

# ASSESSMENT IN THE WORKPLACE: A COMPETENCY-BASED APPROACH

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## ABSTRACT

This paper explores assessment in the workplace with a specific focus on using a competency-based approach. A normative process model for developing a competency-based assessment battery is also presented. The model is derived from practical experience and research in the development of competency-based assessment batteries and is rooted in a person-based approach.

## OPSOMMING

Hierdie navorsing verken evaluering in die werkplek met spesifieke verwysing na die gebruik van 'n bevoegdheidsgebaseerde benadering. 'n Model, wat 'n bepaalde proses vir die ontwikkeling van 'n bevoegdheidsgebaseerde evalueringbattery voorstaan, word ook aangebied. Die model is afgelei uit praktiese ervaring en navorsing in die ontwikkeling van bevoegdheidsgebaseerde evalueringbattery en is gebaseer op 'n persoonsgeoriënteerde benadering.

In the contemporary world of work, characterised by rapid and dramatic change, the attainment of competence has become an integral component of individual, organisational and national strategies. An organisation's market value and financial success rely increasingly on competence, as well as intangibles: knowledge, loyal customers and other manifestations of human capital (McLagan, 1997). These factors, amongst others, have created an impetus for innovative trends and advancements in the practice of human factor assessment techniques. One of these is competency-based assessment, the focus of this paper. Competency-based assessment is a process that determines whether a person meets the standards of performance required by a job. It is a new and unfamiliar technique to many practitioners arousing numerous queries, interest and even objections (Hager & Gonczi, 1994).

In the global context, Ulrich (1998), stated that all organisations face five critical competitive challenges: globalisation, profitability through growth, technology, intellectual capital and change. He suggested that these all provide a valuable opportunity for the human resource practitioner to play a leading role in facing these challenges. The more knowledge and skills people possess, the more effective they will be, and the better they will be able to think, be innovative, exhibit creativity in the job situation and align their competencies with organisational strategies and goals.

In Africa and South Africa, the need for skills training and upgrading of people as a prerequisite for world-class competitiveness, organisational excellence and labour productivity, was highlighted by Khumalo (1999) and van Zyl (1999). To be successful in any subsequent training strategy or intervention, the identification and development of competencies enabling employees to cope with fundamental internal and external change, will be of paramount importance. With the move towards workplace assessment, in line with the National Qualifications Framework (Phillips, 1996), a need has been identified for a practical model that human resource practitioners and psychologists could use to develop scientifically sound competency-based assessments. Coupled to this, is the need to develop and utilise selection and assessment methods that are job relevant, culture-fair, transparent and also practical. The responsible use of any psychological assessment procedure is also highlighted by recent developments in the South African labour legislation, specifically the Employment Equity Act (Eckstein, 1998).

The intention with this paper is to fulfil the articulated need of assessment practitioners for a background of the theory pertaining to the concepts surrounding a competency-based assessment in human resources, as well as to provide practical guidelines that may be followed in developing a competency-based assessment. Based on this theory and experience in practice, guidelines for the design and development of a competency-based assessment battery in the form of a process model, is presented. The process can be easily applied in the workplace and practical examples are presented when necessary. As ongoing research, it is presently being empirically tested by the researchers, in various manufacturing and service environments.

## RELATED CONCEPTS

### Competence

A review of the related literature reveals that ideas and thinking surrounding the notion of competence is far from uniform and that the term has different meanings in different contexts. This problem is exacerbated by the fact that competence is essentially an abstract concept that can only be defined and measured through behaviour or performance. There are a number of general approaches to defining competence. They include the following:

#### a) *Performance in diverse settings*

Competence is a broad term and the concept embodies the ability to transfer skills and knowledge to new situations within the organisational arena. The implication of competence in the definition of Fischer and Maritz (1994) is that competence is related to the effective performance of a person within a specific environment. According to Mulder, Nijhof and Brinkerhoff (1995), it encompasses organisation and planning of work, innovation and coping with non-routine activities. It includes those qualities of personal effectiveness that are required in the workplace to deal with co-workers, management and customers. Burke (in Nellmapius, 1996) provides a broader, more generalised explanation of competence in stating that it is the ability to perform the activities within a function or an occupation area to the levels of performance expected in employment. A competent person should therefore be able to perform activities in diverse settings, over an extended period of time, and be able to respond to variables, which implies that competence has an element of flexibility.

