how to do this effectively.

V. IMPLICATIONS FOR KNOWLEDGE AND SKILL CATEGORIES

In the process of identifying the proficiencies required of HR/IR professionals, several additional categories of knowledge and skills emerged beyond those shown in Figure 1. These additions came as a surprise in that the HR/IR knowledge and skill categories identified earlier (Hansen et al. 1996) seemed to cover the field; survey respondents suggested a few additional entries but because the suggestions varied so widely, the list (shown in Figure 1) was left largely unchanged. On the other hand, the much broader scope of HR/IR proficiencies that emerged in this study, especially the Business proficiency, indicates that other types of content knowledge are required to develop both Business and Leadership proficiencies.[5] Put another way, these additions reflect the impact of focusing on proficiencies rather than on the existing knowledge and skill categories that are appropriate to a more traditional view of HR/IR. In the end, the following knowledge areas were added: Finance, Accounting, Budgeting, Management, Production Processes, and Marketing. Only one item was added on the skill side, something called Initiative, which may be more akin to a personal attribute than a skill.[6] At the same time, one skill was deleted, namely, Presentation Skills, on the grounds that this skill is covered by Oral Communication.[7] The resulting lists include 20 skill and 20 knowledge categories, as shown in Figure 5.

The addition of Business and Leadership proficiencies indicates that HR/IR graduates should take at least some courses in the knowledge areas indicated above. The challenge lies in finding how to squeeze in additional courses without excluding the important liberal arts component that gives IRRI graduates a breadth of background knowledge that is likely to have longer-lasting value than more specialized business courses.

[5] In retrospect, the additions to knowledge are not too surprising inasmuch as a number of business courses are required for HR/IR graduates of the UW-Madison Business School. For example, the management and human resource specialty it offers as part of its Master's Degree in Business requires students to complete a core of business "foundation courses," whereas the IRRI program gives greater attention to what might be called liberal arts courses. The additional courses required in the business program include Financial Accounting, Managerial Accounting, Financial Management, Management of Teams, Leadership in Organizations, Marketing Management, Operations Management, and Managerial Economics. Interestingly, the business course requirements in the HR/IR program considerably exceed those for MBA students whose core or foundation courses are limited to Financial Accounting, Managerial Accounting, Corporate Finance, Marketing, and Operations Management. (This information came from the 1996 Graduate Admissions Guide, UW-Madison School of Business.)

[6] Perhaps Proactivity would be a better term than Initiative. Proactivity might be elaborated as: Takes initiative in the face of uncertainty to achieve business related goals and initiates timely action to correct a problem situation without waiting for instructions. Is self-starting, action-oriented, and takes appropriate risks.

[7] In retrospect, this skill should have been retained to emphasize the greater attention it should receive in instruction.

