THE ASSESSMENT CENTER METHOD AND METHODOLOGY

NEW APPLICATIONS AND TECHNOLOGIES

A MONOGRAPH BY
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TABLE OF CONTENTS

INTRODUCTION

The "assessment center method" is the name given to the formal assessment approach pioneered by AT&T in the United States and now used by thousands of organizations worldwide. In the most common application of this method, three or more line managers observe a group of six assessees participating in a series of exercises that simulate tasks related to the job or job level for which they are being assessed. After participants have completed the exercises, assessors meet to consider each participant against a predetermined list of job-related dimensions to reach an overall evaluation. (See How an Assessment Center Works for a complete description.)

Twenty-one years ago the *Harvard Business Review* published an article I authored entitled "Assessment Centers for Spotting Future Managers" (Byham, 1970). This was the first article that described the assessment center method for a general audience. Since that time it has been widely reprinted and quoted. This monograph is an update and expansion of that original article.

Two thrusts have characterized assessment centers in the last 21 years:

1. Applications of the classic assessment center described in the *Harvard Business Review* article have expanded widely and new technology has increased validity, reliability, and efficiency of application.

2. The key components that produced the validity of the assessment center method have been applied in many other personnel functions, including selection interviewing, reference checking, resume screening, and observing and evaluating on-the-job performance.

In recognition of these two thrusts, this monograph is divided into two sections:

I. Assessment Center Method, Applications, and Technologies

II. Assessment Center Methodology

Since 1970 I have written, co-written, edited, or co-edited more than 60 books and articles about assessment centers. This monograph will make no attempt to repeat or even summarize the information in those published materials. Instead, it will overview new developments and provide a glimpse of the future.

The reader is advised to follow up on specific interests through the supplemental reading suggestions provided after many sections of the monograph. Additionally, the following books and monographs are suggested as background reading:

> Ashe, L., Todd, K., & Byham, W. C. (1991). *Employee evaluation for the 1990s: Paper-and-pencil tests, assessment centers, performance appraisals, and interviews. A review of court cases and discussion of future prospects.* Pittsburgh, PA: Development Dimensions International.

> Byham, W. C. (1987). *Applying a systems approach to personnel activities* (Monograph IX). Pittsburgh, PA: Development Dimensions International.

> Byham, W. C. (1989). *Targeted selection: A behavioral approach to improved hiring decisions (Basic concepts and methodology)* (Monograph XIV, rev. ed.). Pittsburgh, PA: Development Dimensions International.

> Hauenstein, P., & Byham, W. C. (1989). *Understanding job analysis* (Monograph XI). Pittsburgh, PA: Development Dimensions International.

> Thornton, G. C. III, & Byham, W. C. (1982). *Assessment centers and managerial performance.* New York: Academic Press.

> Wellins, R., Byham, W., and Wilson, J. (1991). *Empowered Teams: Creating self-directed work groups that improve quality, productivity, and participation.* San Francisco: Jossey-Bass.

These books and monographs are available from Development Dimensions International (DDI).

I. ASSESSMENT CENTER METHOD

HOW AN ASSESSMENT CENTER WORKS

The assessment center method involves multiple evaluation techniques, including various types of job-related simulations, and sometimes interviews and psychological tests. Common job simulations used in assessment centers are:

> In-basket exercises

> group discussions

> simulations of interviews with "subordinates" or "clients"

> fact-finding exercises

> analysis/decision-making problems

> oral presentation exercises

> written communication exercises

Simulations are designed to bring out behaviors relevant to the most important aspects of the position or level for which the assessees are being considered. Known as "dimensions," these aspects of the job are identified prior to the assessment center by analyzing the target position. A job analysis procedure identifies the behaviors, motivations, and types of knowledge that are critical for success in the target position. During assessment, the job simulations bring out assessees' behavior or knowledge in the target dimensions.

A typical assessment center involves six participants and lasts from one to three days. As participants work through the simulations, they are observed by assessors (usually three line managers) who are trained to observe and evaluate behavior and knowledge level. Assessors observe different participants in each simulation and take notes on special observation forms. After participants have completed their simulations, assessors spend one or more days sharing their observations and agreeing on evaluations. If used, test and interview data are integrated into the decision-making process. The assessors' final assessment, contained in a written report, details participants' strengths and development needs, and may evaluate their overall potential for success in the target position if that is the purpose of the center.

Perhaps the most important feature of the assessment center method is that it relates not to current job performance but to future performance. By observing how a participant handles the problems and challenges of the target job or job level (as simulated in the exercises), assessors get a valid picture of how that person would perform in the target position. This is especially useful when assessing individuals who hold jobs that don't offer them an opportunity to exhibit behavior related to the target position or level. This is often the case with individuals who aspire to management positions but presently hold positions that don't give them an opportunity to exhibit management-related behavior on the job.

In addition to improved accuracy in diagnosis and selection, the organization that operates an assessment center enjoys a number of indirect benefits. Candidates accept the fairness and accuracy of promotion decisions more readily and have a better understanding of job requirements. Training managers to be assessors increases their skills in many other managerial tasks, such as handling performance appraisals and conducting coaching and feedback discussions.

VALIDITY AND FAIRNESS

In 1970 the assessment center method was unique in that extensive research had established its validity before it came into popular use. The assessment center method, in its modern form, came into existence as a result of the AT&T Management Progress Study (Bray, Campbell, & Grant, 1974). In this study, which began in the late 1950s, individuals entering management positions in Bell Telephone operating companies were assessed and, from then on, their careers were followed. The study was unusual in that it was pure research. Neither the individuals assessed nor their bosses were given information about their performance in the center. Nor was this information in any way allowed to affect participants' careers. Participants were assessed soon after they entered management as new college recruits or after they were promoted from the ranks. The 1970 *Harvard Business Review* article presented the results from the first eight years of the study.

Additional data from this landmark study are now available. Not only have researchers followed participant advancement during the ensuing years, but a second assessment also was conducted eight years after the first (Howard & Bray, 1988). Table 1 shows the validity of both assessment predictions. The criterion used was advancement to the fourth level of management in a seven-level hierarchy. The eight-year prediction is more valid—an expected finding since most individuals would have begun to consolidate their management skills after eight years in management. Yet the original assessment ratings were still valid—even after 20 years.

Thornton and Byham (1982) reviewed 29 studies of the validity of assessment center methodology. The authors found more support for the assessment center method than for other selection methodologies, while lamenting the fact that most of the studies were done by a few large organizations (AT&T, GE, IBM, SOHIO, and Sears).

In 1985 Thornton and his associates at Colorado State University processed 220 validity coefficients from 50 studies using a statistical approach called *meta-analysis.* They estimated the method's validity at .37

Ratings at Original Assessment and Eight Years Later and Management Level Attained at Year 20

	N	Attained Fourth Level
Orginal Assessment Rating of Potential		
Predicted to Achieve Fourth Level or Higher	25	60%
Predicted to Achieve Third Level	23	25%
Predicted to Remain Below Third Level	89	21%
	137	

	N	Attained Fourth Level
Eighth Year Assessment Rating of Potential		
Predicted to Achieve Fourth Level or Higher	30	73%
Predicted to Achieve Third Level	29	38%
Predicted to Remain Below Third Level	76	12%
	135	

Table 1

(Gaugler, Rosenthal, Thornton, & Bentson, 1985). Working independently of Thornton, Wayne Cascio of the University of Colorado arrived at the same figure (.37) in studying the validity of first-level assessment centers in an operating company of the Bell System. Cascio's main interest, however, was in measuring the "bottom-line impact" of promotion decisions based on assessment center information versus decisions based on criteria extracted from other methods (Cascio & Ramos, 1984).