#### b) *Achievement of outcomes*

This general approach is more output oriented and focussed on contribution to organisational goals rather than human development. Blank (in Nellmapius, 1996) highlights the notion that human competence is the ability to render a valuable and

worthwhile service in a cost effective manner. He goes on to describe job competence as being able to produce desirable results. A cluster of individual outcomes may be integrated into the concept of organisational competence. Organisational core and strategic competences are unique and enduring value added activities, that are performed more effectively and at a lower cost than that of the competition, e.g. logistics or manufacturing (Snyder & Ebeling in Meyer, 1996; Ulrich, 1998). They are embodied physically in one or more of the organisation's end products, e.g. McDonald's hamburger, rather than in an individual's output.

#### c) *Specific skills and standards*

Bellis (1997) defines competence as a skill or cluster of skills, executed within an indicated range or context, and to specific standards of performance, integrated knowledge, understanding and the ability to transfer the skills to other related contexts. This definition is widely applied in organisations and for that reason alone should be noted.

To conclude, one can therefore say that competence is a somewhat difficult term to define. It is abstract, flexible and tends to have different meanings in different situations. Furthermore, these meanings could also be seen as to be constantly undergoing change. In the context of this article, competence will be regarded as *the skill and ability of a person to effectively perform and cope with job demands in the workplace*. This definition encompasses all four approaches to the competence definition, namely performance in diverse settings ("job demands"); achievement of outcomes ("to cope effectively") and specific skills and standards ("the skills and ability of a person"), within an organisational context ("in the workplace").

### Competency

According to Meyer and Semark (1996), competency, its nature, acquisition and maintenance, is emerging as the central dimension of human resource development today. It is however, a concept still surrounded by misunderstanding and debate.

The definition of the concept of competency has been approached in a number of ways:

#### a) *As a set of behaviour patterns*

Most definitions of competency are found along a continuum of performance definitions (demonstration of required behaviour) at the one end and attribute definitions (individual focus) at the other end (Meyer, 1996). The term "competency" is often used as an umbrella term to cover almost anything that might directly or indirectly affect job performance within a specific work environment (Fischer & Maritz, 1994). Competency is described as a set of behaviour patterns or behavioural repertoires that the incumbent needs to bring to a position in order to perform its tasks and functions with competence and make the incumbent valuable to the organisation and ultimately valuable to the customer (Boam and Sparrow, 1992; Kemp, 1998; Blank in Nellmapius, 1996).

These behaviours are made up of three components, commonly described as the KSAs: knowledge (practical, theoretical, procedural and contextual information relating to the job), skills (occupation-specific tasks, organisation/process tasks) and attitudes/values (personal attributes and personal and professional ethical codes of conduct). According to Nellmapius (1996), knowledge refers to what the person must know to perform a task competently. Skills infer doing, or the ability to do. An attitude can be explained as an idea charged with emotion that predisposes a set of actions to a specific group of stimuli, covering three essential components: the cognitive, affective and conative (Vecchio, 1995). McLagan (1997), using a job related approach, postulated that some categorisations of competency relate specifically to the work being performed and encompass task, result and/or output competencies.

Competencies which transcend specific jobs but which are essential for effective functioning in a modern economy, are

referred to as generic, individual meta-competencies (Meyer & Semark, 1996). These tend to be enduring and relevant throughout a person's life. Examples that Meyer (1996) referred to, are competencies such as cognitive process skills (including various types of mental processes and conceptual reasoning abilities); relationships (being able to operate in teams, the ability to communicate and manage relationships) and performance (to make things happen and have an impact on one's environment). Competencies are individual units of contribution to the organisation, that can be mapped into a competency framework and be used as a strategic tool for adding value to the human contribution in the organisation (Wheeler & Wheeler, 1999).

