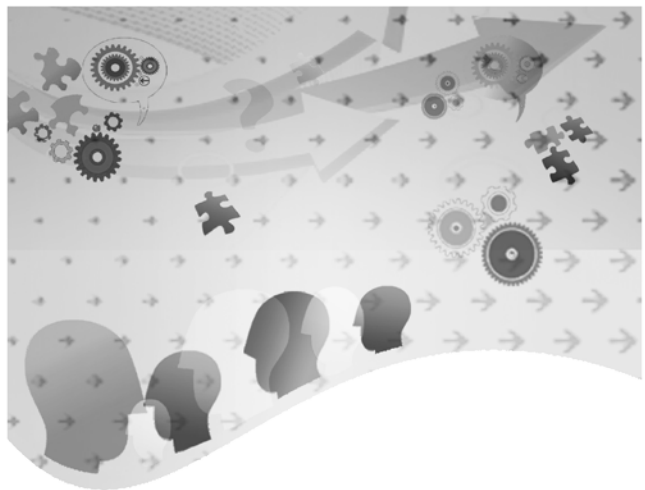
DEPARTMENT OF INDUSTRIAL AND ORGANISATIONAL PSYCHOLOGY



Industrial Psychology Assessment

Only study guide for IOP3701

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IMPORTANT INFORMATION

Please register your myUnisa and myLife e-mail addresses and ensure that you have regular access to the myUnisa module site IOP3701/17/S1 or IOP3701/17/S2 (depending on the semester for which you are registered) as well as your group site.

Contents

Dear IOP3701 (Industrial Psychological Assessment) Student

Welcome to this very exciting module. We know that you will find this module interesting and challenging, but also meaningful and enriching.

This module will enable you to develop a solid knowledge base and sound understanding of the theory of industrial psychological assessment and the practical implications thereof in the work context. This module involves lifelong learning on an individual and organisational level.

Employees have to be evaluated and placed so that the person-job fit is to the benefit of both the employee and the employer. Furthermore, continuing evaluation take place throughout a person's career in an effort to optimise both the employee's and the employer's development. Employees develop in the work environment through training, promotion and other activities. Industrial psychological assessment forms part of this ongoing evaluation and development process.

This document is divided into *three* parts:

The *first* part of this document will inform you about myUnisa, the official learning management system of the University of South Africa (UNISA).

The *second* part will guide you on what and how to study for this module.

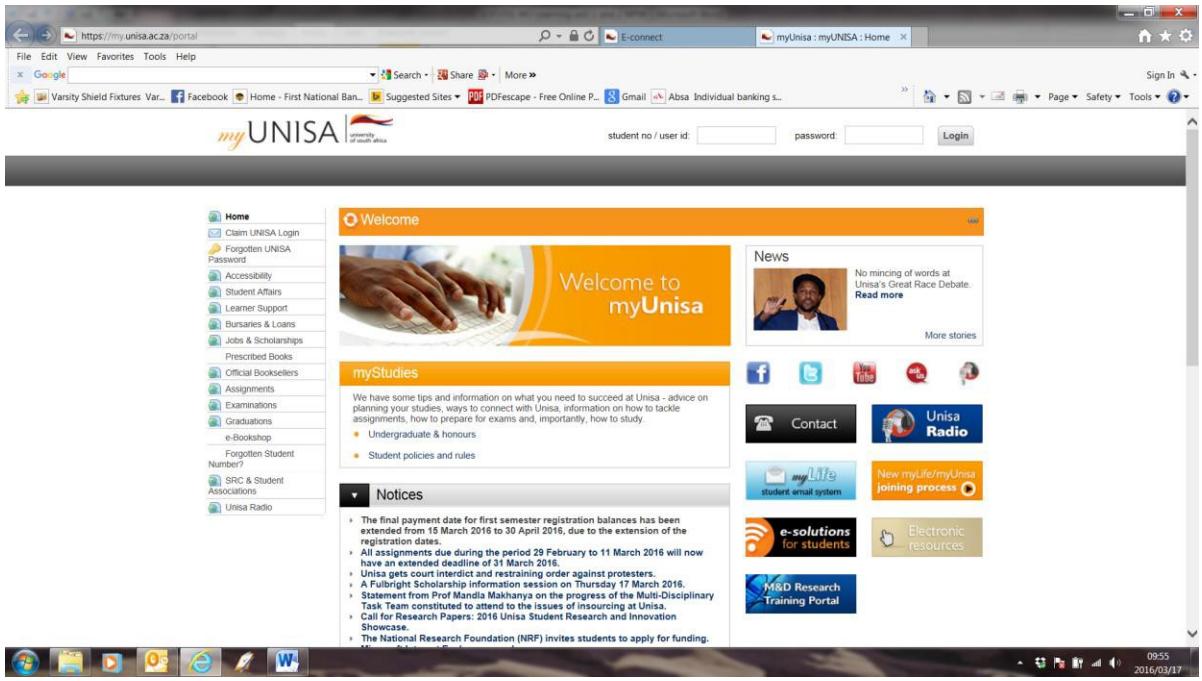
The *third* part guides you through the prescribed text book and supports you to master the content of this module.

PART 1: myUNISA

GOING ONLINE

As a registered Unisa student you will have access to the myUnisa electronic portal.

Search for Unisa online and there you will find a link to myUnisa. Save that link as you will be visiting it regularly.



Example 1: myUnisa electronic portal home page

From here you can access various online resources to assist you in your studies. Please ensure that you have activated your myLife e-mail address and familiarise yourself with the *my Studies @ Unisa* brochure and other guidelines.

You might also find the following links relating to studying online helpful:

my Studies @ Unisa (1)
http://www.youtube.com/watch?v=j6QZrRF2iVU&feature=related

my Studies @ Unisa (2): What does it mean to be an ODL student at Unisa?
http://www.youtube.com/watch?v=fgO_NcxduGg&feature=related

Get connected before you start to register on myUnisa
http://www.youtube.com/watch?v=MAGvmgdSkEk&feature=related

Once you have registered and have your myUnisa login details, you will have access to the module sites of all the modules you are registered for. Should you experience any difficulties with connecting to the site or any other technical problems, please contact myunisahelp@unisa.ac.za.

GETTING STARTED

We encourage you to set up your myLife account at https://my.unisa.ac.za/portal and join the online learning environment. Lecturers will communicate with you on your *myLife e-mail address* and therefore it is very important that you visit this account at least once a week.

Figure 1: myUnisa portal

USING THE NAVIGATION BAR AND myUNISA TOOLS

You can use the various navigation options to navigate the module sites you are enrolled for. These options are displayed on the left-hand side of the screen of all the sites. Click on the specific navigation option to open the page containing the information you are looking for. The first page you will see when you open any site is the home page.

Remember, from the IOP3701 home page, your lecturers are just one click away. We will follow a weekly schedule indicating what needs to be done for a specific week and thus the home page will be updated regularly.

myUNISA TOOLS

Here is an alphabetical list with explanations of other myUnisa tools for this module.

myUnisa tool	Explanation
Additional Resources	This tool allows you to access different types of resources relevant to your studies. It contains a number of folders with files, links, graphs and other information. These additional resources will support your learning, and new resources might be uploaded during the semester.

myUnisa tool	Explanation
Announcements	From time to time an announcement will alert you to important information. You will sometimes also receive an e-mail notification in this regard. In addition, the most recent announcements will be displayed on the home page.
Assignments	This tool allows you to submit assignments and monitor your assessment results. We will provide clear guidelines on the submission of assignments.
Discussion Forums	This tool is used mainly for interactive discussions and activities relating to the various topics and themes associated with the module. The forums and learning activities are created to assist and support you in mastering the learning outcomes. Participation in the discussions will also help you to be better prepared for the assignments and examinations.
FAQs (frequently-asked questions)	The FAQs tool provides questions and answers about the module. These are grouped in various categories ranging from assessment matters to technical issues. If you have any queries about the module, start by consulting the FAQs. Should you not find an answer to your question, you are most welcome to e-mail the lecturers.
Glossary	The Glossary tool allows you to access an alphabetical list of terms/terminology, usually specialised terms and their definitions, which are related to the module. In printed format, glossaries usually appear at the end of a book or sometimes at the end of chapters. By selecting the Glossary tool, you can easily access such a list of specialised terms and the accompanying explanations if you do not understand the meaning of the word or concept used in this discipline.
Learning Units	This tool is the one that you will use most often. Here you will find content supporting the learning outcomes. **Learning Units** also provide information on learning activities, assessments and links to other valuable resources.
Official Study Material	This tool allows you to access and download the official study material such as the tutorial letters.
Prescribed Books	This tool is used to display the prescribed books for the module. Foxcroft, C & Roodt, G. 2013. *An introduction to psychological assessment in the South African context* (4th ed). Cape Town: Oxford University Press Southern Africa.

myUnisa tool	Explanation
Schedule	This tool displays the dates of the compulsory assignments and examinations. The calendar on the home page will also display all the dates of the various learning activities captured in the schedule. To access the information on scheduled events, click on the date in the calendar (which will be highlighted and underlined if activities are scheduled for that day) or click on the **Schedule** tool in the navigation bar, which gives you the option to view the calendar by week, month or year. You can also use **Schedule** to help you plan and manage your time so that you can keep up with the various learning activities for this module. Unfortunately you will not be able to add or change **Schedule** entries.

PLANNING AND MANAGING YOUR TIME

Attempting to balance study, work, family life and extracurricular activities is a challenge requiring you to manage ever-increasing and competing demands. You therefore need to plan an appropriate schedule that will suit your individual needs and circumstances. Apart from the suggested study timetable (under **Learning Units,** "Overview"), and the due dates for assignments (under **Schedule**), we do not prescribe a study timetable. However, here are some recommendations which you may want to follow, due to the time constraints.

RECOMMENDATIONS

Browse through the module site	Take time to browse through the module site and familiarise yourself with the requirements and demands of the module. This will enable you to see the "big picture" of the whole module. The FAQs tool is a valuable resource and could be a useful starting point. Evaluate the demands, opportunities and challenges of your personal circumstances and determine how they relate to the assignment due dates and the other relevant learning activities you need to attend to. It may be a good idea to enter these dates in your personal diary immediately.
Compile a personal study timetable	Decide on strategies for planning ahead and compile your personal study timetable, and be disciplined in keeping to your schedule. Perhaps you could start with some preliminary reading and exploring the recommended material. The amount of information presented on the module site and the number of assignments to be completed may seem overwhelming at first, but do not be disheartened.