To determine the dollar impact of assessment centers, Cascio needed more than validity information; he needed cost data (fully loaded costs of the assessment process), plus job performance data expressed in dollars. Over a four-year period he developed a simple methodology for expressing in dollar terms the job performance levels of managers. Using information provided by more than 700 line managers, Cascio combined data on the validity and cost of the assessment center with the dollar-valued job performance of first-level managers. With this data he produced an estimate of the organization's net gain in dollars resulting from the use of assessment center information in the promotion process. Over a four-year period the gain to the company in terms of the improved job performance of new managers was estimated at $13.4 million, or approximately $2,700 each year for each of the 1,100 people promoted in first-level management jobs.

As stated 21 years ago, the assessment center method is not a perfect predictor of success, but it is the single best aid for making promotion decisions. Its validity is enhanced when coupled with other methodologies, such as behavioral interviews and appropriate paper-and-pencil tests. (See New Applications.)

Adverse Impact

One area the 1970 *Harvard Business Review* article did not address was the fairness of the assessment center method relative to women and minorities. The method seemed uniquely fair because of its emphasis on actual behavior rather than psychological constructs, but no confirming data were available. That has changed—considerable data exist today. Compared to other selection methodologies, the assessment center method generally is seen as more fair and objective in terms of gender, race, and age than other methodologies. Some differential performance has been found but this usually is the result of differential applicant populations.

There is consistent research showing that assessment centers are unbiased in their predictions of future performance. These studies considered a candidate's age, race, and gender and found that predictions by assessment center methodology are equally valid for all candidates. (See Thornton & Byham, 1982, for a complete discussion of these issues.)

Federal courts have viewed assessment centers as valid and fair. Indeed, they often have mandated assessment centers to overcome selection problems stemming from the use of paper-and-pencil and other selection instruments (e.g., *James C. Edwards v. City of Evanston; Frank J. Macchiavola v. New York City Board of Examiners*). A case in point involved a valve company whose use of paper-and-pencil tests to select supervisors was struck down by a federal court of appeals. As part of the settlement, the judge allowed the company to substitute the assessment center method as the principle means of selecting supervisors— even though a slightly higher number of whites than blacks succeeded in the centers. The judge ruled that a sufficient number of black candidates was found to possess acceptable potential for supervision to meet the company's affirmative action goals.

One final bit of evidence suggesting the acceptance of the assessment center method comes from the use of the method by the Equal Employment Opportunity Commission (EEOC) in 1977 and again in 1978. They used the method to evaluate executives from both inside and outside the government to fill high-level positions that resulted from a reorganization.

In most situations, an assessment center is the best method available to organizations whose aim is to make accurate selection and promotion decisions while minimizing adverse impact.

Ashe, Todd, K., & Byham, W. C. (1991). *Employee evaluation for the 1990's: Paper- and-pencil tests, assessment centers, performance appraisals, and interviews. A review of court cases and discussion of future prospects.* Pittsburgh, PA: Development Dimensions International.

Howard, A., & Bray, D. W. (1988). *Managerial lives in transition: Advancing and changing times.* New York: Guilford Press.

ADOPTION OF THE ASSESSMENT CENTER METHOD OUTSIDE THE UNITED STATES

In 1970 U.S. assessment center methodology had barely spread to Canada, and only a few applications of the somewhat different British assessment center methodology could be found (e.g., in South Africa and Australia). Since that time the U.S. version has been adopted more widely. In 1971 American assessment center methodology was introduced in Japan; now at least 150 organization in that country are involved. U.S. assessment methodology has become predominant in Australia and South Africa and accounts for more than 50 percent of the method's applications in the United Kingdom. The methodology can be found in nearly every industrialized or industrializing country in the world, with other growth areas including West Germany, Scandinavia, the Netherlands, the Philippines, and Singapore. Although exercises are translated and adapted, the methodology in each of these countries is virtually identical to that used in the United States.

The chief reason the assessment center method is valid in so many different countries is that it is an easily adaptable evaluation system, not an evaluation instrument. Users need not adopt dimensions or standards of performance that are important in the U.S. but perhaps unimportant in their country; they merely adopt a systematic procedure for evaluating candidates against job-related dimensions that are specific to their particular organization and environment. For example, the dimension Interpersonal Sensitivity is shown in vastly different ways in Japan than in the United States, but the method by which the dimension is assessed works just the same (and as well).

While the same types of assessment center exercises seem to work in most countries (with appropriate translation and cultural adaptation), this is not always so. A case in point is the assessment center run in 1972 by Edgars, a large department store chain in South Africa. In this, the first center used to identify blacks for supervisory and management positions, pretesting revealed that blacks had difficulty with In-basket exercises because they couldn't easily visualize the people and situations described.

To overcome this, innovative assessment center exercises were developed. Assessees did not receive an In-basket full of items to handle, in writing, that were "left over" from a previous incumbent. Instead, they sat at desks in their "offices" and roleplayers brought problems and concerns to them just as employees would in real-life situations. They were faced with new items, problems, and demands on their time throughout the day, both on the phone and in face-to-face interactions. This live, large-scale, multifaceted simulation was a precursor of

the single-setting assessment centers that have achieved popularity recently in the United States.

NEW APPLICATIONS

Although the primary focus of assessment centers is to select candidates for first-line supervisory positions (e.g., factory supervisors, clerical supervisors, sales managers, technical managers), applications have expanded far beyond the typical business domain. Cities like New York, Orlando, Los Angeles, and Philadelphia have used assessment centers to make promotion decisions in their police and fire departments. School systems in 34 states use the methodology to select high school principals in a program run by the National Association of Secondary School Principals. Applications by agencies of the federal government are numerous and varied (e.g., FAA, NSA, FBI, IRS). In addition, many new applications of the method—other than supervisory skills evaluations—have developed. These applications have taken the method far beyond what one would have predicted 21 years ago.

Selection and Placement of Candidates for Higher Levels of Management

In the early 1970s organizations began using the assessment center method to help select and place individuals in higher levels of management. Assessment centers have been used to help evaluate candidates for presidencies of organizations (*Readers' Digest* of Canada), plant managers (Ross Labs), general managers (H. H. Robertson, Chessie), and many senior government positions (Office of Management and Budget, Department of Agriculture, National Transportation Safety Board, Federal Trade Commission, Home Loan Bank, Federal Reserve). As predicted in the 1970 *Harvard Business Review* article, most of these assessments were made by a team of outside "professional" assessors (consultants). It is difficult to find qualified high-level, in-house people who can take the time to assess and evaluate candidates objectively.

Nebraska Public Power District (NPPD) is a typical example of a governmental application. NPPD put mid-managers through a one-and-a-half-day assessment center to evaluate candidates for higher-level management positions. The center was administrated by NPPD staff using consultants as assessors. Results from the assessment center were also used to make career development recommendations.

In an assessment center developed for Frisch's, a team of outside assessors developed an assessment center process for evaluating candidates for vice president positions and for the CEO position.

At Burroughs Wellcome, outside assessors conducted an assessment center to identify developmental needs of candidates for upper management positions throughout the organization. This center combined dimensional questionnaires with the assessment process to generate specific career development plans for each person.

The federal government's interest in high-level assessment has been spurred by the creation of the Federal Senior Executive Service. Individuals who attain these executive positions are entitled to special performance bonuses and other perquisites. Assessment centers have been used widely by government agencies to qualify individuals for these opportunities.

As applications have expanded, so have the variety of exercises: top-level executives are evaluated in simulated press conferences; long-range planning and organization design exercises are used; and there is more emphasis on larger social issues.

Selection and Placement of Empowered Personnel

The greatest growth of assessment centers from 1985 to 1991 has taken place in connection with organizations moving to an empowered workforce. These organizations are giving employees:

> Responsibility for their designated areas or outputs.