#### b) *High Performance competencies*

The American, Richard Boyatzis, originally coined the term "competencies" (Wood & Payne, 1998) as part of his perspective on individual differences at work. His hypothesis was that there are a certain fixed number of rich and detailed competency clusters on which people vary. By identifying and exploring competencies at three levels, namely motive and trait, self-image and social role, as well as skill, Boyatzis was able to build up a rich psychological picture of a person to predict and explain behaviour. These were further broken up into threshold and performance competencies. Threshold competencies are those clusters of behaviour that people need in order to get the job done but which are not associated with superior performance. They are the minimal skills needed to carry out tasks associated with a given position. The distinguished competencies (Goleman, 1998) or high performance competencies (Cockerill, Hunt & Schroder, 1995) are the capabilities that set star performers apart from average ones. These are the competencies that have been empirically tested and found to distinguish superb performers from average-performing job holders.

#### c) *Interpretative approach to competencies*

As a reaction to the rationalistic approach that describes competency as primarily a set of attributes, Sandberg (2000) proposed a new method based on an interpretative approach, using the technique of phenomenography. He proposed that the basic meaning structure of workers' conceptions of their work constitutes human competence and should be used as a point of departure. Sandberg (2000) argued that such descriptions assist in determining whether employees actually use the competencies, and how they are used to meet job demands.

#### d) *As a process of learning*

The urgent need for skills development means that competency is seen as a journey through a process of learning. Rather than defining competency through a list of skills, Cox and Beale (1997, p.2) preferred to define competency as a "process of learning that leads to an ability to effectively respond to challenges and opportunities .. in a defined social system."

In fact, this learning process has three phases; a) an awareness of the competency on work outcomes, b) acquisition of knowledge and a cognitive understanding of the competency and c) the actual behaviour and action as a manifestation of the competency. The particular level of analysis is specifically focussed on the individual level, where competency means that the person has learnt to the point where they know how to behave or change their personal behaviour as they perform their daily task and responsibilities (Cox & Beale, 1997).

#### e) *A time based approach to competencies*

The importance or role of any competency to an individual's job, career system or organisation, will undoubtedly change over time. This is perpetuated by the fact that as opinions of what constitutes people and organisations move through different business environments, the relevance of any competency is bound to alter (Boam & Sparrow, 1992). Based on this type of classification, four different categories of competencies can be identified, namely emerging competencies those that will ensure capacity to respond to future requirements;

maturing competencies those that may lead to job obsolescence; transitional competencies those that are required for a specific life cycle and time period in the organisation; and core competencies those that are enduring and stable (Meyer, 1996).

Finally, in the context of this article which has an individual focus, competency will be referred to as *the behaviour required by a job incumbent to perform and function with competence in a job, as well as the continuing development of behavioural repertoires required to establish and maintain competence in that job.*

## COMPETENCY-BASED ASSESSMENT

### Competency-based assessment, traditional psychometric testing and workplace assessment

The terms evaluation and assessment are often used interchangeably in the context of psychological testing in the workplace. For consistency purposes the term assessment is defined in this paper as an appraisal of personal characteristics, behaviour and human processes, through a number of techniques, including tests, interviews and observations (Aiken, 1994). The Society for Industrial Psychology (1998, p. 13) defines psychological assessment as "including psychometric testing plus any other procedure used to assess human performance or potential". This process is managed by a psychologist or assessment practitioner who should be someone legally qualified to conduct such assessments. The concept of assessment is also applied in another setting in the South African context, namely the National Qualifications Framework, specifically relating to workplace assessment. In this context, assessment is seen as "a process of collecting and interpreting evidence that standards have been met" (Phillips, 1996, p.57). This process is managed by a registered assessor who is a person who has met the criteria specified by a standards-setting body.

Practising psychologists in industry have been faced with the challenge of providing a professional assessment service to clients, who require an assessment methodology that is job specific and entirely open and transparent to all stakeholders (organisation, unions and employees) involved in the process. Many practitioners are attempting to eliminate the 'subjectivity' involved in assessment by introducing tighter definitions, with a greater focus on behaviours and behavioural standards, hence the move to competency-based assessment. The increased number of journal articles and books published in the area of competency-based assessment also indicates an increase in popularity and use of this form of assessment, both locally and globally. Fischer and Maritz (1994 & 1995) reported on the results of a major meta-analysis validity study of various types of selection methods. The results indicated that the competency-based methods (assessment centres and work sample tests) outperformed the rest, as far as validity is concerned.