Approach your studies systematically	Work your way systematically through the various learning activities, reflective questions, and assignments based on them. Make sure that you meet all the requirements for the learning activities. Use the learning outcomes and assessment criteria, the supporting material and learning activities (stipulated in Learning Units) to give you a foundation for the knowledge and skills you need to develop. To help you approach your studies with confidence, you may find it helpful to start by browsing through the module site and to acquaint yourself with the learning outcomes and assessment criteria, the additional resources and learning units. The learning units are designed and developed in the form of manageable "chunks" to help you achieve the learning outcomes logically and systematically.
Contact your lecturers	Do not hesitate to contact us, your lecturers, if you experience any difficulties with any aspects of the module. You can contact us either via e-mail, telephone or the Discussions tool. Our contact details are available on the home page of the module site. Remember, help is just one click away.
Contact your peers	Please make regular contact with your peers (via Discussion forums). Engage with your fellow students to clarify and broaden your understanding of challenging concepts and themes. You will find that by participating in discussions and continuously reflecting on your learning, you will expand your knowledge base and develop new skills that you can apply in the workplace. Most students find these discussions with their lecturers or fellow students extremely useful when preparing their assignments.

DESCRIPTION OF ICONS USED IN THIS DOCUMENT

 Key concepts	Key concepts – highlights the areas that the learning unit will focus on.
 Reflection	Reflection – lists some aspects that you can reflect on with some interesting application information to think about.

 Activity	Activity – a practical application to enhance your learning.
 Case study	Case study – gives you some practical examples to ensure you understand the application of the content that you have mastered.

PARTICIPATING IN THE ONLINE LEARNING COMMUNITY

If you have taken online courses before, you may know how to participate in online environments. However, if this is the first time, you may want to know how to communicate in cyberspace. An important issue of online communities is how people relate to each other. As you know, the internet (or cyberspace) has its own culture and conventions for e- mails, social networks, and more formal online environments, such as myUnisa, our educational learning management system.

When communicating electronically, people often forget that the person on the receiving end is someone with feelings, facial expressions, gestures, and a unique tone of voice. Without being able to observe these communication cues, it is quite possible to misinterpret participants' meaning – in the case of online communication meaning is usually conveyed by written words only. Because online communication tends to be less personal, it would be a good idea to familiarise yourself with the guidelines on netiquette (social codes/etiquette for the internet, available at http://www.albion.com/netiquette/corerules. html). These guidelines will be useful for participating in online discussions, for example by explaining how to address one another and making sure that you "know what you are talking about and make sense" (see rule 5).

Please note that when participating in the online discussions, we strongly recommend that you direct your responses to your lecturers and fellow students by **addressing them** at the opening of your response. Also, when you end your contribution, **sign off by using your name** (or title and surname). This will serve as an indication of how you would like your lecturers and fellow students to address you.

We urge you to make an effort and commit to following these guidelines to ensure that your communication and actions online are respectful. Remember to always include the **module code** and your **student number** to ensure quick and correct responses.

Frequently-asked questions (FAQs)

Tutorial letters

Question 1: What information does the tutorial letters contain?	**Answer:** Tutorial letters contain important information about the content, resources and assignments for this module. We urge you to read them carefully and to keep them at hand when working through the study material, preparing the assignments, preparing for the examination and addressing questions to your lecturers. More specifically, in Tutorial Letter **IOP3701/101/2017** you will find the assignments and assessment criteria as well as instructions on the preparation and submission of the assignments. This tutorial letter also provides all the information you need about the study material, other resources, and how to obtain it. Tutorial Letter **IOP3701/201/2017** contains feedback on Assignments 01 and 02; while Tutorial Letter **IOPALLA/301/2017** contains important information which applies to **all students** registered in the Department of Industrial and Organisational Psychology. Right from the start, we would like to point out that you **must read all the tutorial letters** you receive during the semester, as they always contain important and sometimes urgent information. Please make sure that you work through the tutorial letters **before** you embark on any work in the study material or assessment tasks.
Question 2: Will I receive all my tutorial material when I register?	**Answer:** Please note that **not** all of your tutorial material may be available when you register. Tutorial material that is not available when you register, will be posted to you as soon as possible. **Please note:** It is not possible to fax outstanding tutorial letters to students. It is, however, possible to download them from the

	module site under the tools **Official Study Material** and **Additional Resources**. It is therefore to your benefit to register as an online student so that you can access and obtain your study material immediately. As Tutorial Letter **IOP3701/201/2017** contains feedback on Assignments 01 and 02 you will only receive or be able to access it a few weeks after the closing date of Assignment 02.

Student support services

Question 1: Whom should I contact regarding *administrative* queries?	**Answer:** All administrative enquiries in the Department of Industrial and Organisational Psychology should be directed to the departmental helpdesk: **E-mail address**: DeptIOP@unisa.ac.za **Tel:** +27 (0)12 429 8033 or +27 (0)12 429 8054
Question 2: Whom should I contact regarding *academic* queries?	**Answer:** All queries about the **content** of this module (IOP3701) should be directed to your lecturers. Telephone calls can be made during office hours. Lengthy problems should rather be dealt with by e-mail. You are welcome to visit your lecturers at their offices on the Muckleneuk Campus, but please make an appointment beforehand. Appointments should be made **at least three days in advance.** The lecturers cannot guarantee that they will be able to attend to you if you arrive at the Department of Industrial and Organisational Psychology without an appointment.

Question 3: What support can I expect from my lecturers?	**Answer:** Your lecturers will use the home page to post regular messages to guide you through the semester. Furthermore, you will receive regular announcements to draw your attention to important learning events and assessment tasks. We have also prepared supporting learning resources and various discussion forums and topics which you will be able to access through myUnisa. You can thus expect regular communication from us (your lecturers). Remember, help is just one click away.
Question 4: What resources will I be able to access via myUnisa?	**Answer:** We realise that as a distance education student, you cannot always visit the **library** when you are searching for information. Therefore we have included online resources on our module site which you can access at any time. On this site, you will find the following material: • electronic copies of the MO and tutorial letters (under **Official Study Material**) • a direct link to the Unisa library (from the menu bar on the left of your module site) • summaries of discussion forums (in the relevant forums)
Question 5: What other support services are available regarding general student matters?	**Answer:** If you need to contact the University about matters unrelated to the content of this module, please consult the publication *my Studies @ Unisa* that you received with your study material. This booklet contains information on how to contact the University (e.g. to whom you can write for different queries, important telephone and fax numbers, addresses, and details of the times that certain facilities are open). Always provide your **name**, **student number** and **module code** when you contact the University.
Question 6: Are there any study groups for this module?	**Answer:** There are no official study groups for this module.

	However, we strongly recommend that you form your own study groups with fellow students living in your area. To form study groups, you can share your contact details with your fellow students in the **Discussion Forum**. Contact students who live near to you and invite them to form a study group.
Question 7: I am disabled, what support is there for me?	**Answer:** Please contact the Advocacy and Resource Centre for Students with Disabilities (ARCSWiD) **E-mail address**: zmgolomb@unisa.ac.za **Tel:** +27 (0)12 429 3829 or fax +27 (0)12 429 6729

Online learning

Question 1: Is it easier to learn online than through print-based material?	**Answer:** No. The course content of an online class is usually identical to that of a print-based distance learning course on the same topic. Compared to regular face-to-face classes, some people think the workload is even more demanding, because you have to be a **self-directed** learner and **stay motivated** to keep on top of your work. The most successful online students tend to share the following characteristics: • They are self-motivated and self-starters. • They have good organisational and time-management skills. • They are fairly familiar with computers and the internet. • They are resourceful and actively seek answers and solutions to questions and problems.
Question 2: What are the benefits of learning online?	**Answer:** In the online world you can study *anytime*, *anywhere* and at a *pace* that suits your individual learning style. Remember, though, that you will still have to meet the required deadlines for assignment submissions.

Question 3: What computer skills would be useful for online learning?	**Answer:** **The most successful students tend to have the following skills**: • familiarity with their web browser • familiarity with an e-mail program (including attaching documents and reading attachments) • some familiarity with web-based interactions like e-mail, social networks, and learning management systems • familiarity with word processing (MS Word) • experience in successful internet searches by using a variety of browsers and search engines
Question 4: How important is attitude to achieve success in my studies and in an online learning environment?	**Answer:** Your attitude is **the most important** factor to ensure success. We know that you are interested in becoming an industrial psychologist and psychological assessment otherwise you would not have enrolled for this module. We want to encourage you to develop a **positive attitude** towards your studies and the online learning environment. To achieve this, there are a number of things to bear in mind. **TIME** is important for a distance education student. You must be in control of your time and manage it effectively. Draw up a study programme at the beginning of the semester. This requires discipline, but will ensure that you • have sufficient time to work through all the relevant study material • are able to submit the relevant tasks and assignments on the due dates • have sufficient time for revision and preparing for the assignments and examination We encourage you to follow these guidelines: • Do NOT fall behind in your planning. • Work regularly and consistently. • Make sure that you understand the work as you go along. • Do NOT give up on difficult work; rather seek help as soon as possible.

	Contact the **Directorate for Counselling and Career Development** (counselling@unisa.ac.za) for further information on how to manage your studies. We hope that this information will make your studies easier, and that you will do well.
Question 5: How should I approach my online learning?	**Answer:** We all have different learning styles and preferences. However, consider the following pointers/guidelines: • Allocate *time to work* through each learning unit and do the activities. • Allow *extra time* for work that seems difficult or with which you know you have a problem. • When you compile a *study plan*, allow time for personal responsibilities (e.g. family responsibilities, work obligations, social obligations, leave). • Use your *most productive* time for study (e.g. late evening after the children have gone to bed or early morning before the rest of the family wake up). • Remember that it is more effective to study for one hour on a *regular* basis (e.g. every day) than for ten consecutive hours every two weeks. Decide **now** how many hours you are going to spend on your studies per week. We recommend that you put one to two hours aside each *day*. • Keep a record of your progress. It will be gratifying to see what you have accomplished, and it will inspire you if you fall behind. Be prepared for disruptions to your study programme due to unforeseen circumstances. You should therefore *monitor your progress* so that you can catch up immediately if you fall behind. Remember that it is easier to catch up one week's lost hours than an entire month's.