> Control over resources, systems, methods, and equipment.

> Control over working conditions and schedules.

> Authority (within defined limits) to commit the organization.

> Evaluation by achievements.

Most also are organizing employees into self-directed work teams. The teams are made up of team members and a team leader (the team leader is a working, nonmanagement member of the team). Teams take responsibility for:

> Improving quality and productivity; job rotation.

> Planning and scheduling.

> Who works on what.

> Quality audit.

> Equipment adjustment, maintenance, and repair.

> Housekeeping, vacation planning, absenteeism, tardiness, and performance issues.

> Choosing the team leader.

> Many other areas.

The adaptation of self-directed teams drastically changes the role of supervisors and managers. Supervisors (often called group leaders) have a very large span of control, with as many as 100 subordinates. Because teams and team leaders take on many of the normal supervisory functions, the supervisors become more managerial in function, concentrating more on budgeting and planning. This, in turn, affects the role of middle managers. The multiple-level changes in job functions have forced organizations to use new methods in connection with selection, promotion, and placement decisions. Because assessment centers worked so well at supervisory and managerial levels, it was natural to turn to assessment centers as a methodology.

Hundreds of manufacturing plants have used assessment centers to select employees, team leaders, and group leaders. To accomplish this, many new processes have been developed, especially in connection with "greenfield" plant start-ups where large numbers of applicants must be processed. Toyota assessed 22,000 applicants to staff their 3,000-person plant in Kentucky.

At the employee level, exercises involve applicants in problem-solving group exercises, simulations of the manufacturing process, and one-to-one interactive exercises. Supervisor exercises provide opportunities to demonstrate coaching, leadership, and decision-making skills.

Wellins, R., Byham, W., & Wilson, J. (1991). *Empowered Teams: Creating Self-directed work groups that improve quality, productivity, and participation.* San Francisco: Jossey-Bass.

Selection and Placement of Candidates for Other Nonmanagement Positions

The use of assessment centers also has expanded to other entry-level and individual contributor positions. Applications include the selection of U.S. foreign service officers, police officers, sales people, trainers, quality circle facilitators, and customer service representatives.

Candidates for vocational counseling positions conduct simulated counseling sessions as part of their selection procedure. Psychologists trying to achieve board status from the American Board of Professional Psychology are evaluated using an interview, a work sample review, an oral fact-finding case, and an analysis of a video-taped, therapist-client interaction. Applicants for apprentice positions are taught basic skills and observed by professionals who evaluate their ability to learn the technical job skills. As far back as 1967, validity studies were conducted showing the effectiveness of assessment center methodology for evaluating entry-level position candidates (Bray & Campbell, 1968). Research showed that using assessment centers for selection could increase the performance of sales representatives considerably.

The use of assessment center methodology for entry-level selection or placement has fostered the development of some unique exercises. For example, interesting new exercises have been developed for Japanese companies seeking engineers who have more creative abilities. The exercises were developed to assess the brain dominance of young engineers to find "right-brained" or "whole-brained" engineers who could fit into assignments requiring innovativeness. Six Japanese companies are using these specially designed exercises for placement purposes.
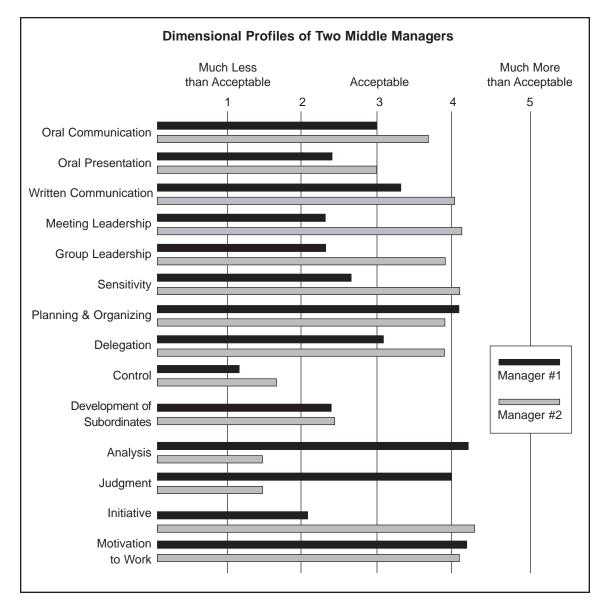
Diagnosis of Training and Development Needs

Quick, easy training methods don't change people's skill levels. Skill acquisition requires intensive, time-consuming classroom training and must be coupled with opportunities for on-the-job practice and feedback so new behaviors are set in the individual's repertoire. Because skill development takes a lot of time and effort, everyone cannot be trained in every skill. The assessment center method provides an effective means to determine training or developmental needs. Individuals then can be placed in the most appropriate program.

The assessment center method is an excellent diagnostic tool because it separates an individual's abilities into specific areas (dimensions) and then seeks specific examples of good and poor behavior within each dimension. This helps the assessee and his/her boss determine more precisely what training and developmental activities are required.

Almost all organizations using assessment centers for selection or promotion also use the information obtained to diagnose training needs. However, a major shift in focus has become more prevalent in the last 21 years: A large number of firms now use assessment centers solely to diagnose training needs. An article describing the use of assessment centers as a diagnostic tool was published first in the *Training & Development Journal* in 1971 and later was updated (Byham, 1980).

Table 2 shows a profile of two individuals who were assessed in a training-needs diagnostic program. One had extensive needs in inter-personal skills, the other in decision making. As a result of these profiles, very different training prescriptions emerged. Such information saves the individuals and their organizations a great deal of time and effort by getting them into the right training program at the most appropriate time.

Dimensional Profiles of Two Middle Managers

Scale: 1 = Much Less than Acceptable, 3 = Acceptable, 5 = Much More than Acceptable

Dimension	Manager #1	Manager #2
Oral Communication	3	3.7
Oral Presentation	2.4	3
Written Communication	3.3	4
Meeting Leadership	2.3	4.1
Group Leadership	2.3	3.9
Sensitivity	2.6	4
Planning & Organizing	4	3.9
Delegation	3	3.9
Control	1.2	1.7
Development of Subordinates	2.4	2.4
Analysis	4.2	1.4
Judgment	4	1.4
Initiative	2.1	4.3
Motivation to Work	4.1	4

Table 2

Most diagnostic assessment is done within an organization using in-house assessors or consultants. (See New Technology on the use of videotape.) The major exception, however, is the "Looking Glass" simulation used by the Center for Creative Leadership in Greensboro, North Carolina. The Center uses professional psychologists to analyze information from assessment center exercises and extensive paper-and-pencil tests. They produce profiles of participants' strengths and weaknesses, which are used to work with the individuals in planning developmental activities.

Another way of obtaining developmental insights is through peer and self-assessment. A few organizations, such as Xerox and the United States Army War College, train assessees to evaluate themselves. First, the participants are videotaped as they work through assessment center exercises. Then they are trained to evaluate the exercises so they can evaluate their own and their peers' performance. The participants, with input from their peers and instructor, determine their strengths and developmental needs and then consider specific developmental plans.