Competency-based assessment and traditional norm-referenced psychometric assessment are sharply contrasted in their methods of evaluation of results (Hager & Gonczi, 1994). The difference is that competency-based assessment assesses the performance of an individual against a pre-determined standard, while norm-referenced assessment compares the performance of an individual against the performance of a selected group.

While extremely valuable psychometric tests have limitations. Part of the problem lies in the purely psychological, mainly clinical nature of the constructs being measured by the psychometric instruments, and the fact they do not always directly link to job performance. Psychometric tests remain an extremely valuable tool in the organisational context, especially regarding their ability to discern individual potential, their capacity for large group testing, time effectiveness and most importantly, their objectivity. Psychometric testing can also play a central role in enhancing the selection process, as well as employee development processes, and it is therefore vital for both individual and economic upliftment. Based on this, Fischer and Maritz (1994, 1995) preferably recommended an

approach that integrates both psychometrics and competency-based assessment.

### Principles of competency-based assessment

The basis of competency-based assessment rests on the underlying principle that past behaviour predicts future performance. In other words, competency-based assessment is based on an inference from performance of various tasks. Competency-based assessment directly measures skills and abilities specifically relating to the particular job for which the assessment is conducted (Morrall, 1997; Wood & Payne, 1998). It is important to balance these skills and elements of the job with personal attributes so that allowance is made for the individual to use their discretion and creativity in achievement of outcome (Hager & Gonczi, 1994).

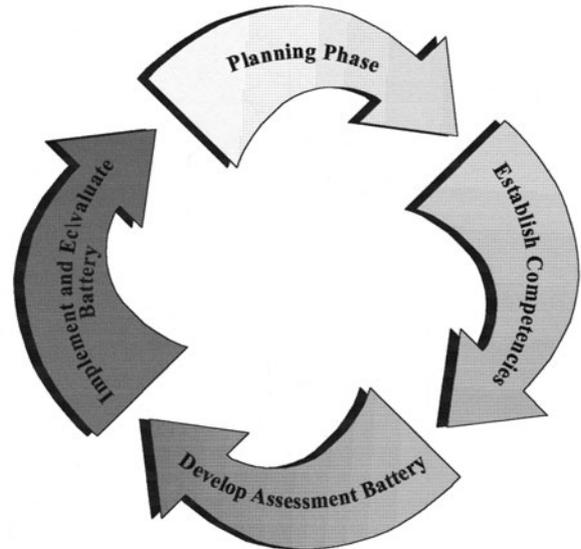


Figure 1: Designing a competency-based assessment battery.

Behaviourally-based interviews and multi-rater (360°) assessments, provide data on past behaviour when assessing a person. However, competency-based assessment offers an additional opportunity to analyse behaviour and isolate skills in current tasks in specific, context bound situations and provide a preview of how they will behave in future situations. It adds to our repertoire of assessment tools in the workplace.

Competency-based assessment is highly valuable within the South African context as it is directly job related, rather than assessing broader psychological constructs which then have to be linked to specific job requirements. To avoid an atomistic approach to the assessment, it is important that the various knowledge, skills and attributes are carefully integrated into a competency standard, that remains detailed enough for analysis and that includes a 'situational understanding' of actual work practice and the various contexts within which the performers of the profession or job are operating (Hager & Gonczi, 1994). Hager and Gonczi (1994) prescribed an integrated or "holistic" approach to competency-based assessment which must combine theory and practice. The competency standards upon which the assessment is based should be valid and must measure full occupational competence rather than isolated and fragmented skills.