Technical issues related to myUnisa

Question 1: How do I create a new topic in the Discussion Forum?	**Answer:** To create a new topic in a forum, you need to do the following: ☐ Select and access the **Discussion Forum** tool. ☐ Select the option "Add a New Topic". ☐ Give your topic a **descriptive name** in the "Topic Title" box. ☐ In the "Message" box, write down the instructions for the discussion. ☐ Click "Submit" to create your topic for discussion.
Question 2: What is expected of me when I participate in discussion forums?	**Answer:** Online discussion forums are there for you to have discussions with your fellow students (like a chat room). It is not the same as e-mail messages or a letter to the lecturer. Therefore, the myUnisa discussion forums must not be used for personal messages to your lecturers – please e-mail lecturers directly if you need quick responses to your questions. In this module, we will also be using the online discussion forum for academic purposes. Therefore, the discussions will be based on topics related to module outcomes, the assessments, and the supporting content. Online discussion forums are like class discussions in a face-to-face classroom, where the lecturers raise discussion points and ask questions. All the students can then respond to the lecturer's questions as well as to one another's responses. The lecturer can then clarify uncertainties and perhaps provide a summary at the end of a discussion. Participating in discussion forums provides opportunities to • discuss and clarify issues in the subject area • share experiences and ideas with peers and lecturers • solve problems collaboratively • debate topical issues • raise questions about the topic under discussion • introduce the most recent developments in the subject area

	• receive immediate feedback on assignments • have access to additional resources related to relevant topics in this subject/discipline

Assignments

Question 1: How do I submit my assignments?	**Answer:** Refer to Tutorial Letter 101. You can submit assignments electronically via myUnisa, at your regional office, or by registered mail. ***YOU MAY NOT E-MAIL YOUR ASSIGNMENT TO YOUR LECTURER.*** It is highly recommended that you submit your assignment online via myUnisa, so that the system can capture it.
Question 2: Will I be penalised if I submit my assignment late?	**Answer:** Yes. No late submissions are accepted.

Examination

Question 1: Any tips for the examination?	**Answer:** Yes – work hard throughout the semester and you will pass.
Question 2: Are there any past examination papers?	**Answer:** Yes previous examination papers will be uploaded under the **Official Study Material** link. The lecturer will not give you the memorandums of the past papers.

	Please take note: You will not pass if you only study past examination papers, because questions are not repeated. Working out a past paper will only provide you with the skill to answer an examination paper.
Question 3: What is the examination scope?	**Answer:** There is no examination scope. The content of this module is not only relevant for the examination, but it is also *very important* when you are planning to register as a psychometrist with the HPCSA (Health Professions Council of South Africa). Therefore, you need to master the content of this module.

GLOSSARY

Please go to the **Glossary** tool on myUnisa to see a list of terms/concepts that are used in this module, which have been translated into English-Afrikaans-Northern Sotho-Zulu. A pdf copy of the glossary is also uploaded under **Additional Resources**.

CLOSING REMARKS

Familiarise yourself with the online environment before the module commences in February 2017. We look forward to witnessing your progress at a personal and professional level during the year. It is truly a pleasure having you as a student, and we would like to take this opportunity to wish you success with your studies!

Your lecturers for IOP3701

PART 2: WHAT AND HOW TO STUDY FOR IOP3701

This module will enable you to develop a solid knowledge base and sound understanding of the theory of industrial psychological assessment and the practical implications in the work context. Industrial psychology is about the psychology of people in the work context. Industrial psychological assessment is the process of looking at people and their characteristics and trying to find the optimal or correct match between a person and a job. Psychological measures/instruments provide us with information about individuals that we cannot necessarily obtain from everyday observation or interaction with them. Industrial psychological assessment is mostly used to select candidates to employ, place, train and promote or to make various work-related decisions about them.

Employees have to be evaluated and placed so that the person-job fit is to the benefit of both the employee and the employer. Furthermore, continuing evaluation should be done throughout a person's career in an effort to optimise both the employee's and employer's development. Employees should develop in the work environment through training, promotion and other developmental activities. Industrial psychological assessment forms part of this ongoing evaluation and development process.

By learning about the important theoretical and psychometric principles, you will be able to evaluate psychological measures/instruments and techniques used in organisations for selection and development purposes. You will realise that all employees are subjected to psychological assessment at least once in their career. Employees are evaluated and placed so that the person-job fit is to the benefit of both the employee and the employer. Furthermore, continuing psychological assessments are done to optimise development (e.g. training and promotion) in the work environment.

HOW TO STUDY FOR THIS MODULE

This document was developed specifically for IOP3701 and you should therefore *use it* to work through the content of the text book. Many paragraphs in the text book are giving the context, explanations and some background to industrial psychological assessment. Many of these paragraphs are *not important for the examination* and therefore we have not discussed them in this document and you may read through them only for *interest* sake.

LEARNING ASSUMED TO BE IN PLACE

Before we start with the content of this module it is important that you ensure that you have mastered the following:

- knowledge of basic statistical concepts (covered in IOP2601)

LEARNING UNITS

We will use the learning units and this document to direct you through the various important sections in the text book. Please visit the module site regularly to keep up to date with all the learning activities, summaries and additional practical examples. We will also regularly be posting some example examination questions!

Do not hesitate to contact us by means of e-mail or the **Discussion Forum** link, or by paying us a visit at our offices at the Muckleneuk Campus in Pretoria. If you wish to visit us on campus, please remember to make an appointment beforehand.

We hope you share our enthusiasm for this field of study and we wish you only the best in your progress towards becoming a registered industrial psychologist.

Your lecturers for IOP3701

Dr Sonja Grobler
Dr Nomfusi Bekwa

PURPOSE OF THE MODULE

The purpose of learning in this module is to develop a solid knowledge base and sound understanding of the theory and practice of industrial psychological assessment in the organisational context. This module has been structured around six topics. You will find that practical application was incorporated, by including conversations between people actively working in the field. The purpose was to stimulate both your interest and critical thinking abilities. Above all, we would like you to use the theoretical grounding provided to develop your critical thinking skills and your ability to apply the material covered in this module in practice.

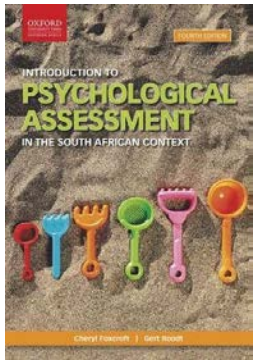
This module is intended for all people who are pursuing a career in the field of industrial and organisational psychology, including practitioners in the field of human resource management. As lecturers our aim is to equip you to do your honours degree in industrial and organisational psychology and to be able to register as a psychometrist, and ultimately to complete your master's degree and register as an industrial psychologist at the HPCSA.

The qualifying student will be able to do the following:

- Judge the appropriateness of assessment measures/instruments and industrial psychological assessment practices in terms of the contextual and technical (psychometric) requirements.
- Identify appropriate assessment measures/instruments for obtaining specific information (a given purpose) and for the correct application in terms of individual, groups or organisation assessments.
- Identify the steps needed to develop psychological measures/instruments and be able to describe the process of and need for item analysis. Furthermore, the students will be able to explain the different types of validity and reliability and to discuss procedures for improving the quality of psychological measures/instruments for the purpose of understanding the process and the required standards against which psychological measures/instruments need to be evaluated.
- Understand the importance of contextual variables (assessment conditions, examiner and examinee variables), as well as the legal and ethical guidelines governing psychological assessment practices for the purpose of evaluating the appropriateness of practical assessment situations.
- Know the different kinds of psychological measures/instruments, their theoretical underpinnings, under which conditions they provide relevant information and how information from different psychological measures/instruments can and should be combined.

To be successful in this module, you will be required to attain a thorough understanding of the theoretical background and context of psychological assessment. Besides the theoretical knowledge, you are furthermore also expected to be able to show some practical application of the concepts and ideas covered in this module. In order to achieve this, you are required to follow the reading, tasks and activities set out in Tutorial Letter **IOP3701/101/2017**, this document, as well as your prescribed book.

PRESCRIBED TEXTBOOK FOR THIS MODULE



Foxcroft, C & Roodt, G. 2013. *An introduction to psychological assessment in the South African context* (4th ed). Cape Town: Oxford University Press Southern Africa.

Layout of the module

Topic 1: Industrial psychological assessment in context	**Learning unit 1**: An overview of industrial psychological assessment	**Text book part 1:** Foundation zone	**Text book chapter 1:** An overview of assessment: definition and scope
Topic 2: History of industrial psychological assessment	**Learning unit 2**: Background to industrial psychological assessment		**Text book chapter 2:** Psychological assessment: a brief retrospective overview
Topic 3: Technical and methodological principles	**Learning unit 3**: Basic concepts, reliability and validity **Learning unit 4**: Developing a psychological instrument **Learning unit 5**: Cross-cultural assessment		**Text book chapter 3:** Basic measurement and scaling concepts **Text book chapter 4:** Reliability: basic concepts and measures **Text book chapter 5:** Validity: basic concepts and measures **Text book chapter 6:** Developing a psychological measure **Text book chapter 7:** Cross-cultural test adaptation, translation and tests in multiple languages

Topic 4: Industrial psychological assessment in practice	**Learning unit 6**: Using psychological instruments	**Text book part 2:** Assessment practice zone	**Text book chapter 8:** The practice of psychological assessment: controlling the use of measures, competing values and ethical practice standards **Text book chapter 9:** Administering psychological assessment measures
Topic 5: Types of industrial psychological assessments	**Learning unit 7**: Assessment of cognitive functioning **Learning unit 8**: Measures of affective behaviour, adjustment and well-being **Learning unit 9**: Personality assessment **Learning unit 10**: Career counselling assessment	**Text book part 3:** Types of measure zone	**Text book chapter 10:** Assessment of cognitive functioning **Text book chapter 11:** Measures of well-being **Text book chapter 12:** Personality assessment **Text book chapter 13:** Career counselling assessment **Text book chapter 14:** Computer-based and internet-delivered assessment
Topic 6: Contextual use of industrial psychological assessment results	**Learning unit 11**: Uses of assessment results **Learning unit 12**: Interpreting and reporting assessment results **Learning unit 13**: Factors affecting assessment results **Learning unit 14**: The future of psychological assessment	**Text book part 4:** Assessment practice zone	**Text book chapter 15:** The use of assessment measures in various applied contexts **Text book chapter 16:** Interpreting and reporting assessment results **Text book chapter 17:** Factors affecting assessment results **Text book chapter 18:** What the future holds for psychological assessment

Learning outcomes and assessment criteria

Explain the contextual and technical requirements for industrial psychological assessment.	• Definitions related to industrial psychological assessment are provided. • Concepts and terms used in the field are discussed in detail. • The need for industrial psychological assessment in making decisions in the workplace is critically evaluated, motivated and explained in detail. • Industrial psychological assessments are critically discussed in terms of the requirements and impact of the Employment Equity Act (EEA) (Act 55 of 1998). • Validity, reliability and norms are critically discussed in relation to their definitions, different types, how they are obtained and their contribution towards fair and equitable industrial psychological assessment.
Describe the different types of instruments and reasonably argue about their appropriateness for specific purposes in group or individual assessments.	• Different types of psychological instruments that are typically used in the industry are identified and critically discussed. • The theoretical foundation of instruments are explained and critically reviewed to determine how they were constructed and the kind of information they should provide. • Well-rounded arguments are provided to explain the suitability of certain types of instruments in the assessment of persons for particular positions. • Group and individual assessments of ability are critically compared and evaluated in terms of their differences. • Typical challenges with ability assessment that need to be considered, with specific reference to the South African context, are critically discussed. • The evaluation of the utility of an instrument for a particular situation is described in detail.