Peer assessment is particularly prevalent in Japan, where more than 50 companies use it. Because peer assessment relies heavily on the use of videotape equipment (so individuals can view their own performance), it is not surprising that a major user of this technology has been Matsushita Electric Industrial Company, the world's largest supplier of videotape equipment.
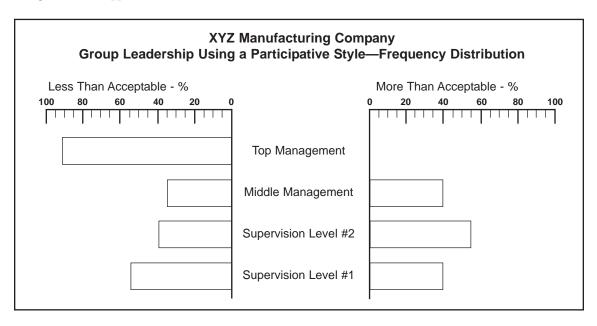
However, the accuracy of peer and self-assessment has yet to be proven fully. While peer assessments at Ezaki Gliko Company (Japan) were found to be related to concurrent supervisor evaluations (Thornton & Byham, 1982), and many organizations have reported a strong relationship between peer and assessor evaluations, the National Association of Secondary School Principals and DDI have found little validity in self-assessments obtained as part of their large-scale assessment center applications.

Byham, W. C. (1980, June). The assessment center as an aid in management development (rev. ed.). *Training & Development Journal,* 34 (6), pp. 24-36.

Byham, W. C. (1982, February). How assessment centers are used to evaluate training's effectiveness. *Training Magazine, 19* (2), pp. 32-38.

Diagnosing Management Skills and Assumptions as Part of a Corporate Culture Change Strategy

Individual assessments in a plant or department can be combined to form an integral part of an organization's culture change strategy. After an organization has decided on the desired culture, the next logical step is to define the behaviors necessary to implement that culture and evaluate incumbents' skill levels in these behavioral areas. For example, an essential ingredient of a participative culture is the ability to run a meeting so all participants can speak their minds and have a sense of ownership in decision making. A leader's skill in accomplishing this can be determined in an assessment center. Table 3 shows the distribution of assessment center ratings of four management levels in the dimension Group Leadership. The percentage rated "less than acceptable" is shown on the left, "more than acceptable" on the right.

XYZ Manufacturing Company
Group Leadership Using a Participative Style—Frequency Distribution

Table 3

This kind of diagnostic information is extremely useful in developing a culture-change strategy. Individuals who lack the skills needed to manage participatively cannot implement a participative strategy even if they want to—they must increase their basic skill level first. In addition, research shows that the easiest way to change a person's attitudes or basic assumptions about people is to change the person's behavior first. This represents a marked departure from the previous strategy in which organizations tried to change attitudes and hoped that behavioral change would follow. With the new strategy, individuals are identified whose attitudes or basic assumptions about people can be considered out of line with the desired culture. Their behavior is changed through an effective training and developmental program. This addresses their attitudes and assumptions through the position reinforcement they receive for improved behavior. In time, management effects the desired culture change throughout the organization.

Evaluating the Effectiveness of Training Programs

The American Society for Training and Development (ASTD) estimates that U.S. companies spend $212 billion each year on training (Carnevale & Goldstein, 1990). The fastest-growing portion of this amount is for sales, supervisory, and management training, yet most companies have not evaluated the effectiveness of their training programs properly.

Assessment center methodology is an excellent method for establishing the validity and effectiveness of training programs. Three research designs commonly are used (see Figure 1). In the first design, a group of individuals is trained while a matched group is not. Both groups then are put through an assessment center. The second and third designs have a group of individuals assessed,

then trained, then assessed again. Table 4 shows the results of an application of the first method of evaluation. This is an evaluation of the Interaction Management® supervisory training program at the Lukens Steel Company. The assessment center results show that there were marked changes in individuals' performance after training.
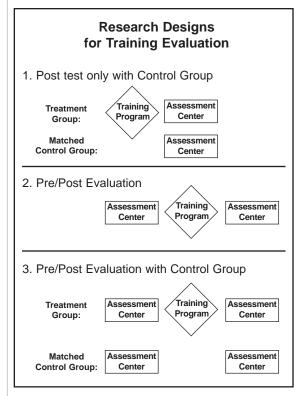

Figure 1

In addition to Lukens Steel, organizations such as SOHIO, AT&T, Central Telephone Utilities Corporation, and the New York Metropolitan Transit Authority have used assessment center technology to evaluate training programs (Byham, 1982). The advent of video technology, which allows the relatively inexpensive evaluation of individuals, has increased the application of assessment center methodology dramatically in this area. (See New Technology.)
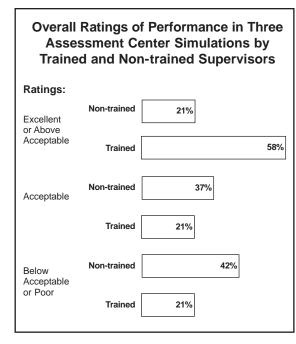
Overall Ratings of Performance in Three Assessment Center Simulations by Trained and Non-trained Supervisors

Ratings:

Excellent or Above Acceptable
- Non-trained: 21%
- Trained: 58%

Acceptable
- Non-trained: 37%
- Trained: 21%

Below Acceptable or Poor
- Non-trained: 42%
- Trained: 21%

Table 4

Evaluating the Output of Educational Institutions

Just as the assessment center method can be used to evaluate the effectiveness of training programs, it also can be used to evaluate how well undergraduate or graduate schools impart specific skills to their students. For example, a business school can determine the extent of skill transfer by putting incoming and outgoing students through assessment centers designed to measure the skills in question. The primary application of the assessment center method in the educational sphere has been promulgated by the American Assembly of Collegiate Schools of Business (AACSB), which encouraged six schools to use the technology as part of an exploratory project attempting to evaluate the "value added" of business schools. Table 5 shows the skill level in three dimensions of undergraduate business majors entering the six schools, as well as that of graduating undergraduates, students entering MBA programs, and graduating MBAs.* In rough terms, a "3" rating equates with what most organizations would consider acceptable performance.

Because of this research, interest has developed in the use of assessment center methodology to evaluate and document a wide range of college and other educational outputs. For example, the University of California at Berkeley is using an In-basket exercise in a longitudinal study of MBAs. Indiana University of Pennsylvania measures the competencies of graduates of their teacher training program.

A summary of applications of assessment centers in education can be found in "Using the assessment center method to measure life competencies" (Byham, 1988), a chapter in *Performance and judgment: Essays on principles and practice in the assessment of college student learning* (pp. 255–278). (Washington, DC: U.S. Government Printing Office, 1988).

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* DDI's Skills Diagnostic Program (SDP), which collects data via videotape and written outputs, was used to collect and evaluate data in this research. (See New Technology.)
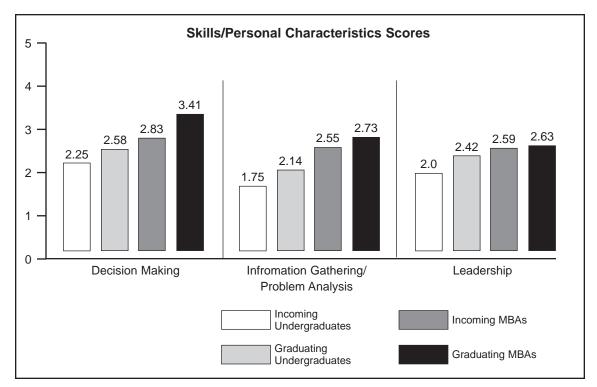
Skills/Personal Characteristics Scores

	Decision Making	Information Gathering/Problem Analysis	Leadership
Incoming Undergraduates	2.25	1.75	2.0
Graduating Undergraduates	2.58	2.14	2.42
Incoming MBAs	2.83	2.55	2.59
Graduating MBAs	3.41	2.73	2.63

Table 5

Evaluating the Effectiveness of College Recruiting and Other Selection Activities

The normative data obtained from more than 1,000 students in the AACSB and similar studies allow organizations to evaluate the effectiveness of their recruiting and selection systems in a way never before possible. By administering the same assessment center exercises used in the AACSB study to a sample of recent college hires, an organization can determine whether it is getting the best students available. Almost every organization says it hires only top-quality graduates, but every organization can't be getting the best. One company that took a look at its college hires relative to the AACSB norms found that they were, in fact, getting people who were average or below average in the most important dimensions, such as Leadership and Decision Making. The only dimensional areas where their new hires exceeded national averages were Personal Impact and Oral Communications. Obviously, their interviewing procedure needed to be improved.