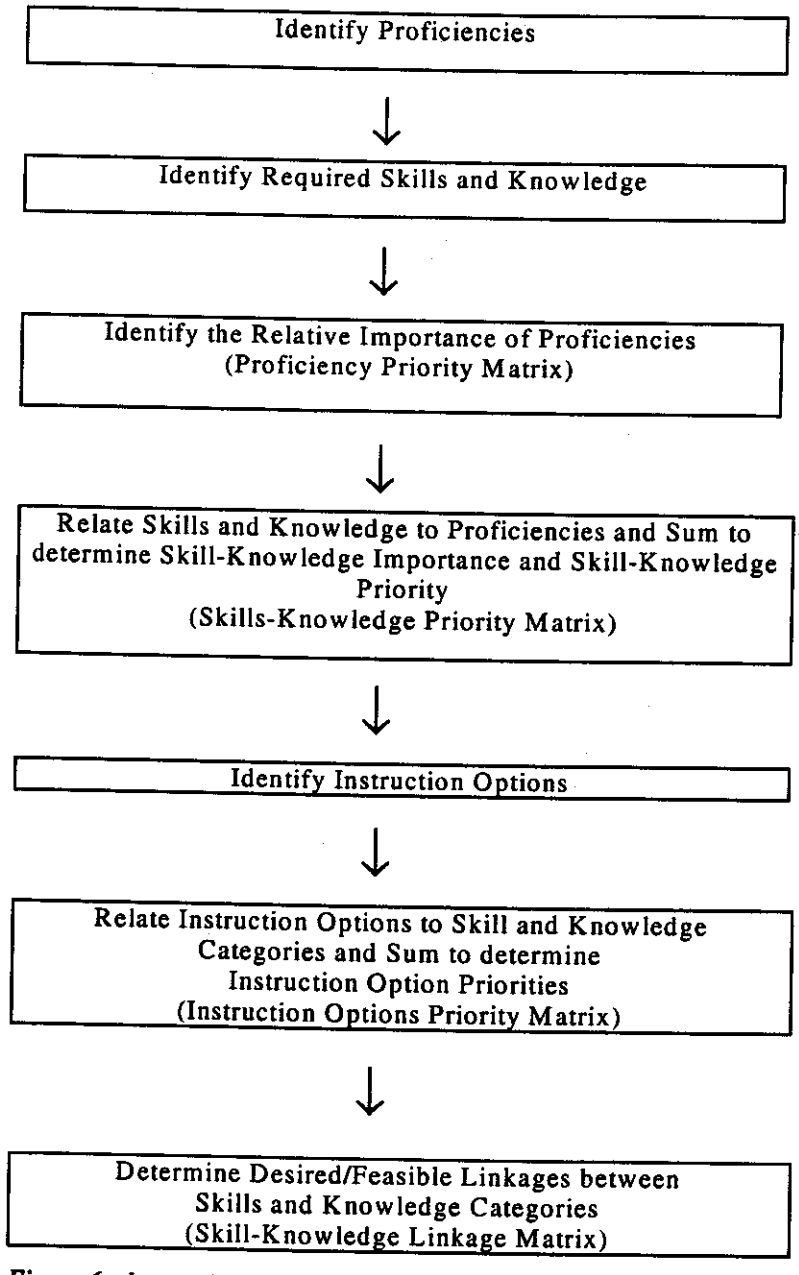

***Figure 6:** Instruction Proficiency Development Process Flow Diagram*

VI. ELABORATING THE INSTRUCTION PROFICIENCIES DEPLOYMENT MODEL

The IPD model, through a series of matrixes shown in the flow diagram in Figure 6, provides a helpful framework in several ways. Most important, it links skills and content knowledge to the proficiencies. In addition, it shows the effect of different instruction options for building the knowledge and skills that help students internalize these proficiencies.

A. Knowledge/Skill Proficiency Linkages.

The first, the Proficiency Priority Matrix, identifies and prioritizes the proficiencies. It indicates the relative importance of each proficiency to employers, shows what the instructional program currently does to develop these proficiencies, and reveals whatever gaps exist in the program. The end result is the relative weight, called the Proficiency Priority Weight, that should be given to developing the different types of skills and knowledge.[8] Because the major focus of this paper is on defining and specifying the

[8] The Proficiency Priority Weights are derived from the Proficiencies Priority Matrix. In lieu of presenting the completed matrix, it was assumed that each of the four broad proficiencies are of equal importance. The relative importance of each proficiency is based on the same 3-2-1 scale used in the earlier study (Hansen, 1996).

proficiencies, the derivation of these Weights is not shown[9]; however, these weights are critical at the next step in the process.

The second, the Skills-Knowledge Priority Matrix (the full versions of which are presented as Appendix Figures 1A and 1B), reveals the importance of each skill and knowledge category in contributing to the development of each proficiency. A portion of the knowledge-proficiencies matrix is presented in Figure 7 to illustrate how its values are calculated, in this case for HR/IR proficiencies. To rank the importance of each skill/knowledge category in the columns to each proficiency in the rows, a 9-3-1-0 scale is used. This scale's wider spread better reveals how knowledge and skills can be leveraged most effectively to enhance the development of each proficiency. These rankings are then multiplied by the already established Proficiency Priority Weights (the 3-2-1 weights assigned to each of the broad proficiencies) shown in the first column of Figure 7. The products are summed in the columns for the proficiencies within each broad group and shown in the row labeled as Importance. The Importance values for HR/IR proficiencies are then rank-ordered and shown in the row labeled as Priority. These Priority values indicate which skills and knowledge offer the most leverage for enhancing each broad set of proficiencies.

The results of this process are summarized in Figure 8 for knowledge and Figure 9 for skills. Consider first the traditional HR/IR Proficiencies shown in the top panels of these two figures. Overall, the most highly ranked knowledge categories include: Budgeting, Equal Employment Law, Labor Law, Management, and Production Processes (all tied for 1st place). The most highly ranked skill categories include: Decision-Making and Initiative (tied for 1st place) and Active Listening, Analytical, Oral Communication, and Sensitivity to Diversity (all tied for 2nd place). Readers can observe how the Priority values differ among the four broad proficiencies. (More detailed information for particular subcategories of proficiencies is available in Appendix Figures 1A and 1B.

These Skills-Knowledge Importance factors differ considerably for each broad proficiency and for the proficiencies as a whole.[10] Based on the results for the four separate groups of knowledge proficiencies in Figure 8 we find that six types of knowledge rank among the top five knowledge categories in each of the four broad proficiency groups, namely, Employee Analysis, Job Analysis, Management, Production, Staff/Evaluation, and Training. The top five knowledge areas averaged over all proficiency groups are similar; they are in order of importance, Management, Employee Analysis, Job Analysis, Production, and Organizational Behavior, followed by Training.

With respect to skills, we find that six of them — Analytical, Decision Making, Initiative, Oral Communication, Planning/Organization, and Written Communication — are ranked among the top five skills in each of the broad proficiency groups. The top five skills averaged over all proficiency groups are, in order of importance, Initiative, Analytical, Oral Communication, Decision Making, and Planning/Organization, followed by Written Communication. This evidence suggests that these skills constitute what might be termed the core skills needed by HR/IR professionals.