Outline the steps in the development of instruments and motivate the importance and impact of each step.	• Key factors and challenges that need to be considered when developing a new instrument within the South African context are identified. • The process of instrument development is explained in detail and each step of the process is justified. • The difference between norm-referenced and domain-referenced instruments is explained in detail. • The meaning, importance and implications of item analysis are critically discussed. • Key factors that can be used to assess whether an instrument has been constructed correctly are critically discussed.
Critically discuss the importance of contextual variables (assessment conditions, assessor variables, person being assessed variables) as well as the legal and ethical guidelines governing industrial psychological assessment practices.	• The importance of ethical standards in the assessment field is discussed critically in line with ensuring good assessment practices. • The impact of assessor, situational and test-taker variables on the assessment process and assessment results are discussed in detail. • The contribution of legal and ethical guidelines to good practice in the field of industrial psychological assessment is explained. • Factors in the assessment situation that may affect results are identified. • The importance of standardisation of assessment conditions and procedures is explained.

Suggested schedule

Semester 1 [Semester 2]	Learning unit
30 Jan – 3 Feb [17 Jul – 21 Jul]	Registration closes: Buy the prescribed book and read through all your study material; familiarise yourself with the myUnisa environment
6 Feb – 10 Feb [24 Jul – 28 Jul]	**Topic 1:** Industrial psychological assessment in context **Learning unit 1**: An overview of assessment
13 Feb – 17 Feb [31 Jul – 4 Aug]	**Topic 2**: History of industrial psychological assessment **Learning unit 2**: Background to industrial psychological assessment
20 Feb – 24 Feb [7 Aug – 11 Aug]	**Topic 3**: Technical and methodological principles **Learning unit 3**: Basic concepts, reliability and validity **Learning unit 4**: Developing a psychological measure/instrument **Learning unit 5**: Cross-cultural assessments
27 Feb – 3 Mar [14 Aug – 18 Aug]	**Topic 4**: Industrial psychological assessment in practice **Learning unit 6**: Using psychological instruments
6 Mar – 10 Mar [21 Aug – 25 Aug]	**Topic 5**: Types of industrial psychological assessments **Learning unit 7**: Assessment of cognitive functioning **Learning unit 8**: Measures of affective behaviour, adjustment and well-being **Learning unit 9**: Personality assessment **Learning unit 10**: Career counselling assessment
13 Mar – 17 Mar [28 Aug – 1 Sep]	Use this week to finalise Assignment 01 which should be submitted on **15 March [30 August].**
20 Mar – 24 Mar [4 Sep – 8 Sep]	**Topic 6**: Contextual use of industrial psychological assessment results **Learning unit 11**: Uses of industrial psychological assessment results **Learning unit 12**: Interpreting and reporting assessment results
27 Mar – 31 Mar [11 Sep – 15 Sep]	**Learning unit 13**: Factors affecting assessment results
3 Apr – 7 Apr [18 Sep – 22 Sep]	**Learning unit 14**: The future of psychological assessment
10 Apr – 14 Apr [25 Sep – 29 Sep]	Use this week to finalise Assignment 02 which should be submitted on **12 April [22 September]**
17 Apr – 21 April [2 Oct – 6 Oct]	Use this time to do revision and complete Assignment 03
Prepare for the examination	

PART 3: MODULE CONTENT

TOPIC 1: INDUSTRIAL PSYCHOLOGICAL ASSESSMENT IN CONTEXT

TOPIC 1: INDUSTRIAL PSYCHOLOGICAL ASSESSMENT IN CONTEXT
Learning unit 1: Overview of industrial psychological assessment

Chapter 1 of Foxcroft and Roodt (2013)

 Key concepts	• Job analysis/description/specification • Psychological tools/measures/instruments/scales/predictors • Psychological assessment/procedure/technique • Assessment battery • Competency-based

1.1 INTRODUCTION

Throughout this module, keep in mind the context and the scientific, professional, ethical and legal requirements that should be adhered to whenever industrial psychological assessments are done. This learning unit will look at the basic terms used in this module as well as job analysis which is the basis of industrial psychological assessments.

1.2 DIFFERENT TERMS

Work through section 1.2 (Foxcroft & Roodt, 2013) and ensure that you can distinguish between different terms used in industrial psychological assessment, for example an assessment measure, an assessment battery, a competency-based assessment and a psychological assessment. The characteristics of assessment instruments/measures highlight that psychological assessment is an objective, standardised method to gather data for a specific purpose.

Table 1.1: Overview of the different terms

Assessment measure	Assessment battery	Competency-based assessment	Psychological assessment
• All these are important and interlinked terms and activities of industrial psychological assessment			
Tool/instrument/tests	Collection of measures	Type of assessment	Type of assessment
Scientific, objective and standardised tool used to gather information	Different instruments **combined** to assess different competencies	Focus on the skills, behaviours, knowledge and attitudes/values required for effective performance in the workplace	Process-orientated activity aimed at gathering information by using psychological assessment instruments
Specific domains of behaviour are sampled from which inferences and predictions can be made	Broader understanding of behaviour/functioning	Assessment measures **linked** to the required competencies performed by experts in the area of assessment (from job analysis and competency-based interviews	Expertise in psychology and psychological theories to ensure ethical and fair assessment of cognitive, aptitude and personality – from choice of instrument through to interpretation and feedback

(Foxcroft & Roodt, 2013)

1.3 MULTIDIMENSIONAL ASSESSMENT

When you read section 1.3.2 (Foxcroft & Roodt, 2013), take note of the cautionary tone taken about assessment results. This is important to keep in mind and provides context to the reason the assessment process is multidimensional. Table 1.1 (Foxcroft & Roodt, 2013, p.7) summarises the assessment process as a multidimensional information gathering activity. Make sure you understand the aspect of multidimensionality and why this is important in psychological assessment procedures.

1.4 JOB ANALYSIS

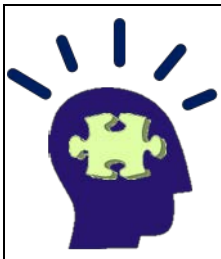
Have you ever looked through the ‘‘job opportunities’’ section in the newspaper or online? I am sure that you have and that you have read the requirements for different positions with some interest. Work takes up a fairly large proportion of our daily lives and it is important that we find the type of work that suit our temperament, interests and abilities so that we will enjoy fulfilling our work responsibilities. It is quite possible that at some time you have read advertisements for positions that are quite different from your own, but which interested you. You may have wondered about or investigated the requirements for a job to assess whether you could consider applying for the position. Then again, you may also have read the advertisement for a position and felt relieved that it was not your job. You will agree that some positions are easier

to describe and also to fill. Various factors, such as personality, cognitive ability, skills and experience, are important when a person and a position have to be matched. There is an entire process to be followed and various factors that need to be considered when filling a position. The advertisement for a particular position is only one aspect of that process.

What is the first task an industrial psychologist/personnel manager or similar subject specialist must do before the company

- can place an advertisement for a vacant position?
- can select a person for the job?
- train the newly appointed employee?

They need to draft the job descriptions of the positions that they want to advertise. The process of identifying and describing the criteria that will be written in the job description for effective job performance is known as **JOB ANALYSIS.**

 Activity	Think about your own job (or that of your parents if you are not employed), try to identify and list the skills, knowledge, interests and abilities needed to perform well in that specific position.

You may have gathered that for industrial psychological assessment in the work context the starting point is that the job must be described. To ensure fair and equitable assessment, it is important that a clear understanding exists of what a particular job entails. This is referred to as a job analysis, which consists of a job description and a job specification. The job description indicates the tasks that need to be done in that job, while the job specification refers to specific characteristics required of a person to perform well in that particular job. A thorough job description is provided so that we know exactly what a job entails and what the person in that position should be able to do before we start looking for the right person to fill the position.

The latter seems quite logical and would cover some of the following points:

- What are the requirements of the job?
- What must the job incumbent be able to do?
- What competencies (cognitive abilities/skills/personality/interests) are required to perform the job efficiently?
- What education or qualifications are required?
- What previous training or on-the-job training is required?

One of the instruments used for job analysis is known as the position analysis questionnaire (PAQ) which was developed by McCormick and associates.

Case study

Look at the following example and see if the importance of a thorough job analysis is clear to you.

Background

In a small family-owned business, the director appointed his daughter-in-law as the PRO (public relations officer) for the company. His reasons for appointing her were:

- She had told him, based on having completed a short questionnaire in a popular women's magazine, that she had good interpersonal skills.
- She was very enthusiastic about the job.
- She was certain that she could learn about those aspects of the job that she was not formally trained in.

Outcome – complaints after three months

- She has been short-tempered with important clients and flares up when under stress.
- She much prefers working alone at her computer to interacting with clients and staff.
- She is hesitant to make contact with potential new clients.
- She has had difficulty managing the public relations budget – thereby placing undue constraints on work activities.