Evaluating Students as a Criterion for Graduation

If assessment center methodology is as accurate as it seems in evaluating life skills such as leadership, interpersonal relations, presentation skills, and decision making, it would make sense to use assessment center evaluations as one criterion in determining readiness for graduation. Few universities have adopted this philosophy, although a number are looking into it. One major example is Alverno College in Milwaukee, Wisconsin, which uses assessment centers throughout its entire curriculum as the primary method of evaluating a student's progress. Faculty members and business people from the local community serve as assessors.

Cromwell, L., Loacker, G., & O'Brien, K. (1986). Assessment in higher education: To serve the learner. In C. Bennett (Ed.), *Assessment in higher education: Issues in contexts* (pp. 47–62). Washington, DC: U.S. Department of Education.

NEW SIMULATIONS, TESTS, AND METHODS

Simulations such as In-basket exercises, group discussions, management games, and analysis exercises described in Byham's 1970 *Harvard Business Review* article are still the bedrock of assessment center methodology. However, they have been supplemented by new types of exercises, most importantly the interaction simulation. In this exercise the assessee is given background information about the need to interact with an individual (subordinate, peer, or customer) and personal information about the individual. After the assessee has had an opportunity to prepare, he or she conducts a simulated interaction with a person trained as a role player. The "interviewee" follows a well-defined role and makes standard responses to all issues that might come up. A trained assessor observes the assessee's behavior.

Although leaderless group exercises still are used commonly to assess leadership, one-to-one interaction simulations have become more popular. This change reflects a general feeling that individual leadership skills are not necessarily correlated with group leadership skills. Another reason for the switch is that people going through the same group exercise may have quite different experiences. Group interactions depend on the nature of the people involved. Sometimes the group is highly competitive; other times it is quite cooperative. Sometimes several people vie for leadership; other times only one person takes charge. This lack of consistency has caused organizations especially concerned with EEO issues to opt for the more standardized interaction simulations or different forms of group exercises.

Simulations now are shorter and more often targeted to a few dimensions. Most 1970 exercises were omnibus exercises in terms of the dimensions being evaluated. It was not unusual for an assessor to attempt to evaluate eight dimensions from a single exercise. This

led to the high intercorrelations of dimensions found in early research. The assessors, no matter how well trained, could not distinguish behavior among that many dimensions. Exercises now are designed to elicit information on only one or two dimensions, thus making assessor ratings more reliable and assessor training easier and quicker.

A growing number of organizations, such as the Civil Service Commission of Canada and The Center for Creative Leadership, have adopted a "total simulation" approach to assessment. Instead of having a number of distinct and independent exercises, these organizations have integrated their exercises into a common scenario. Characters introduced in the In-basket exercise are seen in later simulations, and candidates play the same role throughout the assessment process.

The total simulation approach is not without problems. Some practitioners are concerned that information—or psychological "sets"— developed in one exercise will contaminate performance in another and thus negate the important advantage of independent observations. Proponents feel that this problem can be overcome through exercise design and that the realism is a major positive feature. A compromise employed by several organizations involves using a common setting and roles, while using independent exercises (information in one exercise does not necessarily depend on information in other exercises).

Using Videotape to Stimulate Behavior

A somewhat controversial new development involves the use of videotape to stimulate assessee behavior. An assessee watches a video of a situation he or she will face on the job (e.g., an interaction with a subordinate). Periodically the tape stops and the assessee is presented with four choices of what to do or say. A score is calculated based on the

assessee's responses to a number of these situations. The scoring system is developed based on a validity study.

While such exercises may appear to be assessment center exercises, they are not. They are related more closely to paper-and-pencil tests and are thus best used as part of screening prior to an assessment center or as a supplement to an assessment center.

Orientation Simulations and Videos

Many organizations are using "minisimulations" as part of an orientation program for employees who are interested in becoming supervisors and who may attend an assessment center. During the orientation participants experience scaled-down versions of the simulations they would face in the assessment center. For example, they spend one-half hour doing a seven-item In-basket, participate in a 15-minute group discussion, and observe a videotaped interaction simulation. An orientation program will:

> Ensure that participants have complete information about the assessment center.

> Clear up any concerns people may have about how it will operate and what the simulations will be like.

> Dissuade employees from seeking "inside" information from friends who already have been participants.

> Ensure fairness to minority groups who may have less exposure to evaluation situations by providing them with a thorough explanation of the assessment process.

> Provide participants with a realistic job preview that helps them make informed decisions about the job; often participants will decide not to pursue the opportunity once they obtain this information.

Another way of providing effective orientation to an assessment center is to make a video showing assessees participating in the various exercises and explaining how the assessment center operates. These videos are becoming increasingly popular, especially in large-scale assessment center applications. The introduction to the assessment center often is linked to a video job preview that shows what the target job will be like, and that shows employees the values that will guide the organization. If given a realistic job and assessment center preview, applicants can make informed decisions about whether or not they want to participate. Outstanding examples of such videos have been produced by Toyota and Southwestern Bell.
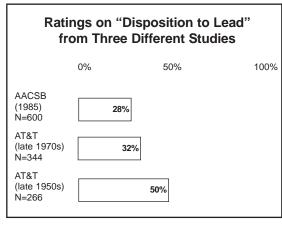
Psychological Inventories and Projective Tests

The original AT&T research assessment centers used psychological inventories (e.g., the Edwards Personal Preference Schedule) and projective tests (e.g., the Thematic Apperception Test) to supplement observations of assessees' behaviors as they progressed through assessment center simulations. AT&T dropped these instruments after they converted their research assessment centers to operational assessment centers run by the Bell operating companies. AT&T dropped the tests for two reasons: (1) the operational assessment centers used managers (rather than psychologists) as assessors, and (2) paper-and-pencil instruments were disputed during this period (1960s) because of possible adverse impact on protected groups. Most organizations that adopted the assessment center methodology followed AT&T's lead, concentrating on behavioral exercises rather than paper-and-pencil tests. Most even dropped intelligence tests because of the common finding of adverse influence on blacks. However, the Bell companies retained these tests.

Today some of these tests, particularly intelligence tests (general ability tests), are being used again in conjunction with assessment centers. Research data show that the combination of

intelligence data and behavioral observations provides a markedly better means of evaluating people than either used alone (Thornton & Byham, 1982). The problem with using paper-and-pencil intelligence tests and other psychological instruments is that they require very careful validation efforts, and assessors must be specially trained in both data interpretation and how to integrate that data with behavioral data.

The dimension Need or Desire to Lead Others, which is evaluated through psychological instruments, has achieved considerable attention in the last few years as a result of work by Howard and Bray. They found a precipitous drop in this dimension when comparing Bell company college recruits of the 1950s to recruits of the 1980s. Confirmation of this decline was also obtained from the DDI-AACSB study. Table 6 shows the results of these three studies. Because of these findings, many organizations are interested in using psychological inventories to collect information from assessees regarding this dimension.

A large number of organizations have adopted an inventory developed by DDI and called the Job Fit Inventory (JFI). The JFI measures desire to work in an empowered organization and desire to empower others.