The only noteworthy difference in the results is the generally lower Importance totals for the broad knowledge categories. One explanation is that for the Learning

		Know ledge																			
Proficiencies	Proficiency Weights	Accounting	Benefits	Budgeting	Compensation	Employee Analysis	Equal Employ Law	Finance	Job Analysis	Labor Markets	Labor Law	Management	Marketing	Negotiation/Mediation	Organizational Behavior	Production	Public Policy	Recruitment	Staff/Evaluation	Quality Improvement	Training
HR/IR Proficiencies																					
Facilitates Empl. Relationship	3	3	1	9	1	9	9	3	9	9	9	9	1	3	3	9	3	9	9	3	9
Manages Diverse Workforce	3	3	1	9	1	9	9	3	9	3	9	9	1	1	3	9	3	9	9	9	9
Handles Coll. Bargaining	3	3	9	9	9	9	9	3	9	3	9	9	1	9	9	9	9	1	3	3	1
Maintains Regulatory Compl.	2	3	3	9	3	3	9	33	3	1	9	9	1	1	3	9	9	9	3	3	3
Importance (subtotal)	11	33	39	99	39	87	99	33	87	47	99	99	11	41	48	99	63	75	69	51	60
Priority (rank order)		11	10	1	10	2	1	11	2	8	1	1	12	9	7	1	5	3	4	6	4

Figure 7: An Illustration of Proficiencies Skill - Knowledge Priority Matrix: Knowledge Rankings
Notes: Importance Subtotals are the sums of the Instruction Weight times the ranking for each Knowledge category. Subtotals for the Learning Proficiencies are normalized to equal the other subtotals.

[9] The derivation of such weights is illustrated in a different context in a recent paper by Stampen and Hansen (1999).

		Knowledge																			
Proficiencies	Proficiency Weights	Accounting	Benefits	Budgeting	Compensation	Employee Analysis	Equal Employ Law	Finance	Job Analysis	Labor Markets	Labor Law	Management	Marketing	Negotiation/Mediation	Organizational Behavior	Production	Public Policy	Recruitment	Staff/Evaluation	Quality Improvement	Training
HR/IR Proficiencies																					
Importance (subtotal)	11	33	39	99	39	87	99	33	87	47	99	99	11	41	48	99	63	75	69	51	60
Priority (rank order)		11	10	1	10	2	1	11	2	8	1	1	12	9	7	1	5	3	4	6	4
Business Proficiencies																					
Importance (subtotal)	10	90	12	90	18	72	23	90	72	44	16	90	30	11	72	90	17	38	30	24	28
Priority (rank order)		1	11	1	8	2	7	1	2	3	10	1	5	12	2	1	9	4	5	6	4
Leadership Proficiencies																					
Importance (subtotal)	11	12	11	12	12	81	17	33	81	23	23	99	12	69	81	33	11	27	81	51	81
Priority (rank order)		9	10	9	9	2	8	5	-2	7	7	1	9	3	2	5	10	6	2	4	2
Learning Proficiencies																					
Importance (subtotal)	12	12	12	12	12	17	22	12	17	26	22	12	12	22	25	12	22	12	12	26	17
Priority (rank order)		5	5	5	5	4	3	5	4	1	2	5	5	3	2	5	3	5	5	1	4
All Proficiencies																					
Importance (subtotal)	44	147	74	213	81	257	161	168	257	140	160	300	65	143	226	234	119	152	182	152	186
Priority (rank order)		11	16	5	15	2	9	8	2	13	10	1	17	12	4	3	14	10	7	10	6

Figure 8: Proficiencies Skill – Knowledge Priority Matrix: Summary Knowledge Rankings

Notes: Importance Subtotals are the sums of the Instruction Weight times the ranking for each Knowledge category. Subtotals for the Learning Proficiencies are normalized to equal the other subtotals.

Proficiencies the Knowledge Importance values are much lower than they are for the other proficiency groups, no doubt reflecting the view that learning is a skill rather than a form of knowledge itself. Another possible explanation is that in making the rankings, seminar participants sensed that the gap in skills exceeded the gap in knowledge; put another way, their command over the knowledge categories exceeded that for the skill categories.

To summarize, the results in Figures 8 and 9, which are reinforced by the more detailed results in Appendix Figures 1A and 1B, indicate that developing the proficiencies of entry-level HR/IR practitioners requires a complex array of skills and knowledge, that some knowledge categories (particularly those that had to be added) are not sufficiently emphasized in the program, and that most skills are insufficiently emphasized in the program.

Overcoming these barriers will not be easy. Incorporating the additional knowledge categories into an already-full academic program means eliminating other requirements; put very simply, every type of knowledge cannot be taught to everyone who may need or want it. Similarly, the need for considerably higher levels of skills will be difficult to meet because giving greater emphasis to the teaching of skills, along with content knowledge, is likely to require a substantial restructuring of existing courses and how they are taught. One possible solution is to break semester-long courses into shorter modules that focus on particular topics.

VII. NEXT STEPS IN IMPLEMENTING IPD

The next step in the IPD process calls for determining what instruction options are most effective for imparting the knowledge and skills needed to develop the four broad categories of proficiencies, and especially the core proficiencies identified above. There are two steps to this process. The first step is developing an inventory of the instruction options and strategies for incorporating knowledge and skills into Master's degree programs so that students' proficiencies are indeed enhanced. The second and more difficult step is determining the effectiveness of these options for the instruction of HR/IR practitioners; this is done through the Instruction Options Priority Matrix. We turn first to the inventory of options and strategies.