1.5 SUMMARY

In this learning unit you were guided through chapter 1 of Foxcroft and Roodt (2013). The various concepts used in industrial psychological assessment as well as the multidimensionality thereof were highlighted. Job analysis as an essential basis for fair assessments was emphasised.

Reflection

Make sure that you are able to critically analyse any job and provide a job description and job specification. Evaluate whether it provides the necessary information to enable people doing the recruitment to find the right person to fill the position.

TOPIC 2: HISTORY OF INDUSTRIAL PSYCHOLOGICAL ASSESSMENT

TOPIC 2: HISTORY OF INDUSTRIAL PSYCHOLOGICAL ASSESSMENT
Learning unit 2: Background to industrial psychological assessment

Chapter 2 of Foxcroft and Roodt (2013)

 Key concepts	• Employment Equity Act (EEA) (Act 55 of 1998) • Psychometric properties • Fairness • Bias • Standardisation

2.1 INTRODUCTION

This learning unit focuses on the legal framework for industrial psychological assessments. The different requirements stated in the legislation are essential elements of this module. In order to understand industrial psychological assessments we need to first look at the history thereof.

2.2 HISTORY OF INDUSTRIAL PSYCHOLOGICAL ASSESSMENT

The history of psychological measures/instrument development makes fascinating reading, with drama, intrigue and intense debate often surfacing. Psychological assessment and particularly cognitive ability assessments have always been contentious issues, not so much the assessment aspect, but the way in which the results have been interpreted and often misused for non-scientific purposes. We will just touch briefly on the history of psychological assessment, but if you are interested you may consult some sources that provide more detailed information. For example, sources such as Anastasi and Urbina (1997), Gregory (2007) and Moerdyk (2013). More information is also given in sections 2.1 to 2.3 in chapter 2 of Foxcroft and Roodt (2013).

In addition to being interesting, it is also necessary to know something about the history of the development of psychological measures/instruments. It emphasises the influence of history on psychological measures/instrument development and creates an awareness of the difficulties involved (2.3.3 measurement challenges) (Foxcroft & Roodt, 2013). It also sensitises us to the consequences (positive and negative) of assessments.

2.3 PSYCHOLOGICAL ASSESSMENT DEVELOPMENT IN SOUTH AFRICA

(Section 2.4.4.2 in Foxcroft and Roodt 2013)

Historical events have shaped measurement/instrument development both internationally and locally. In South Africa, the 1990s and the early years of the 21st century have been particularly eventful politically, educationally and socially.

The last part of chapter 2 of the prescribed book in particular deals with aspects related to historical influences on industrial psychological assessment from a South African perspective (Foxcroft & Roodt, 2013).

Measurement/instrument development in South Africa has been uniquely influenced by historical events. The Employment Equity Act (EEA) (Act 55 of 1998) is a prime example of how the unique South African context has impacted on guidelines for psychological measures/ instrument development and use. Industrial psychologists should be familiar with both the international and national history of psychological assessment as this will help them to understand how and why measures/instruments were developed to address specific problems.

2.3.1 FAIR AND EQUITABLE ASSESSMENT

The Health Professions Council of South Africa (HPCSA) is mandated to protect the public and guide psychologists in the use of psychological measures/instruments. Negative views of assessment and/or their results are usually a result of the misuse of psychological instruments rather than because they are intrinsically bad.

Within the South African context we need to consider chapter 2, section 8 of the Employment Equity Act (EEA) (Act 55 of 1998) that was promulgated in 1998 and amended in 2014 (uploaded under **Additional Resources**).

The EEA addresses psychological assessment in chapter 2, section 8, stating that psychological testing and other similar assessments of an employee are prohibited unless the psychological measures/instruments that is being used

i. **has been scientifically shown to be valid and reliable**
ii. **can be applied fairly to all employees**
iii. **is not biased against any employee or group**
iv. **has been certified by the HPCSA established by Section 2 of the Health Professions Act, 1974 (56 of 1974), or any other body which may be authorised by law to certify those tests or assessments**

<u>PLEASE NOTE:</u> It is very important that you mention all these requirements whenever you answer a question on the EEA.

Many people initially incorrectly interpreted this section of the EEA as indicating that psychological assessments are not allowed. Remember, however, that any selection strategy should be measured against these criteria and, given that, even the use of something like a standard interview may be questioned. One ‘‘fair’’ way to handle applications could be to allocate numbers sequentially to all applicants and then randomly select a number and have that person fill the particular position. The names could also be placed in a box and one name drawn for a particular position. It is quite clear, however, that this procedure would not work well. Although it is statistically ‘‘random’’, it is not operationally fair. The process of fitting the correct person to the correct position is not a simple matter.

What the EEA entails is that whenever psychological assessments are done (any type of assessment), there are certain requirements that these assessments needs to adhere to. This influences how we evaluate assessment techniques before using them for selection and/or development. This module will enable you to assess psychological measures/instruments/ procedures in a knowledgeable and scientific manner. Industrial and organisational psychologists only use **scientific** instruments to obtain information that can assist in decision making and at the same time take the context into consideration when the information at hand is interpreted. This requires a thorough theoretical knowledge base, experience and a particular skill that we will teach you in this module.

The EEA requires assessment measures/instruments to be reliable, valid, non-bias and fairly applied and certified by the Health Professions Council of South Africa (HPCSA). Let's look at these requirements (psychometric properties) separately.

Reliability: The *consistency* with which the instrument measures. This will be covered in learning unit 3.

Validity: The instrument measures the construct that it is *supposed* to measure. This will be covered in learning unit 3.

Bias: Bias is a *statistical* concept and can be investigated in an objective and scientific manner.

Fairness: Fairness is a *value judgment* and is considered to be differently perceived by different individuals.

Fairness can be ensured by following the professional and ethical guidelines (HPCSA form 223) and ensuring that psychological measures/instruments are constructed according to accepted scientific psychometric principles.

The first step and main emphasis in the decision-making process is a thorough job analysis – to know exactly what the job entails and what qualities, characteristics, qualification and experience are required to be successful in the job.

It is important to also list specific requirements that are often not stated, but only come out when certain candidates cannot be considered for a particular position. It helps if there is clarity about exactly what the stated and unstated requirements are. Think, for instance, of a person who has a physical disability or a job where specific physical characteristics (operations) may be required.

The next step includes fair procedures for making decisions. This entails well thought through and justifiable procedures for job description, advertisements and all further steps incorporated in the decision-making process.

- Evaluate and justify (minimum) requirements in formal education, prior learning, relevant experience, training, skills and knowledge.
- Decide which psychological measures/instruments or measurement techniques are suitable to use for the specific job requirements.
- Use scientific, professional and ethical guidelines to evaluate the procedures to be used.
- Monitor outcomes for fairness and adverse impact.
- Take steps to ensure equity and fairness for future opportunities.

You will realise that the decisions to be made is not always clear-cut and some decisions may even be very difficult to make.

We do consider it very important that you think about these issues. Base your arguments on the technical, psychometric, ethical and academic contents of the module. The diversity of possible arguments does not allow detailed feedback here. However, we can reassure you that there is definitely a place for the use of psychological instruments in the work context.

We cannot escape the fact that decisions about selection, placement, promotion and training have to be made regularly in any organisation. Scientifically developed measures, like psychological instruments, for instance, usually have better reliability (consistency of measurement) and validity (applicable prediction for a particular purpose) and, as such, can be used with greater confidence, provided that they comply with certain scientific, technical and ethical requirements. In the course work of this module, you will learn how to evaluate assessment procedures and instruments to ensure fair and equitable assessment practices in South Africa.

2.4 COMPETENCY- BASED ASSESSMENT

(Section 2.3.5 in Foxcroft and Roodt 2013)

The psychological measures/instruments focus directly on the competencies (skills, behaviours, knowledge and attitudes/values) required for effective performance in a specific position in the workplace. It is important that the psychological assessment report link directly with the language of the workplace.

Case study

Look at the following example and see if you can identify and list the competencies required for optimal performance in this specific position.

- The IOP-MINCO group is looking for a highly skilled, motivated and professional person as personal assistant (PA) to the chief executive officer (CEO). Applicants should be professional and assertive and must be able to work under pressure to meet deadlines and manage the office of the CEO. The duties also include filing and retrieval of documents, responsibility for all appointments and managing the diary of the CEO, secretarial duties, taking minutes at meetings convened by the CEO as well as assisting the CEO to reflect a positive image of the company in dealing with the public.
- Applicants should have appropriate qualifications as well as three years' experience in a relevant field. Secretarial skills, including office management, computer literacy, public relations, awareness of human rights issues, writing skills and a pleasant personality are further requirements.

A typical selection process will consist of the following steps:

- job analysis
- advertisement
- application form

- screening
- interview
- assessment
- reference check
- decision

 Activity	Look again at the case study above where you identified competencies for a PA for the CEO of IOP-MINCO. Group these competencies and identify industrial psychological instruments/techniques that can be used to measure these competencies. For example, detail orientation is needed for the filing and retrieval of documents. Detail orientation and abstract reasoning can be measured with cognitive instruments such as the Ravens.

2.5 TYPES OF MEASURES/INSTRUMENTS DEVELOPED

This section reviews the different types of measures/instruments developed over time as discussed in section 2.4 of Foxcroft and Roodt (2013).

In the industry, we can use a single measure/instrument, or combine various in a battery if more information is required for our purposes (keep multidimensionality in mind). The practical situation determines the measures/instruments to be used for assessment. Group assessments are often given preference over individual assessments because they are more time and cost-effective. When specialised skills and aptitudes are required, achievement and aptitude measures/instruments can be used effectively, while in some cases the assessment of personality is considered of prime importance. A full battery of measures/instruments (multidimensionality) is usually administered to assist industrial psychologists (and ultimately management) to make informed, valid and fair decisions.

2.6 SUMMARY

In this learning unit we focussed on the legal framework for industrial psychological assessments. Make sure that you understand the different requirements stated in the legislation. In order to understand industrial psychological assessments we also looked at the history thereof.

 *Reflection*	Is the EEA adequate to regulate and guide fair assessment?