Ratings on "Disposition to Lead" from Three Different Studies

	0%	50%	100%
AACSB (1985) N=600	28%		
AT&T (late 1970s) N=344	32%		
AT&T (late 1950s) N=266		50%	

Table 6

Self-Report, Boss, and Workplace Peer Evaluation Instruments

An assessment center provides insights into many job dimensions, but usually not all dimensions. Dimensions such as Work Standards and Energy are not evaluated well in assessment centers. To fill in these gaps and to get additional insights to dimensions that are assessed in assessment centers, many organizations supplement their assessment centers with self-reports and with evaluations by the assessee's boss and workplace peers or subordinates. Usually, assessee is given six questionnaires that list the target dimensions with definitions. The assessee completes one and gives the other five to his/her boss, peers, or subordinates. All questions are sent to a central location where a computer summarizes the data and prepares a report.

The combination of assessment center, self-, and boss/peer/subordinate evaluations of a common set of dimensions makes a powerful impact on assessees. The feedback counselor and the assessee can compare and contrast each dimension's ratings from each source (self, others, and the assessment center). Based on these insights, they can define developmental actions more accurately.

NEW TECHNOLOGY

The biggest drawback in the ongoing use of assessment centers is the amount of managerial time required. In a typical assessment center, a manager leaves his/her job for two or three days to observe participants' performance in simulations, and then spends an additional day or two meeting with other observers to make final evaluations. Although managers recognize the importance of selection and promotion decisions, they are often reluctant to devote this much concentrated time to assessment. A related problem is the formality of the traditional assessment center, which tends to

make the center an event. This may build expectations and call attention to who is being assessed and who has not been asked to participate. The traditional assessment center also forces organizations to put people through the process in groups; the method is useless when there are only two candidates for a position.

These constraints have limited assessment center method applications in some organizations to only a few selection or promotion decisions. As a result, many important and effective applications, such as defining training needs, have not been utilized widely. Although organizations recognize the increasing importance of accurately diagnosing training needs before sending people to training programs, the problems associated with staffing developmental assessment centers often make their use prohibitive, even though assessment center methodology is the best available diagnostic instrument for many positions. Managers agree on the importance of thorough and accurate diagnoses, but are reluctant to spend the time needed to produce the excellent diagnoses that the assessment center methodology yields.

Deformalizing the Method

A number of organizations in the United States and overseas have overcome the implementation problems noted earlier by making their assessment centers less formal and rigid while keeping the basic components that provide validity. Organizations do this by incorporating the assessment center method into an organization's day-to-day activities, rather than by having their managers go off to a designated place, or to a "center."

The individual to be assessed is given a list of managers responsible for filling the position. The assessee then schedules his/her own meetings with these managers over a period of several weeks, according to the schedules of all parties. The managers involved fit the time for the exercises into their usual activities.

During these meetings the managers put the assessee through the same job simulations used in formal assessment centers. For example, one manager might interview the assessee about why he or she took certain actions in the In-basket exercise; another might have the assessee present findings from an analysis and planning exercise; and a third might observe the assessee in a one-to-one interaction with another manager who role-plays a subordinate.

At an appointed time the managers (assessors) meet to hold an assessor discussion that works exactly like such discussions in a traditional assessment center. The assessors give actual examples of the participant's behavior to back up their ratings on each of the dimensions they evaluated. After sharing all their observations, the assessors reach consensus on the individual's strengths and weaknesses in each dimension. Then, if the purpose of the assessment center is to provide the basis for selection or promotion decisions, the assessors make an overall evaluation. If the objective of assessment is to diagnose training needs, the assessors' final step is to develop a profile of the assessee's strengths and developmental needs.

All key components of the assessment center method are present: multiple job simulations; use of behavior observed in simulations to predict future behavior in the target job; organization of observed behavior around job-related dimensions; and a systematic data integration session involving several assessors who have observed participants independently in the simulations. Only the rigidity is removed. This allows even the smallest organization to apply the assessment center method in making selection/promotion decisions.

Using Videotape to Record Behavior

Another increasingly popular technology is the use of videotape equipment to capture assessee behavior. Rather than having managers observe individuals in simulations, participants' behavior is recorded on videotape. The tape and the assessees' written output then can be sent virtually anywhere and assessors can view and evaluate the taped and written performance at their convenience. After each assessor has observed and evaluated the assigned simulation, a standard data integration session can be held, or the data can be integrated by a computer using an expert system.

The most popular application of this technology is DDI's Skills Diagnostic Program (SDP). More than 100 organizations use the SDP as a substitute for, or as a supplement to, the traditional assessment center. These organizations send In-baskets or videos of interactive exercises to DDI to be scored.

The SDP uses a special version of the AcceleRATE program described below. The output consists of behavioral descriptions of performance on each dimension and percentile rankings relative to as many as three normative groups. The organization chooses the normative groups. For example, the performance of a middle manager might be compared with other middle managers in the company, in a nationwide sample of middle managers, or a nationwide sample of middle managers with M.B.A.s, etc.

One of the largest applications of SDP technology was the evaluation of more than 600 business school graduates as part of the AACSB-sponsored research project. Students from six representative universities worked through four assessment center exercises administered by the staff of the institution. Participants' written outputs, along with their videotaped performances, were then sent to DDI where they were evaluated and the data were integrated via computer to arrive at dimensional ratings.

AcceleRATE

The AcceleRATE software program expedites the assessment process, and is therefore advocated by many assessors and administrators. With AcceleRATE, assessors input their observations directly into computers. The computer organizes behavior by dimension and feeds it back to the assessor in a way that facilitates the rating of each dimension. The computer, using an expert system, then checks the rating and if it differs from that of the assessor, a second assessor reviews the data and shares his or her insights with the assessor. Together, they make a decision on the dimension rating for the exercise.

At the integration meeting, a computer integrates all the behavioral observations across exercises and presents the data in a convenient way for assessor analysis and decision making. In some organizations, an expert system substitutes for the integration meeting. This mathematical data integration is possible because of the high reliability of the assessor exercise dimensional ratings, where reliabilities of .90 and higher are common.

The computer prints out a detailed final report giving dimensional ratings with behavioral examples. AcceleRATE decreases assessor time by more than half and dramatically decreases assessor and administrator training time.

II. ASSESSMENT CENTER METHODOLOGY

WHAT IS ASSESSMENT CENTER METHODOLOGY?

The validity and effectiveness of the assessment center method can be credited to six basic underlying methodological concepts. During the past 21 years, many organizations have used these concepts to improve the effectiveness of personnel procedures outside the traditional assessment center. Assessment center methodology has been applied in interviewing, job observation, and obtaining third-party information (reference data.)

The six methodological concepts that give the assessment center method its validity are:

1. Organize the assessment process around target dimensions.

One of the two keys to the job relatedness of assessment center methodology is the focus of assessment center observations on dimensions that have been defined as important to success (or failure) in the target job. Dimensions are defined through an analysis of the target job. This job analysis procedure usually involves interviewing incumbents and their supervisors to identify common factors that have a direct bearing on success and failure. See:

Byham, W., & Associates (1990). *Dimensions of effective performance for the 1990s: What they are, how they differ among levels, how they are changing* (Monograph XV, rev. ed.). Pittsburgh, PA: Development Dimensions International.

Hauenstein, P, & Byham, W. C. (1989). *Understanding job analysis* (Monograph XI). Pittsburgh, PA: Development Dimensions International.

2. Use behavior to predict behavior.

Assessors in assessment centers make decisions based on behavior; they don't try to psychoanalyze the individuals they observe. They connect behavior in the assessment center exercises and behavior required on the job. If the assessee's behavior is similar to that required in the target job, that assessee receives a high rating. If the candidate does not use behaviors required in the target job, he or she receives a low rating.

3. Have two or more individuals independently observe and evaluate.

Observations made by two or more trained observers provide multiple perspectives on the meaning and importance of an assessee's behavior. This reduces the chance that an assessee's performance in one exercise will influence assessor evaluation in others.