	Skills																				
Proficiencies	Proficiency Weights	Active Listening Skills	Adaptability	Analytical Skills	Computer Skills	Creativity	Decision Making Skills	Facilitation Skills	Group Problem Solving Skills	Initiative	Leadership Skills	Negotiation Skills	Oral Communication Skills	Organizational Dynamics	Planning/Organization Skills	Research Skills	Resourcefulness	Risk Taking	Sensitivity to Diversity	Team Building Skills	Written Communication Skill
HR/IR Proficiencies																					
Importance (subtotal)	11	81	51	81	21	29	99	47	51	99	41	51	81	69	69	31	51	41	81	47	63
Priority (rank order)		2	5	2	10	10	1	6	5	1	8	5	2	3	3	9	5	8	2	6	4
Business Proficiencies																					
Importance (subtotal)	10	42	33	90	48	42	72	54	33	90	54	27	72	78	60	44	42	30	27	27	60
Priority (rank order)		8	9	1	6	8	3	5	9	1	5	11	3	2	4	7	8	10	11	11	4
Leadership Proficiencies																					
Importance (subtotal)	11	69	69	99	11	69	99	99	69	99	99	69	99	51	81	11	33	41	99	63	63
Priority (rank order)		3	3	1	7	3	1	1	3	1	1	3	1	5	2	7	6	5	1	4	4
Learning Proficiencies																					
Importance (subtotal)	11	40	40	86	27	63	40	29	30	86	40	8	86	25	63	63	75	25	11	14	75
Priority (rank order)		5	5	1	8	3	5	6	6	1	5	12	1	9	3	3	2	9	11	6	2
All Proficiencies																					
Importance (subtotal)		232	193	356	107	203	310	229	183	374	234	155	338	223	273	149	207	137	218	151	261
Priority (rank order)		8	14	2	20	12	4	9	15	1	7	16	3	10	5	18	13	19	11	17	6

Figure 9: Proficiencies Skill - Knowledge Priority Matrix: Summary Skill Rankings

Notes: Importance subtotals are the sum of the Instructional Weight times the ranking for each Skill category. Subtotals for the Learning Proficiencies are normalized to equal the other subtotals.

A. Instruction Options and Strategies

Developing a list of instructional options is difficult because it must embrace not only instructional processes that are instructor and program driven but also learning processes that are student and program driven. Moreover, program requirements and program culture condition teaching and learning. In the end, however, what and how it is taught is determined by instructors, and what and how much is learned is determined by students.

With these considerations in mind, we can think of several categories of instruction options: (1) the curriculum with its traditional focus on courses and requirements, (2) extracurricular learning opportunities which are affected by the program's culture, student involvement in the program, and related opportunities; (3) instructional approaches which focus on the basic pedagogical approach to a course; and (4) instructional strategies which include different ways to promoting learning within a course. The categories and major options within each are shown in Figure 10.

The difficulties of taking the next step should be apparent. The UW-Madison IRRI curriculum, for example, includes two, one-year required core courses, Industrial Relations Theory, and Research Methods. It also requires taking at least one course in each of the four fields within Industrial Relations. Beyond that, students must fulfill the remainder of their course work by selecting from a wide array of electives, with at least one more course in their field, one seminar, and a tutorial project conducted on a one-to-one basis with a faculty member. A few students opt to write a thesis for their master's degree. The choices that students make are discussed initially with a faculty adviser. In addition, the Institute's administrator/adviser also provides help as do students already in the program. Because courses are closely geared to knowledge areas, the link with the curriculum instruction options and knowledge categories is reasonably high. By contrast, the development of skills get much less attention because many courses follow a lecture format that does little to foster these skills.

Curriculum	Extracurriculum
Ind Rel Theory	Participation
Ind Rel Research	Research
Collective	Internships
Labor	Work-related jobs
Wages and the Volunteer activity	
Labor Economics	
Master thesis	
Human Resource	
Comparative Ind	
Comparative Ind	
Other Electives	
Tutorials	
Instructional Approaches	**Instructional Strategies**
Lecture	Writing papers
Seminar	Oral presentations
Case study	Case studies
Problem-based	Team projects
Writing Intensive	Simulations
Research	Empirical analyses
Independent Study	Questioning
Distance learning	Interview/survey
Concentrated	Research studies
	Proficiencies-based

Figure 10: Instruction Options for Knowledge and Skills Development

The extracurricular possibilities for learning vary enormously and are heavily dependent on the program's culture, i.e., the emphasis given to the noncurricular dimensions of the program. Students can gain considerable experience and broaden their skills by participating actively in the social, governance, and intellectual life of the program. They can also gain by availing themselves of related opportunities to expand their knowledge and enhance their skills, by serving as research assistants for faculty members, holding internships that through experience and contacts provide insight into the kinds of jobs they themselves might take, working on part-time, paying jobs that are related to their professional interests, and offering their services as volunteers. In short, many opportunities exist for students to expand their knowledge and sharpen their skills while they complete the Institute's formal course work.