According to Hager & Gonczi (1994), competency-based assessment must be seen as a process, rather than a single test or measure and the main approach of data gathering should be by means of systematic observation, using direct methods, rather than only paper-and-pencil tests. This integrated approach means that in most cases the assessment will include psychological constructs, (e.g. decision making, coping with stress and interpersonal skills) and for this reason the assessment remains within the ambit of the definition of a "psychological act" with all of its legal requirements and associated codes of professional and ethical conduct.

### Competency-based assessment methodology

Competency-based assessment is a specific assessment methodology that draws largely from assessment centre technology, from which many new techniques for innovative practice, such as the use of simulations as samples of behaviour, have evolved (Howard, 1997). Competency-based assessment was largely directed towards measuring managerial and supervisory competence from the 1950's until recently (Howard, 1997; Spangenberg, 1997). However, the use of this assessment is now more commonly used for non-management levels such as entry level brewery workers (Howard, 1997); postal clerks and sales representatives (Morrall, 1997); technical customer service staff (Le Roux & Sharp, 1999); medical and legal professionals (Cheetham & Chivers, 1996) and factory technical operators (Potgieter & Pannell, 2000).

Competency-based assessments are somewhat different to the full assessment centre, in that they are more streamlined (fewer methods of observation), less time consuming (normally no longer than a few hours in duration) and usually do not involve multiple observers. However, the competency-based assessment does provide a standardised set of activities that allow a judgement or prediction of human behaviour relevant to work in a particular context and may be group or individually oriented.

To avoid using a narrow evidence base, a mix of assessment tools may be used. As a general rule, Hager and Gonczi (1994) suggested that the methods of competency-based assessment should be the most direct and relevant ones available to measure the performance being assessed. For example, using a medical example, physical examinations could be used to determine competence with patient diagnosis and an oral test to determine ability to interpret a pathology report. While not a comprehensive list, the following are some of the methods of assessment (Schultz & Schultz, 1990; Meyer, 1996) that are specifically applicable to selection situations:

In **case studies** a complex problem, of the kind faced daily in that specific job, is presented to the candidates. They are then expected to familiarise themselves thoroughly with the case and could also be required to find additional relevant information. At a later stage each candidate must be prepared to advance and discuss an interpretation of, and solution to, the problem. The purpose of the case study method is to inter alia teach participants the ability to analyse and criticize their own assumptions and interpretations.

**In-basket exercises** present each applicant with an in-basket such as that found on virtually every office desk. It contains the typical problems, questions and directives related to the specific job. The applicants must process this material in a fixed period of time, that is, they must demonstrate how they would handle such questions and problems on the job.

**Job sample tests/Skills tests** are work samples that may include practical or pen and paper tests in which the applicant performs a task that forms a critical aspect of the job. The candidate is expected to be able to demonstrate competence in certain areas, since this provides evidence of his or her ability to carry out work to the required standard. These are often used to measure the extent of knowledge and may be a complement to a practical observation.

**Direct Observation** is where an assessment practitioner observes a person carrying out a particular task or work activity in a controlled or uncontrolled situation, making a formal or informal record of the observations (Aiken, 1994). The observation may be complemented by questions. This may include supervisor evaluations, practice/professional/internship or industrial experience.

**Oral and written tests** may be used as an adjunct to a practical test or where the person does not have sufficient literacy ability to deal with written questions or in circumstances where

re knowledge needs to be assessed by itself, unrelated to specific performance.

**Portfolios** are useful for assessing skills achieved in the past and are largely the responsibility of the person being assessed. These include log books, referees and records of achievements. Portfolios are a major method used in the workplace assessment context. This is also known as **evidence of prior learning**.

**Projects and assignments** may be used to assess ability to complete a task as an individual or in a working group.

**Questioning and demonstration** is a process where the abovementioned observation consists of a structured practical demonstration followed by administration of a set of questions relating to the process, behaviour and finished product of the person being assessed. Questioning techniques are especially useful in problem-based assessment.