4. Develop a system that ensures all target dimensions are covered and that uses inputs from multiple sources.

Assessment centers are organized to force the evaluation of all target dimensions. Exercises are selected to provide the most complete coverage possible, with overlap built in for the most important dimensions. But simulations may not provide information on all dimensions. Very seldom is a job so unidimensional that a single source of data can predict future behavior. In reality, most jobs are extremely complicated in terms of the activities and dimensions necessary for success. For this reason, a variety of assessment sources, such as interview data and reference checks, are needed.

5. Organize a discussion so two or more assessors systematically share and debate their behavioral insights and relate these findings to each target dimension prior to reaching an overall decision.

Research evidence and practical experience clearly indicate that, in most situations, a group process where data are shared and the judgments of several knowledgeable individuals are polled enhances decision making. The assessment center really is an organized group decision-making process that allows assessors systematically to collect data, organize it, share observations, and come to a consensus.

The integration session in assessment centers forces individuals to substantiate their ratings with examples of actual assessee behavior, thus keeping subjective elements out of the discussion. The process also helps assessors focus on each key job dimension prior to reaching overall decisions.

6. Use simulations to stimulate behavior to be observed.

Simulations are an important method (but not the only method; see concept #4) of obtaining behavioral examples that can be used to predict future behavior. Simulations give organizations a chance to see how a person would perform in a particular job prior to giving him/her the position.

The next three sections deal with applications of assessment center concepts in other personnel procedures such as interviewing, on-the-job observation of performance, and obtaining third-party information about an individual. The section titled Developing Integrated Systems deals with assessment methodology as the basis for integrated personnel systems.

TARGETED SELECTION®: OBTAINING BEHAVIOR IN INTERVIEWS

About 1,000 organizations throughout the world are using assessment center methodology with no simulations at all. They include Citicorp, Alcoa, Caterpillar, Hoffmann-LaRoche Inc., Imperial Chemicals, McGraw-Hill, and PepsiCo. These companies are using a technology known as Targeted Selection®, wherein applicant behavior is not gathered through job simulations but through a series of behaviorally based interviews. Just as assessors are trained to observe and evaluate behavior in simulations, Targeted Selection interviewers are trained to ask questions that elicit clear examples of past behavior in interviews, and to use these examples to predict future behavior. Groups of target dimensions are assigned to two or more interviewers who use special questioning skills to obtain the required behaviors.

After the interviews, interviewers meet and systematically share data on each dimension until they can reach a consensus rating for each dimension. The result is a profile of strengths and weaknesses just like that obtained in an assessment center. Research at companies like Holiday Inn, J. C. Penney, and McDonald's has shown that this methodology increases the quality of hires markedly (Development Dimensions International, 1983).

Although it is not an assessment center, the Targeted Selection interviewing process is a true application of assessment center methodology. It is very different from the kinds of interviews that were used in early assessment centers, which tended to be very psychological and called for extensive interpretation by the person (usually a psychologist) who conducted the interview. The strength of the behavioral Targeted Selection interview is that it requires almost no psychological interpretation. It is merely an extrapolation of past behavior to future behavior.

Table 7 compares key concepts of assessment center methodology and Targeted Selection methodology.

	Assessment Centers	Targeted Selection
1	Organize assessment process around target dimensions.	same
2	Use behavior to predict behavior.	same
3	Have two or more individuals independently observe and evaluate.	same
4	Develop a system that ensures all target dimensions are covered and that uses inputs from multiple sources.	same
5	Organize a discussion so two or more assessors systematically share and debate their behavioral insights and relate these findings to each target dimension prior to reaching an overall decision.	same
6	Use simulations to stimulate behavior to be observed.	Use interviews to obtain past behavior.

Table 7

Combining Simulations with Behavioral Interviews

While the Targeted Selection behavioral interviewing procedure is an appropriate alternative to assessment center data when the interviewee has had experience in the dimensions being assessed, it breaks down when he or she has had no experience in the areas being evaluated. For example, it is difficult to interview a new college graduate for the dimension Control if he or she has never had a management job, or a sales applicant for Selling Skills if the applicant has never had a selling job. In these situations the assessee is being evaluated for a position that is markedly different from those he or she has held before. Even the highly skilled interviewer might have trouble getting sufficient behavioral data on some dimensions to project future behavior.

This is an ideal situation for behavioral simulations such as those used in assessment centers. Simulations allow direct observation of the desired behavior. Indeed, combining behavioral interviewing with assessment center simulations was a natural wedding of technologies. Interviews provide information on a subset of the target dimensions, while behavioral simulations provide information on additional dimensions. Because only one or two simulations are used typically, these applications of the methodology are more often thought of as an elaboration of the interviewing process than as an assessment center, even though technically they meet the requirements of an assessment center set up by the International Congress on the Assessment Center Method. The simulations can be interjected into an interview, or one interviewer may interview the assessee while another administers simulations. Organizations using this combination methodology include the Upjohn Company, A. E. Staley Manufacturing Company, and Florida Steel Corporation.

Two types of simulations commonly are integrated into behaviorally based interviewing systems:

1. Regular assessment simulations are used when there is sufficient time, usually when a single assessor is administering or observing the simulation and has no other interviewing responsibilities. However, the individual may, at another point in time, conduct an interview as part of the overall system.

2. Targeted Simulations® are used when the simulation must be put into the interview process itself. In these situations an interviewer conducts part of the interview, administers a very short simulation, and then continues the interview. These Targeted Simulations are shorter and have a simpler rating procedure for the assessors.

Byham, W. C. (1987). *Applying a systems approach to personnel activities.* (Monograph IX). Pittsburgh, PA: Development Dimensions International.

TARGETED OBSERVATION: OBTAINING BEHAVIORAL INFORMATION FROM DIRECT OBSERVATION OF PERFORMANCE

Just as basic assessment center methodology can be applied when the behavioral data come from candidate interviews, it also can be used when the behavioral data come from on-the-job observation of performance. Accuracy of on-the-job performance observations can be improved markedly by training managers to differentiate between true behavioral observations and nonbehavioral observations, and to observe and record behavior.

Without training, many managers tend to generalize their observations, making comments such as, "He's not organized," "She's not trying hard enough," or "He's not mature." The manager will have greater impact if his or her feedback to a subordinate is more behavioral.

The employee will better understand the nature of his or her performance and what changes are necessary. In addition, managers' reports (promotion recommendation and others) will mean more to higher management because they contain behavioral examples.

Several companies have set up performance appraisal systems that parallel assessment methodology directly, including systematic data integration. In these systems managers at the same level meet to share performance data regarding their subordinates and agree on dimensional and overall ratings, as in an assessment center.

Although complete adoption of assessment methodology is still rather rare, many companies with assessment centers are integrating parts of the methodology into their performance appraisal systems. Most of them are using the same dimensions to evaluate incumbents that they use in assessing applicants for the position. Kodak, ARA, Tampa Electric, and Owens Illinois are leading the way by integrating their selection, training, and appraisal programs around a consistent assessment center methodology and job dimensions.

Strangely enough, simulations also are playing a role in direct observation of performance. There are many situations in which it is difficult for a manager to observe a subordinate supervisor or manager in action. A prime example is in interpersonal situations, such as when subordinate supervisors conduct performance appraisal interviews with their employees. Most managers feel it is inappropriate to sit in on their subordinate supervisors' discussions with subordinates. This creates a dilemma: How can the manager observe his/her subordinates' performance in this important area, and how can the manager coach if he or she cannot observe behavior? An obvious answer is for the manager and the subordinate

supervisor to role-play a situation and use that data as a source of feedback. The role play can be built around an actual situation the supervisor is facing, or a standardized role play can be used. The only advantage to the latter is that it comes with training materials.