The pedagogy of instruction is critical because it opens up possibilities for developing a wider array of skills than does the traditional lecture approach (Angelo & Cross 1993; Barnett 1993; Becker and Watts 1999; Christensen, Garvin, & Sweet 1991; Ramsden 1992; Walstad & Saunders 1998). Pedagogy has two important dimensions. One is the particular instruction approach used in courses; the other is the particular instructional strategies employed within courses. An instructional approach can embrace everything from the traditional lecture approach to, for example, independent study or problem-based learning (Boud 1985; Boud & Feletti 1992). Each approach produces different effects on the quantity and quality of both knowledge and skill development. Instructional strategies also differ in how particular instructional approaches are implemented (Lewin 1996; Rau and Schwab 1996). Thus, a lecture approach might include preparation of a research paper as an instructional strategy. By contrast, a writing intensive approach might require students to produce a series of papers to demonstrate mastery of course content and proficiencies in the economics major (Hansen 1999). Many possible combinations of major instructional approaches and instructional strategies are possible.

Establishing the linkages among the 36 instruction options and the 20 skill and 20 knowledge categories is a formidable challenge. In principle, these linkages can be established with the help of the Instruction Options Priority Matrix summarized in Figure 11. A full-blown version would have a 20x36 matrix of instruction options and skills, and a 20x36 matrix for instruction options and knowledge categories. (For convenience of presentation, the Instruction Options Priority Matrix combines knowledge and skills categories, and the detail pertaining to Weights (for skill and for knowledge), Importance, and Priorities is omitted. Each instruction option would be ranked using the same 9-3-1-0 scale, thus indicating its Importance value; Priority Weights would then be assigned, as described earlier. These rankings would then be multiplied by the appropriate Skill and Knowledge Priority Weights shown in column 1 of Appendix Figures 1A and 1B, the products summed vertically, and the totals entered in the rows (not shown in Figure 11) labeled Instruction Options Importance. Rank ordering these values, as Instruction Options Priority weights, would indicate what types of instruction offer the greatest potential for enhancing all types of skill (and separately, each type of knowledge) and ultimately the various proficiencies.

Completing these matrixes is difficult because there are so many cells to fill. The easiest part is dealing with traditional, required courses which for the most part are taught using a lecture approach and focus on content knowledge. To show these same linkages for a wide array of available elective courses, not to mention other courses of special interest to particular students, would complicate the task. That extracurricular activities contribute to deepening student knowledge and skills seems apparent but the particular kinds of knowledge and skills students gain cannot be described with any certainty, since so much depends on the specific activity. It is much more difficult, however, to specify what instructional approaches and strategies are most likely to spur the development of content knowledge. Finally, whatever may be the problems arising with knowledge cat-

	Instruction Options 1 2 36
Knowledge	
1	
2	
.	
.	
.	
20	
Skills	
1	
2	
.	
.	
.	
20	

Figure 11: Instruction Option Priority Matrix

egories, these problems are greatly multiplied in dealing with the skill categories. How skills can best be imparted remains an open question.

Attempts to establish the linkages between instructional options and skill and knowledge development must wait for a more thorough exploration of the research literature, although little of that literature is devoted specifically to HR/IR. Whatever such an exploration might reveal, some useful information can be obtained by asking faculty to report their experiences with various instruction options. In addition, reports of instructional experiments by faculty members using different approaches and strategies would also be illuminating. While such information can be helpful, there is always the difficulty of knowing whether the reported effects reflect the special circumstances surrounding these experiments or the abilities of instructors to see benefits that may be less apparent to other, perhaps, more objective observers. The key test is whether similar results can be obtained by others in replications of these experiments.

Individual faculty should also be encouraged to study closely the effects of their current teaching approaches and strategies. Doing research on one's own teaching provides useful insights and evidence, and as a by-product, probably increases both teaching effectiveness and student learning. Finally, HR/IR programs should be encouraged to collect and analyze more detailed information about what they are attempting to accomplish, and what options work or seems to work in augmenting students' skills and knowledge.

The culture of a program, while difficult to define, is an essential ingredient to its success. Culture might best be described as the program's openness to new ideas and its

	Skills 1 2 20
Knowledge 1	
2	
:	
20	

Figure 12: Skills - Knowledge Linkage Matrix

encouragement of student learning and development through close interaction between students and faculty. It is also conveyed by the extent to which a program tries to marry student skill development with the acquisition of content knowledge. An ideal culture would emphasize student proficiencies rather than focusing almost exclusively on content knowledge, with but passing attention to skill development.

Finally, much of what students learn in any program occurs outside the classroom. How to structure these extracurricular opportunities is important. To the extent that these activities can simultaneously enhance content knowledge and skill development, they will add greatly to a program effectiveness. At one level are extracurricular activities that involve students interacting with each other, their faculty instructors, and the program itself through service on academic, social, and other committees or informal groups. Another level involves more focused activity carried out under the organization's auspices, including teaching and research assistantships, tutorial projects, and Master's degree theses. Still another level, one over which programs have little control, embraces the experience gained in part-time jobs, internships, volunteer activity, coaching experience, and meetings with practitioners. These varied activities add to the development of skills, particularly as students are able to be involved in cross-functional teams and hold leadership positions in these activities.