TOPIC 3: TECHNICAL AND METHODOLOGICAL PRINCIPLES

TOPIC 3: TECHNICAL AND METHODOLOGICAL PRINCIPLES
Learning unit 3: Basic concepts, reliability and validity
Learning unit 4: Developing a psychological instrument Learning unit 5: Cross-cultural assessment

Chapter 3, 4 and 5 of Foxcroft and Roodt (2013)

 *Key concepts*	• Statistical concepts • Properties of measurement scales • Types of measurement scales • Norms • Reliability • Validity

3.1 INTRODUCTION

Various requirements were mentioned in the Employment Equity Act (EEA) (Act 55 of 1998) (previous learning unit), which will be further explained in this learning unit. This is a very important learning unit as it contains some statistical concepts, properties of measurement scales, descriptions of validity and reliability and the necessity to use norms when administering industrial psychological assessments.

3.2 STATISTICAL KNOWLEDGE FOR ASSESSMENT THEORY

Many Industrial and Organisational psychology students have some dislike or fear of numbers, formulas and calculations. Your first reaction on reading the above heading was probably:

Oh no – statistics again☹

Don't despair — we are not going to take you through a curriculum of statistics and research methodology again! After all, you have passed a course in research methodology/statistics already (IOP2601). We will only refresh your memory on the statistical concepts needed for this module. By the end of this module you will also understand why it is necessary to have some understanding of statistics to master the field of industrial psychological assessment.

Assessment theory/psychometric theory are the theoretical basis of psychological measurement which you must know and understand before you learn anything about psychological instruments, measures, questionnaires and other assessment techniques.

You will not be required to do any computations using a calculator or computer. The emphasis is on understanding and being able to interpret the results of statistical analyses.

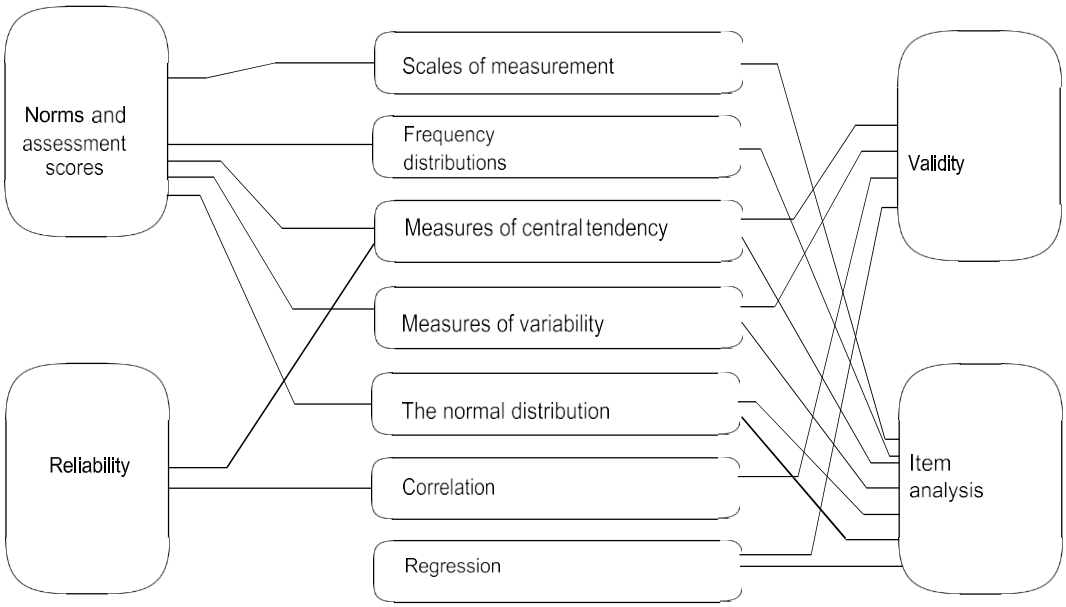


Figure 1: Links between statistical concepts and psychometric theory

3.3 LEVELS OF MEASUREMENT

(Section 3.2 Foxcroft and Roodt, 2013)

Before looking at some statistical concepts again, let's refresh your memory on the topic of ''scales of measurement''. Measurement is the assignment of numbers to characteristics, or, put another way, the transformation of qualities of attributes into numbers. In psychometrics there are numerous systems by which we assign numbers. In fact, this module on industrial psychological assessment is all about the study of measurement systems.

Next we will revise the

- three properties of measurement scales
- four types of measurement scales

3.3.1 PROPERTIES OF MEASUREMENT SCALES

There are three properties that enable us to distinguish between different scales of measurement, namely magnitude, equal intervals and absolute zero.

i. Magnitude

Magnitude is the property of ''**moreness**'' (**M**agnitude – **M**oreness). A scale has the property of magnitude if we can say that one attribute is more than, less than or equal to another attribute.

Height has the **property of magnitude**. We can say that one person is taller or shorter than another; but we cannot say that a soccer or rugby player whose jersey displays a higher number on the back is more important or does more work than a player with a lower number. The numbers on players' sportswear are used only to label or identify their playing positions.

ii. Equal intervals

A scale possesses the property of **equal intervals** if there is a **uniform/equal difference** between all points on that scale.

If we take the example of length, this would mean that the difference between six and eight centimetres on a ruler is the same as the difference between 10 and 12 centimetres. In both instances, the difference is exactly two centimetres.

Strongly disagree	Disagree	Unsure	Agree	Strongly agree
1	2	3	4	5

A psychological rating scale such as the one above represents equal intervals. In all instances the interval between the numeric scores is exactly one. However, there is some debate about whether the subjective interpretation of different individuals of the different categories is exactly the same in terms of the strength of the agreement or disagreement indicated. What we mean here is that one person's "Agree" may be considered similar to another's "Strongly Agree" since the interpretation of the strength of agreement it takes to move from "Agree" to "Strongly Agree" may differ from individual to individual.

PLEASE NOTE that there is evidence that a psychological instrument *rarely* has the property of equal intervals. For example, the difference between IQs of 50 and 55 does not mean the same thing as the difference between 105 and 110. The difference of five points at the lower level does not mean the same thing in terms of intelligence as the difference in five points at the higher level.

iii. Absolute zero

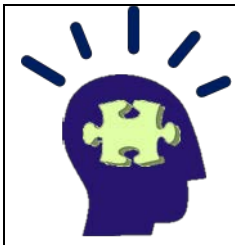
Absolute 0 is obtained when there is **absolutely nothing** of the attribute being measured. If we take the example of length again, 0 centimetres means that there is no distance. So length possesses the property of absolute 0. By the same token, if we are measuring wind velocity and we get a 0 reading, we would say that there is no wind blowing at all.

In the case of many human attributes, it is *extremely difficult*, if not *impossible*, to define an absolute zero point. For example, if we measure verbal ability on a scale of 0 to 10, we could hardly say that a 0 score means that the person has no verbal aptitude at all. There could be a level of aptitude that the particular scale does not measure; there could be no such thing as 0 aptitudes.

3.3.2 TYPES OF MEASUREMENT SCALES

i. Nominal scales

Nominal scales are not really scales at all because they are not scaled along a dimension and do not have any of the properties of measurement scales. The numbers are used only to **label** or **identify** items or variables. Nominal scales are often used for the purpose of **classification** — that is, to categorise individuals.

 Activity	Think of an example where numbers are used to label variables/objects/things.

Example: Gender.

When we code gender as 1 = male and 2 = female in a data set, we have a nominal scale. For nominal variables, the number attached to a specific category has no meaning. We may just as well have used 1 = female and 2 = male. The number of categories will vary according to the variable. For gender we would use two categories, whereas for home language in the South African context, we would use 11 categories. In certain cases you as the researcher can decide how many categories to create. For example, for age, one could use different categories.

Two examples would be:

- Younger than 20
- 20–29
- 30–39
- 40–49
- 50–59
- 60 and older

OR

- Younger than 25
- Between 25 and 50
- Older than 50

The decision on how to organise the categories will be determined by the context and requirements of a particular project. It is, however, important that you should be able to motivate the choice of categories.

ii. Ordinal scales

These scales order people, objects or events along some continuum. They have the property of magnitude only.

 Activity	Think of an example where numbers are used to order people, objects or events.

Example: Achievement position.

In individual sports events, such as athletics, swimming and motorcar racing, the winner is ranked 1, the second person 2, and so on up to the last position. The numeric value indicates the rank position, but does not indicate the magnitude of difference between them. The person ranked 1 may have finished a second, a minute or an hour before the one ranked second. The rank order would not indicate that.

A psychological instrument example would be IQ assessments. Why? They do have the property of magnitude, but not the properties of equal intervals (the difference between an IQ of 75 and 90 does not have the same meaning as the difference between an IQ of 115 and 130) and absolute zero (there is no such thing as no intelligence).

iii. Interval scales

Interval scales have the properties of magnitude and equal intervals. This means that the size of the differences between values can be interpreted.

 Activity	Think of an example where numbers are used to differentiate between the values of things.

Example: Temperature.

Magnitude: 308C is warmer than 258C. Equal intervals: the difference between 48C and 108C is the same as the difference between 308C and 368C. Note that 08C is only the temperature at which water freezes, it doesn't represent ''no temperature''. When the thermometer has a negative reading, some aspect of heat is still being measured.

iv. Ratio scales

Measurement scales that have all three properties (magnitude, equal intervals and absolute zero) are ratio scales. They have true zero points and ratios are meaningful.

 Activity	Can you think of any psychometric example? No, because none of the characteristics that were being measured with assessments (such as intelligence or aptitude) or with questionnaires (such as personality or interest) have a true zero point.

Example: Speed.

The point where there is no speed at all is 0 km/h. Driving at 120 km/h on a highway is twice the speed of 60 km/h in city areas, 55 km/h is half the speed of 110 km/h.

Summary table of properties of measurement scales and types of measurement scales

	Properties		
Type of scale	**Magnitude**	**Equal interval**	**Absolute 0**
Nominal	No	No	No
Ordinal	Yes	No	No
Interval	Yes	Yes	No
Ratio	Yes	Yes	Yes

3.4 BASIC STATISTICAL CONCEPTS

Now let us briefly review some statistical concepts. Remember, we are just refreshing your memory here. If what follows now is not clear, consult the research methodology/statistics (IOP2601) course material.

3.4.1 REGRESSION AND CORRELATION

Essentially, **regression has to do with prediction**. Initially, information is gathered about two sets of variables. These scores can be plotted in a scatter diagram and the correlation (relationship) between the two variables can be determined. If there is a high positive correlation between an instrument and a criterion, the score can be used to predict the criterion score. These predictions are obtained from the regression line, which is the best fitting straight (linear) line through the data points in a scatter diagram.