THIRD-PARTY EVALUATIONS

Most aspects of assessment center methodology also can be used to get third-party information about individuals. In hiring a person, third-party information often is obtained through reference checks from previous employers or co-workers. In promotion situations, third-party information is received from other managers who have worked with or observed the individual.

When obtaining third-party information, it is advisable to use behavioral interviewing techniques similar to those used in Targeted Selection interviews. It's important to build the interview around dimensions, seek behavioral examples, and evaluate the data relative to the requirements of the target job.

A selection system for the position of sales engineer is shown in Table 8. It includes reference checks as part of the system. To facilitate integration of the third-party data with data from other sources (e.g., interviews and simulations), a consistent rating scale is used.

Training managers to conduct effective third-party interviews is relatively easy once they have developed the basic Targeted Selection interviewing skills, since the same basic skills are required.

System for Selecting Sales Engineers							
	District Sales Manager Interview	Personnel Manager Interview	In-basket	Sales Call Simulation	Regional Sales Manager Interview	Reference Check	Health Examination
Oral Communication	x	x		x	x		
Written Communication			x				
Technical Translation				x	x		
Motivation for Work	x	x					
Work Standards	x	x				x	
Sales Ability	x			x	x	x	
Resilience					x	x	
Tenacity	x				x	x	
Ability to Learn	x					x	
Initiative	x		x		x	x	
Planning and Organizing	x		x			x	
Judgment	x		x	x		x	
Analysis	x		x	x		x	
Integrity		x			x	x	
Technical Engineering Skills	x					x	
Physical Health							x

Table 8

DEVELOPING INTEGRATED SYSTEMS

Early assessment center practitioners mistakenly ignored other sources of data that managers traditionally used in making promotion decisions. People who set up assessment centers acted as if management was going to consider only the assessment center data to make promotion decisions. This, of course, was rarely the case, as managers interviewing candidates for jobs took the person's current job performance into consideration. Unfortunately, the data were often difficult to integrate. Assessment center data were highly structured with thorough documentation, while data coming from direct performance observation or interviews often were gathered much less systematically and built around dimensions other than those assessed in the assessment center or important to the job.

Today, most organizations conduct a job analysis to determine the target performance dimensions of the job. The next step is to assign dimensions to each available data source that are best tapped by that source. Table 9 contains a matrix of a system used to promote candidates to a bank branch manager position. It consists of three data-gathering elements: an assessment center, which brings out certain dimensions; a targeted interview, which brings out additional dimensions; and targeted performance observations (obtained from candidates' current bosses), which bring out dimensions observable in candidates' present jobs. The entire system is built around a list of consistently defined dimensions for evaluating all candidates, and uses a common rating system. Because standard definitions and ratings are used, the decision makers can effectively integrate data from each source.

There are many advantages to using a systems approach when making selection and promotion decisions:

System for Promotion to Bank Manager Position			
	Assessment Center	Background Interview	Performance in Current Job
Oral Communication	x	x	x
Oral Presentation	x		
Job Motivation		x	
Work Standards		x	x
Initiative	x	x	x
Sensitivity	x	x	x
Leadership	x		
Problem Analysis	x	x	x
Judgment	x	x	x
Planning & Organizing	x	x	x
Delegation	x	x	
Management Control	x	x	
Development of Subordinates	x		
Organizational Sensitivity	x		x
Extraorganizational Awareness	x	x	

Table 9

> Managers are better able to compare and integrate data when the data are presented in a consistent manner; better decisions result.

> All dimensions important to job success are covered.

> Overlap in coverage of the most important dimensions is assured, but needless overlap is avoided.

> The most appropriate and efficient method of evaluating each dimension is used.

> Managerial training needed to implement each part of the system is dramatically reduced because the skills needed to gather data are essentially the same, regardless of the data source. Therefore, managers need only learn them once.

Byham, W. C. (1987). *Applying a systems approach to personnel activities.* (Monograph IX). Pittsburgh, PA: Development Dimensions International.

THE FUTURE OF ASSESSMENT CENTERS

As in most aspects of business, it appears that there are computers in the future of both the assessment center method and methodology. So far, computers have been used mainly to help process assessment center data. As in the AcceleRATE program, assessor ratings and observations are entered into a computer, which displays the data for decision-making convenience; it even makes tentative decisions for assessors to review. More importantly, the computer aids the administrator in completing summary reports that he or she will provide for management and the participants.

Other innovative applications are being tested. One organization evaluates interactive situations by using computers linked to video disks. The assessee plays the role of a manager who must discuss a performance problem with a subordinate. Considerable background data about the individual and the performance problem are provided in written form. As the assessee sits at a video monitor linked to a video disk and computer, the "subordinate" appears on the screen and starts the conversation. The assessee is asked questions with multiple-choice answers relative to what he or she would say in the situation presented. Using the computer's and the video disk's branching capability, the "subordinate" responds differently according to the statement the assessee chooses. At the completion of the interaction, the computer presents the assessor with a visual display of the interactive behaviors the assessee used. The computer then compares the assessee's behaviors to effective and ineffective behaviors previously determined by a management team.

A major task in establishing an assessment center is the job analysis. The process usually involves conducting multiple interviews, developing and distributing questionnaires, and considerable data analysis and report writing. These tasks are now being eliminated or decreased substantially by the use of a computer expert system called Identifying Criteria for Success (ICS) that acts as a job analyst. Job content experts (usually incumbents or their bosses) answer questions the computer poses to obtain the information necessary for the job analysis.

CONCLUSION

The assessment center method is a proven, valid technique that is extremely effective for making selection and promotion decisions and for diagnosing employee development needs. Applied traditionally, it is most appropriate for organizations that process groups of individuals. However, alternative methods now exist that make it possible for most organizations to use the method. In addition, organizations can profit from the methodology without experiencing the problems associated with traditional assessment approaches.

In spite of the confusion stemming from the word "center" in its name, an assessment center never was a place. And now it is no longer a thing. It is a highly flexible methodology. There always will be formal assessment centers firmly entrenched as part of selection or promotional processes, but the major growth area in assessment centers unquestionably will be in applying the key concepts that make such centers valid. These concepts are simple and applicable worldwide.

Assessment center concepts can be applied to any situation in which people need to be evaluated, including promotion, performance appraisal, and selection interviewing. The methodology is not a mysterious new thing as was probably implied in the 1970 *Harvard Business Review* article. It is merely a systematic way of obtaining and processing data and making decisions about individuals.

The assessment center method has come a long way in 21 years in terms of the sophistication of techniques and methodology. Its use is still definable to the extent that one can feel fairly confident in writing an article describing its applications and methodologies. There is still a core method to which people relate. This is witnessed by the fact that 1991 was the 19th year of the International Congress on the Assessment Center Method, in which practitioners from different countries meet annually to share techniques and research results.

Writing a summary article regarding assessment centers 10 or 15 years from now will be a much more difficult task as methodology will be part of many personnel applications. By and large, people will be unaware that they are using assessment center methodology, and then it will have achieved its full potential as an extremely important aid to management.

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Dr. Byham is an internationally recognized thought leader, speaker, and author. His most recent book is *Grow Your Own Leaders*.

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NOTES

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ABOUT DDI. Since 1970 Development Dimensions International has worked with some of the world's most successful organizations to achieve superior business results by building engaged, high-performing workforces.

We excel in two major areas. Designing and implementing selection systems that enable you to hire better people faster. And identifying and developing exceptional leadership talent crucial to creating a workforce that drives sustained success.

What sets DDI apart is realization. We focus on the needs of our clients and have a passion for their success.

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