**Simulation exercises** normally take the form of a **role play** during which an actual job, employee, customer and workplace situation is simulated - usually one where interpersonal skills and behaviours are critical. The candidate therefore must demonstrate his or her ability (by acting out or playing the role) to deal with an interpersonal situation which frequently occurs in the job (Turner, 1992). The **role-play** is a popular technique which is versatile and applicable for a variety of purposes (Balli, 1995). The role-plays used in competency-based assessment are usually structured, in that the developers of the role-play have predetermined the goals of the session, the responses of the role-player and the dimension to be assessed. The intention is to ascertain how the person being assessed might react under real job conditions and pressures. Computer and on-line simulations are emerging as a popular and time effective option, as the person being assessed is no longer geographically bound to a certain area.

**Trainability tests** are practical tests in which the candidate is taught or shown a critical task which is related to the job. The candidate has a chance to practice, and must then demonstrate his or her ability to learn the tasks associated with satisfactory performance on the job. Trainability tests therefore measure a person's level of natural aptitude, as well as their existing level of skill.

Many of the abovementioned methods can be combined together into a test battery where each test measures different competencies, while permitting comparison's of a person's performance in different areas (Aiken, 1994). Hager and Gonczi (1994) suggest that the criteria to measure the effectiveness of a competency-based assessment, are a) that the methods are linked to the performance being assessed, b) that product and process are included in the performance, c) that performance provides evidence of knowledge, skills and attitudes and d) that integrated assessments are used to cover different elements.

### Benefits and advantages of competency-based assessment

Competency-based assessments are aligned with the requirements of current South African labour legislation (i.e. Labour Relations Act; Employment Equity Act) in that applicants and employees are screened and evaluated only in terms of critical job-related competencies (Erasmus & Arumugan, 1997). Competency-based assessment is based on what people do in terms of actual job output and what is important to the job. It therefore cuts across cultural, gender and racial differences, perceptions, stereotypes and subjectivity (Fischer & Maritz, 1994). Competency-based assessment may also be perceived by individuals to have higher levels of inherent fairness as it focuses on behaviour and not personality or cultural factors. According to Kriek (2000), fairness in assessment is associated with value judgements operationalised in decisions or actions, that are based on test or assessment scores. The process of providing feedback to the client and testee may also be seen as less threa-

tening by focusing on behaviour and development, rather than personality.

According to Morrall (1997), the advantages of competency-based assessment includes the fact that apart from higher predictive validity, it also has a high face validity in that it has a direct bearing on important aspects of the job. Even more important in the South African context is that competency-based assessment may help prevent discrimination against candidates with skills, but not a high level of education. In the selection process it has also been found to be a useful tool in self-selection as the candidates are consciously aware of their ability or inability to complete the task.

### DESIGNING A COMPETENCY-BASED ASSESSMENT BATTERY

Many psychologists have not yet been exposed to training in the area of competency-based assessment, and it is for this reason that a need has been identified to provide a model which may be used to develop and use such an assessment tool. Much of the model is based on general psychometric test construction principles such as a quality job analysis, item development and evaluation of the psychometric properties of the battery. A full investigation of the extent, role of and requirements in respect of competency-based assessment, among South African organisations, is recommended as a future research area.

The process to design and develop an assessment battery to measure competencies is outlined in the model presented in Figure 1. The development of competency-based assessment is a new concept and this serves as a practical guide for practitioners by mapping out the various steps to follow when attempting such an exercise. Obviously, requirements for each battery will vary, depending on the job family or set of competencies being assessed. This model has been derived as a result of experience in developing numerous competency-based assessment batteries in practice and is rooted in the person-based approach (Nellmapius, 1996).

#### Step 1: Planning phase

All competency-based assessments are considered to be objective measures of behaviour, including the assessment of psychological constructs. This requires an in-depth knowledge of the principles involved in test construction, specifically job analysis techniques and the identification of competencies.

*Defining the purpose of a battery* is of utmost importance for the researcher and organisation, because it will impact directly on the construction of the battery and development of test items. The decision to construct or use a competency-based assessment process should be linked to the specific requirements of the client and the purpose for which the assessment will be used (e.g. selection, identification of development and training needs, performance appraisals etc.). At this stage, by thorough information gathering and relationship building among stakeholders in the organisation, you will be creating an increased level of fairness in the process, while establishing compliance within professional and legislative requirements such as the code of practice for psychological assessment in the workplace (Society for Industrial Psychology, 1998).