Regression analysis always involves one criterion variable. Simple regression implies that you have only one predictor variable, while we talk about multiple regression when we have two or more predictor variables.

The regression equation (formula for the regression line) for simple regression is

$$Y' = bX + a$$

The symbol Y^3 represents the predicted Y-score (the criterion). The regression coefficient is designated by b. This is the slope of the regression line, which is how much change in Y is expected each time the X-score (the predictor) increases by one unit. The intercept *o is the value of Y when X is zero. An interesting fact is that the means for the two variables will always fall on the regression line.*

The equation for multiple regressions with three predictors is

$$Y^3 ¼ b_1X_1 þ b_2X_2 þ b_3X_3 þ b_0$$

where X_1; X_2; X_3 = Predictors 1, 2, 3

b_1; b_2; b_3 = Weights of the predictors

b_0 = Intercept (i.e. the *o in simple regression)*

	Turn to section 3.5 of Foxcroft and Roodt (2013) and read these sections attentively to refresh your knowledge of basic statistical concepts.

3.4.2 NORMS

(Section 3.5 of Foxcroft & Roodt, 2013)

A ***norm*** is a measurement against which the individual's raw score is evaluated so that *the individual's position relative* to that of the normative sample can be determined. ***Raw scores*** which test takers obtain on psychological measures have *little or no meaning on their own*. In order to make the interpretation more meaningful, these raw scores are *converted to normal scores* through statistical transformation. By *comparing* an individual's test score to that of a similar group of people (norm group) the individual's score can be more meaningfully interpreted. It is important to determine if the norm group or standardised sample is representative of the candidates that you are testing.

Norms give meaning to test scores - they make it possible to make comparisons between individuals (and groups).

Additional information:

The most commonly used norm scores are developmental scales, percentiles, standard scores and the deviation IQ scale. The choice of a norm score for a newly developed measure depends mainly on personal preference. The most commonly used norm scores are also interrelated, and provided they meet certain statistical requirements, each of these can be converted to any of the others.

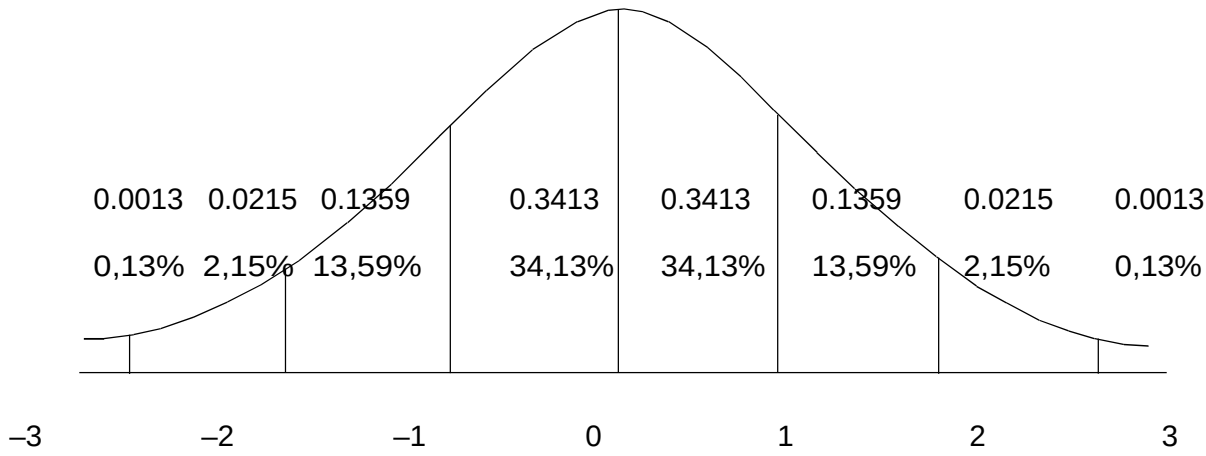
Note and study the different kinds of norms described in section 3.6.4.1 of Foxcroft and Roodt (2013).

The normal curve percentages are given in table 3.1.

TABLE 3.1

Normal curve percentages for the sten scale

Sten	1	2	3	4	5	6	7	8	9	10
Percentage	2	5	9	15	19	19	15	9	5	2



When reading the previous section, you should have realised the importance of comparable scale units. Keep in mind that the comparability of assessment scores also depends on the instrument's content and the composition of groups from which the norms were derived. Norms can be derived from large samples representative of broadly defined populations (e.g. mechanised jobs in the mining industry); from more narrowly defined subgroups (e.g. rock- cutter operator) or from a local setting (e.g. mechanical job at a single mine), depending on the purpose of the psychological instrument.

Activity

If you were told that an individual had obtained a score of 80 on a test – what would your interpretation be?

(1) Good score
(2) Low score
(3) Not enough information

If 80 were out of 300, I suppose it would be seen as a low score, but if 80 was out of 100, you will agree that it is a good score. However even though 80/300 is a low score, if others (similar to the individual) taking the same test obtained 25/300 and below, then the score can be interpreted as good in comparison to the group. Similarly, a score of 80/100 is good but in comparison to a group (similar to the individual) that got 95/100 and above, the score can be seen as low. Can you see how important the performance of the group is when you interpret an individual's score?

3.4.3 THE CORRELATION COEFFICIENT

It is important that you understand the concept of correlation coefficient and, specifically, the Pearson product-moment correlation coefficient (section 3.5.4 of Foxcroft & Roodt, 2013) to acquire a good grasp of the study material on reliability, validity and item analysis.

3.5 RELIABILITY

Reliability (Chapter 4 of Foxcroft & Roodt, 2013) can be defined as the consistency with which the instrument measures.

The reliability of a psychological instrument is expressed by means of the reliability coefficient, which is a correlation coefficient. Generally standardised instruments should have reliabilities in the 0.80s or 0.90s. Huysamen (1996) highlighted that reliability coefficients should be 0.85 or higher if instruments are used to make decisions about individuals, while they may only be 0.65 or higher for decisions about groups. According to Smit (1996), standardised personality and interest questionnaires should have reliability coefficients of 0.80 to 0.85, while those of aptitude instruments should be 0.90 or higher.

3.5.1 TYPES OF RELIABILITY

Now turn your attention to the various types of reliability. To learn about the types of reliability, study section 4.2.2 in Foxcroft and Roodt (2013). It is essential that you understand how the reliability types differ from each other, when each type is best applied and the different coefficients related to each type of reliability.

3.5.2 FACTORS AFFECTING RELIABILITY

There are a few factors that affect reliability. Speed plays a role in determining assessment scores and can therefore affect the reliability of the psychological instrument. The variability and composition of samples could also affect the reliability of an instrument. These factors or aspects are the topic of this section.

	Study section 4.2.3 in Foxcroft and Roodt (2013). Make sure that you understand the concept ‘‘restricted range of scores’’.

3.5.3 INTERPRETATION OF RELIABILITY

To fully understand reliability you need to understand what is meant by the standard error of measurement (SEM). Some authors also refer to the standard measurement error (SME). The standard error of measurement influences the interpretation of the reliability coefficient in terms of the reasonable limits within which they are likely to vary.

Study section 4.2.4 in Foxcroft and Roodt (2013) to find out what standard of error of measurement implies.

 Activity	i. If a psychological instrument has an SD of 9 and a reliability of 0.88, what would the SEM be? What does this mean in practical terms? ii. Also see if you can answer the following questions: • What is the difference between a speed and a power assessment? • What is the impact of a speeded assessment on the reliability of the psychological instrument? • How do you obtain the reliability of a highly speeded assessment? • How do the variability and composition of samples affect the size of the reliability coefficient?

3.5.4 RELIABILITY AND MASTERY ASSESSMENT

Domain-referenced assessments are designed to measure how well an individual has mastered certain skills and knowledge after training.

After you've studied this topic in section 4.2.4.3 in Foxcroft and Roodt (2013), identify a position where mastery assessment is applicable and justify your choice.

 Reflection	**REVIEW OF RELIABILITY** Make sure you • Can explain what reliability is? • Know the different types of reliability and when to apply it? • Can tell someone in your own words what standard error of measurement is?

3.6 VALIDITY

Remember that, as mentioned in learning unit 2, the Employment Equity Act (EEA) (Act 55 of 1998) requires that any selection instrument must be valid. Validity is covered in chapter 5 of Foxcroft and Roodt (2013).

Validity is concerned with what the psychological instrument measures and how well it measures. The psychological instrument measures what it is supposed to measure and not something else.

3.6.1 TYPES OF ASSESSMENT VALIDATION PROCEDURES

Study the definition of validity (Foxcroft & Roodt, 2009 section 5.2.1) and think about the concept of validity and the different types of validity (section 5.2.2).

3.6.2 TYPES OF VALIDITY

3.6.2.1 Content

Make sure that you know what content validity is by studying section 5.2.2.1 in Foxcroft and Roodt (2013). Note the application of content validity in industrial psychology since there are references to job samples and job analysis.

If you look at the name of an instrument and evaluate the questions/items that have been included in that instrument, are you convinced that the types of question included do

indeed measure the construct indicated? What you have just done is called ‘‘face validity’’ — the evaluation of the appropriateness of the content of a psychological instrument by someone who is not necessarily an instrument developer or subject expert. If you were a subject expert for the particular domain assessed, you could also have evaluated these instruments for content validity — that is, whether the content of the instrument fully covers the important areas of the domain being measured.

3.6.2.2 Construct

Take note of the various methods that can be used to determine the construct validity of psychological instruments when you study section 5.2.2.2 in Foxcroft and Roodt (2013). See if you can come up with industrial psychological applications, especially for factor analysis and convergent and discriminant validity.

3.6.2.3 Criterion

You will find all the information you need to understand what criterion- prediction validation procedures are all about in Foxcroft and Roodt (2013) in section 5.2.2.3. Take note of the industrial psychological relevance here: performance in specialised training and job performance are specifically mentioned under ‘‘criterion measures’’.

3.6.3 VALIDITY COEFFICIENT AND STANDARD ERROR OF ESTIMATE

A validity coefficient, like a reliability coefficient, is also a correlation coefficient. But, as with reliability you might ask: What factors affect the magnitude of the validity coefficient? How high must a validity coefficient be for the instrument to be acceptable as a selection instrument?

	Study section 5.2.5 in Foxcroft and Roodt (2013) and ensure that you understand the magnitude of the validity coefficient as well as factors influencing the validity coefficient. The standard error of estimate is discussed in 5.2.5.4 (Foxcroft and Roodt, 2013).