B. Knowledge-Skill Complementarities

How can skills and knowledge be combined effectively in the education of HR/IR professionals so as to help equip them with the proficiencies they will be expected to demonstrate? No mention has been made of the complementarities between content knowledge and skills, both in instruction and student learning. Indeed, content knowledge and skills cannot and should not be taught separately. One way of identifying the likely complementarities between skill and knowledge development is through a Skill-Knowledge Linkage Matrix, as shown in Figure 12. We might describe this matrix as a worksheet for illustrating the possibilities of blending skill development with content knowledge. This matrix would show, for example, what skills can best be developed in the context of learning particular types of con-

tent knowledge. Some content areas provide a more natural environment for skill development, e.g., negotiation and mediation courses can easily facilitate negotiation skills. By contrast, information filled courses are probably best taught in a lecture format.

Those instruction options that both improve skills and impart more knowledge are to be preferred over those that do less. At the same time, we should not be too surprised to find that there is probably no one superior type of instruction for teaching and learning both skills and knowledge. Any number of teaching and learning approaches may produce the same or quite similar results. In principle, the possibilities for knowledge-skill linkages can be identified and used as a blueprint for the redesign of not only individual courses but also a program's curriculum. While we have not attempted to fill out the grid, we can offer several additional observations about the process.

Content knowledge and skills can be combined in many different ways, some of which will be more effective than others. To the extent that individual faculty participants in HR/IR programs have complete control over the courses they teach, the likelihood of any extensive infusion of skills into content courses is small unless faculty are keenly concerned about skill development, and many if not most faculty are not. The reasons are apparent. Faculty view themselves as having expert knowledge in their particular specialty which is content knowledge, and relatively few think of themselves as experts in what HR/IR professionals require to perform effectively in the workplace. If, on the other hand, a greater sense of collective responsibility for both instruction and learning outcomes prevails, there is stronger likelihood of infusing skill development in regular courses. Even then, much depends on the preferences and capabilities of individual faculty members. Just as some faculty may not be particularly effective in traditional forms of instruction, e.g., the lecture approach, they may be even less effective practicing other approaches that may be more open-ended and require relinquishing total control over what happens in the classroom.

We can offer no solution to the challenge. But, there are some steps that can be taken. We need to find out how much importance is given to skill development and where it occurs most frequently. Though incomplete, information collected by Hansen et al. (1996) found that some faculty placed considerable importance on skill development as an adjunct to their focus on content knowledge; others did little or nothing to promote skill development. If there could be some agreement on the importance of skill development, more of it would very likely occur. The only way to even think about obtaining such agreement is for faculty to begin discussing these issues and to interact with the experts. Some faculty may be able to provide first-hand experience about the importance of both skills and knowledge, and ultimately, proficiencies. But, obtaining such agreement can come only if faculty can be brought together to discuss the possibilities of change. Once agreement is obtained, the next step is to offer faculty members guidance about how to integrate their instruction in both skills and knowledge, to determine the most effective mix of instructional approaches and strategies.

The growing emphasis on accountability in many other professional fields may work in favor of some form of collective action in HR/IR programs. Typically, accountability means specifying more precisely what students are expected to know and to be able to do with what they have learned, what we describe as proficiencies. Inevitably, this calls for shifting the focus from individual courses to enhancing what and how much students learn through their entire program of study. In addition, accountability typically calls for giving students more active practice in sharpening their proficiencies and simulating real world experiences in the classroom or related venues. It also entails making programs and faculty more responsible for the realization of already-agreed-upon outcome measures

This completes our presentation of the IPD model and our efforts to apply it to the academic training of HR/IR. professionals. Though these matrixes may seem to give the IPD model a mechanical flavor, there is no other way to arrive at a replicable set of Instructional Options Priority values. If for some reason the resulting values do not square with one's preconceptions, it is easy enough for others to produce their own set of values. It is also possible to show the sensitivity of the results by using different ranking schemes.

IX. SUMMARY AND IMPLICATIONS

A. Summary

Changes occurring in the field of HR/IR require practitioners to possess a broad array of proficiencies that enable them to successfully adapt to their new roles and responsibilities. Although said to be recent, these changes did not occur suddenly. Now, sufficient time has elapsed to specify these new roles and responsibilities, and to assess the problems that will inhibit their assimilation into the HR/IR field. What remains is figuring out how to adapt formal professional training programs to help meet these new needs.

We believe the Instruction Proficiencies Development (IPD) model presented here offers a systematic approach to improve the education of HR/IR professionals. While the process has been sketched out here, much work remains. The most important challenge is to determine what instruction

options can be most effective in helping students master both the skills and knowledge that lead toward the proficiencies they will be expected to demonstrate in the work place. Reaching this objective requires working through the IPD process described here.

B. Implications

Here we sketch out some of the more obvious implications of applying the IPD approach to the HR/IR field.

For HR/IR Programs:

—broaden curriculum to include more business-related courses.

—create shorter course modules that increase the choices of students for content knowledge and perhaps also skills.

—encourage and provide information on employers' expectations of students upon their graduation; offer information and suggestions on how to be better prepared upon graduation (e.g. advertise internships, part-time work experiences, volunteer experiences, seminars, etc.).