As with the development of any assessment instrument, the process of constructing and implementing a competency-based assessment is time consuming and this factor should always be considered when setting up a roll-out plan for implementing the project and should be clearly communicated as such to the client.

*The position or job family for which assessment is required should be clearly identified* so that that relevant job performance factors are built into the competency model. Face and content validity is also improved because the competency instrument represents only those factors that are important for a person to

successfully perform in a job in a specific organisation (Fischer & Maritz, 1994).

At this stage it becomes important to ask whether competency-based assessment is a relevant option, considering the advantages/disadvantages of competency-based assessment and the repertoire of other psychological evaluation methods.

#### Step 2: Establish competencies

The most important step in the whole process is that of *job analysis*. It is crucial that identified competencies accurately reflect the components of successful job performance. Job analysis typically focuses on clusters of job activities, tasks, responsibilities, duties, accountabilities, knowledge, skill and attribute requirements and any other criteria for successful job performance (Byars and Rue, 1991; Mirabile, 1997; Kriek, 2000, Spangenberg, 1997).

A variety of techniques have been used to collect primary data in South African research projects. As examples, the job analysis interview and the critical incident technique (Cock & James, 1998) were used in a cellular phone industry study, while a computerised work profiling system, observation and focus group techniques, were used for a technical operator assessment battery (Potgieter & Pannell, 2000) in the chemical and plastics manufacturing industry.

There are a number of models that can be used to develop the *preliminary competence profile* (McLagan, 1994; Cheetham & Chivers, 1996). Whatever approach is used, the information from the job analysis should be integrated into the profile, which then reflects the overall performance requirements in the job. In general, the competence profile rests on key areas such as functional, personal, cognitive and values/ethical competence (Cheetham & Chivers, 1997).

The profile usually consists of two broad sections:

- The output profile, which covers the actual work performed in the job. This consists of outputs provided by individuals (e.g. managed remuneration and incentives), suboutputs which consists of process steps used to achieve the output (e.g. establish competitive stance regarding remuneration levels) and detailed information regarding quality criteria, indicators and range statements related to the output (e.g. regional position is evaluated in terms of local and national trends; from basic salary to total remuneration package and incentives).
- The competency profile, which includes the underlying knowledge, skills and attitudes required to perform the outputs. Using a combination of approaches, the core, business application, interpersonal and underlying personal competencies, may be identified and classified in a competency matrix. The specific definition for each competency will also clarify the nature and complexity level of the competency. This will minimise the risk of differences in the way individuals perceive and interpret broad terms. For example, the competency 'computer skills', could have vastly differing meanings, applications and standards for a super-market till operator versus a computer programmer.

*A qualitative validation and adjustment of the competence profile* is then usually conducted and validators are required, by means of a structured set of questions, to assess the accuracy of information, make necessary changes and examine the competencies. It may be necessary to *identify and extract core competencies* out of the profile. By doing so the comprehensive list is refined and becomes more "manageable" because it allows the developer to identify and focus on those competencies that are critically linked to performance.

If the intended use of the competency-based assessment battery is that of selection, job specific competencies (that are only trainable on-the-job) can be excluded from the assessment for entry level positions. The selection tool therefore only focuses on assessing underpinning personal competencies that are critical to job performance and that the incumbent

is expected to bring as an input into the job. This provides more opportunities for selection of candidates with potential but no relevant experience. The process of refining core competencies may be conducted through questionnaires, focus group interventions and the use of statistics. A clustering technique may be used, where competencies are grouped into clusters which then encapsulate the essence of the competencies in that cluster (Goleman, 1998).

### Step 3. Develop assessment battery

The first stage in developing the assessment battery includes *deciding on the exercises* that are appropriate to measure the identified competencies and to clearly reflect the job related nature of the battery. Information from the job analysis (i.e. qualitative and critical incidents information), the competence profile and the core competency list are used. In structuring the exercise it is important to prevent role confusion by keeping the role played by the person to be assessed constant (see Figure 2).