—provide a more individualized approach to counseling students on what they need upon graduation and how to develop the required proficiencies, if no formal program exists to develop their proficiencies.

—help faculty incorporate a broader set of skills into their teaching, and develop the training and support resources needed to show faculty how to teach in this new way.

For Applicants to HR/IR Programs:

—be aware of what skills, knowledge, and competencies each particular HR/IR academic program offers students during a course of study; know the relationship between what the program offers and what firms are looking for; this results in the added responsibility for students to be specific about what they are looking for before applying to schools and then making their choice based on their findings.

—take greater responsibility for developing their competencies rather than simply attending courses in the belief their course work will be sufficient.

—ensure that faculty and employers are aware of what they are each doing to make certain that academic programs constantly adapt to the changing HR/IR environment.

For New HR/IR Professionals:

—realize they may lack critical skills, knowledge, and proficiencies that employers expect, and as a result must assume responsibility for overcoming these deficiencies.

—encourage training and human resources professional development in their firms in a way that proficiencies will be identified so professionals know what they must do to develop their proficiencies.

—communicate back to their academic programs information about what employers are looking for, and then work with these programs to maintain a relationship and make suggestions that can improve the targeting of the program.

For Employers:

—assess what they want from newly hired graduates in terms of skills, knowledge, and proficiencies.

—maintain close relationships with academic programs so that employer expectations of new hires are clear to program faculty.

—ensure that they have a process for assessing the proficiencies of new hires and continue to develop the proficiencies of newly hired graduates.

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Proficiencies	Know ledge																				
	Proficiency Weights	Accounting	Benefits	Budgeting	Compensation	Employee Analysis	Equal Employ Law	Finance	Job Analysis	Labor Markets	Labor Law	Management	Marketing	Negotiation/Mediation	Organizational Behavior	Production	Public Policy	Recruitment	Staff/Evaluation	Quality Improvement	Training
HR/IR Proficiencies																					
Facilitates Empl. Relationship	3	3	1	9	1	9	9	3	9	9	9	9	1	3	3	9	3	9	9	3	9
Manages Diverse Workforce	3	3	1	9	1	9	9	3	9	3	9	9	1	1	3	9	3	9	9	9	9
Handles Coll. Bargaining	3	3	9	9	9	9	9	3	9	3	9	9	1	9	9	9	9	1	3	3	1
Maintains Regulatory Compl.	2	3	3	9	3	3	9	3	3	1	9	9	1	1	3	9	9	9	3	3	3
Importance (subtotal)	11	33	39	99	39	87	99	33	87	47	99	99	11	41	48	99	63	75	69	51	60
Priority (rank order)		11	10	1	10	2	1	11	2	8	1	1	12	9	7	1	5	3	4	6	4
Business Proficiencies																					
Designs Current HR/IR Strat.	3	9	3	9	3	9	3	9	9	3	3	9	3	1	9	9	3	9	3	1	3
Designs Future HR/IR Plan	2	9	0	9	0	9	3	9	9	3	1	9	3	1	9	9	3	3	3	3	9
Conducts C/B Analyses	3	9	1	9	3	3	1	9	3	9	1	9	3	0	3	9	0	1	3	3	3
Performs on X-Funct. Teams	2	9	0	9	0	9	1	9	9	1	1	9	3	3	9	9	1	1	3	3	1
Importance (subtotal)	10	90	12	90	18	72	3	90	72	44	16	90	30	11	72	90	17	38	30	24	28
Priority (rank order)		1	11	1	8	2	7	1	2	3	10	1	5	12	2	1	9	4	5	6	4
Leadership Proficiencies																					
Initiates Needed Changes	3	1	1	1	1	3	1	3	9	3	3	9	1	9	9	3	1	3	9	9	9
Facilitates Working Relat.	3	1	1	1	1	9	3	3	3	1	3	9	1	9	3	3	1	1	3	3	3
Pushes Indiv/Team Learning	2	1	1	1	1	9	1	3	9	1	1	9	1	3	9	3	1	3	9	3	9
Pursues Organ Vision	3	1	1	1	1	9	1	3	9	3	1	9	1	3	9	3	1	3	9	3	9
Importance (subtotal)	11	12	11	12	12	81	17	33	81	23	23	99	12	69	81	33	11	27	81	51	81
Priority (rank order)		9	10	9	9	2	8	5	-2	7	7	1	9	3	2	5	10	6	2	4	2
Learning Proficiencies																					
Accessing Know ledge	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Displaying Command	3	1	1	1	1	1	3	1	1	3	3	1	1	1	3	1	3	1	1	3	1
Assembling/Packaging	3	1	1	1	1	1	1	1	1	1	1	1	1	3	3	1	1	1	1	1	1
Applying Know ledge	3	1	1	1	1	3	3	1	3	3	3	1	1	3	3	1	3	1	1	3	3
Creating Know ledge	3	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	3	1
Importance (subtotal)	12	12	12	12	12	17	2	12	17	26	22	12	12	22	25	12	22	12	12	26	17
Priority (rank order)		5	5	5	5	4	3	5	4	1	2	5	5	3	2	5	3	5	5	1	4
All Proficiencies																					
Importance (total)		147	74	213	81	257	161	168	257	140	160	300	65	143	226	234	119	152	182	152	186
Priority (rank order)		11	16	5	15	2	9	8	2	13	10	1	17	12	4	3	14	10	7	10	6

***Appendix Figure 1:** Proficiencies Skill-Knowledge Matrix: Detailed Knowledge Rankings*

Notes: Important Subtotals are the sums of the Instruction Weight times the ranking for each Knowledge category. Subtotals for the Learning Proficiencies are normalized to equal the other subtotals.