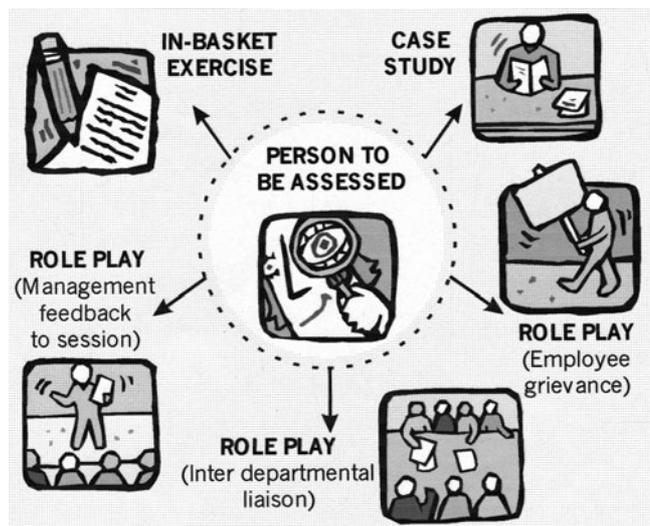


Figure 2: Structuring a competency-based assessment battery

The *assessment exercises* are structured around the events and data identified through the critical incident technique conducted in the job analysis interviews and should elicit behaviour required from the core competencies. This will ensure that the battery is relevant and job related. To ensure absolute consistency between raters, the *establishment of rating criteria* is essential. The use of Behaviourally Anchored Rating Scales (BARS) is recommended, because they measure specific behaviours that are critical to success or failure on the job, rather than in terms of general traits or attitudes.

The focus of BARS is on functional behaviour demonstrated on the job (Byars & Rue, 1991). The scales integrate various descriptions of behaviour that serve to anchor various scores on a scale. They are less subjective than numerical or other rating scales and allow for a more standardised and objective assessment process when using multiple raters. Finally a *pilot study* should be conducted so that all adjustments may be integrated into the competency-based assessment tool. At this stage, an item analysis will be useful in determining which items and exercises are most effective in measuring the competencies identified in the profile.

### Step 4: Implement and evaluate battery

It may be necessary to carefully select, *train and certify assessors* within the organisation to continue with the evaluation process. The use of qualified assessment practitioners (psychometrists or psychologists) who will be able to apply stringent standards of practice within a professional ethical code of conduct is important. Assessors' competencies should include:

- Thorough knowledge of the subject matter, credibility and

trust within the organisation, ability to give feedback in a positive and honest manner without being too critical, ability to put candidates at ease, ability to explain the process thoroughly, and being prepared to discuss performance openly.

Personal attributes should include:

- Being observant of verbal and non-verbal behaviour, good analytical skills, sensitive and empathetic communicator in a multicultural context.

The *collection of evaluation data* involves the collection of data such as the actual assessment scores, scoring by different raters and biographical information relating to testees. Other data that will need to be collected at this stage is data related to performance of the individual (e.g. 360° questionnaires; previous performance appraisal ratings or separately constructed leadership audits or BARS) that can be used as predictor criteria in the validation study.

When *establishing technical, equity and professional compliance*, the requirements of the Employment Equity Act and existing and revised professional standards make it imperative for researchers to complete this last difficult stage in the process. This includes establishing, by means of statistical and other techniques, whether the battery meets the requirements concerning validity (construct and criterion), reliability (internal consistency, test-retest and inter-rater) and cultural bias towards designated groups. Guidelines for the validation and use of assessment procedures for the workplace (Psychological Society of SA, 1998) is a useful tool to use in this process. The *final evaluation of the battery*, by means of a follow-up study, will determine whether the battery has met its original intention or purpose, within the organisation.

## CONCLUSION

This paper has attempted to establish a basic theoretical foundation for understanding competency-based assessment and to provide a process model which can be followed in the development of competency-based batteries. The process outlined provides only a general framework. Based upon the unique nature of the study being undertaken, or the specific application in industry, variations will of course be necessary.

Hopefully this will contribute to a greater understanding of the competency paradigm, particularly its ability to facilitate competitive employment practices and the upliftment and development of South Africa's multi-cultural human resource base.

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