	Skills																				
Proficiencies	Instruction Weights	Active Listening Skills	Adaptability	Analytical Skills	Computer Skills	Creativity	Decision Making Skills	Facilitation Skills	Group Problem Solving Skills	Initiative	Leadership Skills	Negotiation Skills	Oral Communication Skills	Organizational Dynamics	Planning/Organization Skills	Research Skills	Resourcefulness	Risk Taking	Sensitivity to Diversity	Team Building Skills	Written Communication Skills
HR/IR Proficiencies																					
Facilitates Empl. Relationship	3	3	3	9	3	3	9	3	3	9	1	3	3	9	9	1	3	3	9	3	3
Manages Diverse Workforce	3	9	3	3	1	3	9	3	3	9	3	3	9	9	3	1	3	1	9	9	3
Handles Coll. Bargaining	3	9	9	9	1	3	9	9	9	9	9	9	9	3	9	9	9	9	3	3	9
Maintains Regulatory Compl.	2	9	3	9	3	1	9	1	3	9	1	3	9	3	3	3	3	1	9	1	9
Skill Importance (subtotal)	11	81	51	81	21	29	99	47	51	99	41	51	81	69	69	31	51	41	81	47	63
Skill Priority (rank order)		2	5	2	10	10	1	6	5	1	8	5	2	3	3	9	5	8	2	6	4
Business Proficiencies																					
Designs Current HR/IR Strat.	3	3	3	9	3	9	9	9	3	9	9	1	9	9	9	3	3	3	1	1	9
Designs Future HR/IR Plan	2	3	3	9	3	3	9	9	3	9	9	3	9	9	9	3	9	3	3	3	9
Conducts C/B Analyses	3	3	0	9	9	1	3	1	9	9	1	0	3	9	3	9	3	3	0	0	3
Performs on X-Funct. Teams	2	9	9	9	3	3	9	3	9	9	3	9	9	3	3	1	3	3	9	9	3
Skill Importance (subtotal)	10	42	33	90	48	42	72	54	33	90	54	27	72	78	60	44	42	30	27	27	60
Skill Priority (rank order)		8	9	1	6	8	3	5	9	1	5	11	3	2	4	7	8	10	11	11	4
Leadership Proficiencies																					
Initiates Needed Changes	3	9	9	9	1	9	9	9	3	9	9	9	9	9	9	1	3	9	9	3	9
Facilitates Working Relat.	3	9	3	9	1	3	9	9	9	9	9	9	9	3	3	1	3	1	9	3	3
Pushes Indiv/Team Learning	2	3	3	9	1	3	9	9	3	9	9	3	9	3	9	1	3	1	9	9	9
Pursues Organ Vision	3	3	9	9	1	9	9	9	9	9	9	3	9	3	9	1	3	3	9	9	3
Skill Importance (subtotal)	11	69	69	99	11	69	99	99	69	99	99	69	99	51	81	11	33	41	99	63	63
Skill Priority (rank order)		3	3	1	7	3	1	1	3	1	1	3	1	5	2	7	6	5	1	4	4
Learning Proficiencies																					
Accessing Know ledge	3	9	3	9	9	3	3	3	0	9	3	1	9	1	3	9	9	3	1	1	3
Displaying Command	3	3	3	9	1	9	3	3	1	9	3	1	9	3	3	3	9	1	3	0	9
Assembling/Packaging	3	3	3	9	3	3	3	3	3	9	3	1	9	3	9	3	3	3	1	3	9
Applying Know ledge	3	3	3	9	1	9	3	3	3	9	9	0	9	3	9	9	9	3	0	3	9
Creating Know ledge	3	3	9	9	0	9	9	3	9	9	3	1	9	3	9	9	9	3	1	0	9
Skill Importance (subtotal)	11	40	40	86	27	63	40	29	30	86	40	8	86	25	63	63	75	5	11	14	75
Skill Priority (rank order)		5	5	1	8	3	5	6	6	1	5	12	1	9	3	3	2	9	11	6	2
All Proficiencies																					
Skill Importance (total)		232	193	356	107	203	310	229	183	374	234	115	338	223	273	149	207	137	218	151	261
Skill Priority (rank order)		8	14	2	20	12	4	9	15	1	7	16	3	10	5	18	13	19	11	17	6

Appendix Figure 1B: *Proficiencies Skill - Knowledge Priority Matrix: Detailed Skill Rankings*

Notes: Skill Importance values in each column are weighted by the Proficiency Priority Weights and summed in each column. The Skill Importance values for All Proficiencies represent the sum of the subtotal values. Because there are five categories under Learning Proficiencies, the subtotal figures are normalized to equal the other subtotals.