 Reflection	**REVIEW OF VALIDITY** Make sure you • Can explain what validity is? • Know the different types of validity and when to apply it? • Can tell someone in your own words what standard error of estimate is?

3.7 SUMMARY

This Learning unit covered the technical and methodological principles that form the basis of psychological assessment. Reliability, validity and norms are important psychometric properties to consider when scientifically evaluating a psychological instrument. Definitions for these concepts are provided in Chapters 3, 4 and 5 of Foxcroft and Roodt (2013).

TOPIC 3: TECHNICAL AND METHODOLOGICAL PRINCIPLES
Learning unit 3: Basic concepts, reliability and validity
Learning unit 4: Developing a psychological instrument
Learning unit 5: Cross-cultural assessment

Chapter 6 of Foxcroft and Roodt (2013)

 *Key concepts*	☐ Item analysis ☐ Item difficulty ☐ Item discrimination ☐ Cross validation ☐ Norm referenced ☐ Domain referenced

4.1 INTRODUCTION

The Employment Equity Act (EEA) (Act 55 of 1998) sets requirements that industrial psychological assessments should adhere to. These requirements need to be kept in mind throughout the development process. Classical Test Theory (CTT) (6.2.4.1) and Item Response Theory (IRT) are different approaches used to investigate each item that is included in the psychological instrument. Item analysis is the last subject of the technical and methodological principles.

4.2 STEPS IN DEVELOPING A PSYCHOLOGICAL INSTRUMENT

The development of a psychological instrument to measure an attribute requires careful planning.

Foxcroft and Roodt (2013) Table 6.1 provides a detailed breakdown of the steps involved in the development of a measure. Study the sections describing these steps thoroughly. As you are working through these steps you will notice that it is not difficult to understand until you reach the item analysis phase. We will discuss this phase in more detail to assist your understanding thereof.

4.2.1 ITEM ANALYSIS PHASE

You need to understand the two statistical approaches that can be followed to analyse the items included in a new instrument/measure that is developed.

Classical test theory (CTT) (6.2.4.1) and Item response theory (IRT) (6.2.4.3) determine the item difficulty and item discrimination power and you need to understand what these concepts are (difficulty and discrimination value) and how these theories differ.

4.2.2 ITEM DIFFICULTY

The first item analysis index to be considered is item difficulty (*p*).

Learn what item difficulty is, and how it relates to differentiation in assessment scores.

4.2.3 ITEM DISCRIMINATION

Now that you know what item difficulty is, let us turn our attention to the second item analysis index, namely item discrimination. Learn what item discrimination is and how it influences the validity of the instrument.

4.2.4 ITEM RESPONSE THEORY (IRT)

IRT represents an important development in the modern-day psychometrics. We provide a nontechnical introduction to this statistically complex approach to item analysis. Study section 6.2.4.3 of Foxcroft and Roodt (2013) for an overview of IRT.

4.3 CROSS-VALIDATION

No psychological instrument is ever ''perfect'' after one administration to a group or sample of the target population. It is essential to apply the new version compiled after an item analysis to another representative normative sample.

You should be able to explain the use and importance of cross-validation in instrument construction. You should also know that you can minimise the shrinkage in validity that takes place when an instrument is cross-validated.

4.4 STATISTICAL ANALYSIS OF BIAS

The important concept of bias implies that there is systematic error in measurement so that the instrument is not valid because of differences scores for subgroups in the target population.

You will recall that the Employment Equity Act (EEA) (Act 55 of 1998) also refers to bias in its guidelines for psychological testing and other similar assessments. In South Africa the issue of bias and fairness is of particular importance, and it is therefore very important that these aspects should be considered and addressed during instrument development. The next learning unit will investigate the factors that influence cross cultural assessments and further discussions will be made on bias.

The Psychological Society of South Africa (2005) published a document *Guidelines for the validation and use of assessment procedures for the workplace*, which sets the standard for sound personnel selection practices locally. A review of this document will certainly increase your understanding of many of the practical issues of instrument validation and fairness.

4.5 SUMMARY

Various challenges and factors to be considered were identified in this learning unit. You need to understand and know the different steps to consider when developing a new psychological instrument. Furthermore you need to understand the two approaches to developing a valid and reliable instrument

TOPIC 3: TECHNICAL AND METHODOLOGICAL PRINCIPLES
Learning unit 3: Basic concepts, reliability and validity
Learning unit 4: Developing a psychological instrument
Learning unit 5: Cross-cultural assessment

Chapter 7 of Foxcroft and Roodt (2013)

 Key concepts	• Adaptation • Translation • Item response theory • Differential item functioning

5.1 INTRODUCTION

South Africa's multicultural population makes this a very important topic of assessment in the South African context. We refer you once again to the Employment Equity Act (EEA) (Act 55 of 1998) EEA and its guidelines because it clearly also addresses the cross-cultural aspects of psychological assessment in the South African context.

Study chapter 7 of Foxcroft and Roodt (2013) very carefully, keeping in mind the prescriptions of the Employment Equity Act (EEA) (Act 55 of 1998) as discussed in learning unit 2.

5.2 ADAPTING AND TRANSLATING PSYCHOLOGICAL INSTRUMENTS

(Section 7.2 in Foxcroft and Roodt, 2013)

You need to differentiate between translating psychological measures and adapting psychological measures and the reasons for each of these processes. Aspects that need to be considered when psychological instruments/measures are adapted (section 7.3 in Foxcroft & Roodt, 2013) will enhance your understanding of the overall context within which industrial psychological instruments/measures are administered.

5.3 BIAS ANALYSIS AND DIFFERENTIAL ITEM FUNCTIONING (DIF)

Study section 7.4 and 7.5 in Foxcroft and Roodt (2013) where bias and equivalence are discussed as a design to adapt measures.

Both bias analysis and DIF are complex issues which offer no fixed solutions or ready-made answers. You are just expected to have a general understanding of these issues. If you are able to explain to someone in layman's terms what these concepts mean and why we need to use such information in instrument development and use, then your understanding is probably adequate.

5.4 CRITICAL APPROACH TO ASSESSMENT

This concludes your study of the topic "Technical and methodological principles". We just want to add a few concluding remarks.

 Reflection	The subject material presented in Learning units 3 to 5 should have given you a greater understanding of the instrument construction and development process than you had before. • Have you ever given much thought to norm scores? • Did you realise the importance and implications of reliability and validity? • Did Learning unit 4 make you aware of the laboriousness of generating suitable items for a psychological instrument?

Any standardised instrument released by a respectable developer for use by psychologists will be accompanied by a user's manual containing information on the purpose of the instrument

- the target population
- development and standardisation
- specification of norm scores
- administration instructions
- reliability coefficients
- validity coefficients

Always try to maintain a critical attitude to any psychological assessment. Psychological instruments are often used incorrectly, for example:

- The instrument was not constructed or standardised for the people being assessed.
- There is no information on reliability.
- There are no validity data on the instrument and no cross-validation studies have been conducted. The instrument's results do not correlate strongly with a particular criterion that is considered important.
- There is no information on how the instrument was constructed or standardised.
- The instrument is so outdated that it affects the reliability and validity of the results.

If you have to use psychological assessment in your job situation, learn to evaluate them critically. Instruments can be very useful provided they are used appropriately.

There are many "fly-by-night" people and organisations who develop instruments and questionnaires which have not been scientifically validated and that would fall in the above categories of incorrect use. Their sole purpose is to make money by using the best marketing strategies available and selling these "home-made" psychological instruments to unsuspecting organisations, who then buy these instruments on appearance or face value only. Therefore if someone tries to sell you a psychological instrument without all the information specified above appearing in a user's manual — *don't waste money buying it*.

5.5 SUMMARY

The focus of this Learning unit was on aspects that are important for the psychological assessment of persons from different cultural and language groups.

Psychological instruments and questionnaires that may be used with confidence and are of high standard, adhering to all the requirements you learned about, are registered with the Test Commission of the Republic of South Africa. Contact the Professional Board for Psychology of the Health Professions Council of South Africa and/or the Society for Industrial and Organisational Psychologist of South Africa (SIOPSA) and/or the Psychological Society of South Africa (PsySSA) for information.

 *Reflection*	This learning unit is very important given South Africa's multicultural and multilingual population. Make sure that you know the different approaches that can be used to ensure fair and bias free assessments.

TOPIC 4: INDUSTRIAL PSYCHOLOGICAL ASSESSMENT IN PRACTICE

TOPIC 4: INDUSTRIAL PSYCHOLOGICAL ASSESSMENT IN PRACTICE
Learning unit 6: Using psychological instruments

Chapter 8 & 9 of Foxcroft and Roodt (2013)

 Key concepts	• Statutory controls • Registration categories • Contextual variables • Ethical assessment practices • Assessment practitioner's duties

6.1 INTRODUCTION

This learning unit focuses on the statutory control and ethical standards for the use of industrial psychological instruments/measures. In every profession there are certain qualifications that you need to have to be able to perform certain responsibilities. It is important to note the different registration categories (at the HPCSA) of Industrial and Organisational Psychologists. The requirements and scope of practice for the different registration categories clearly describes who may use psychological instruments/measures. This Learning unit has combined Chapters 8 and 9 of Foxcroft and Roodt (2013).

6.2 FAIR AND ETHICAL ASSESSMENT PRACTICES

The first section on the statutory controls of psychological assessment measures emphasises the need to have controls, highlights sections of the legislation that guide the use of assessment measures, lists the different categories of professionals that may use psychological measures and gives an overview of the functions of the HPCSA.

The second section on fair and ethical assessment practices explains the elements that define fair and ethical practices, discusses why and how practitioners can ensure fair and ethical practices, highlights the rights and responsibilities of test-takers and how test-takers can be prepared for an assessment. The requirements to ensure fair and ethical assessments are clearly explained in section 8.3 in Foxcroft and Roodt (2013). It is also important to note the rights and responsibilities of test-takers (section 8.3.4) together with the ethical dilemmas (section 8.3.6) in industrial psychological assessments.

Lastly, the section on constituents discusses the stakeholders involved in assessment, the competing goals, needs and values of those stakeholders. The responsibilities of organisations with regards to fair assessment (section 8.3.3) are highlighted.

6.3 ADMINISTRATION OF PSYCHOLOGICAL ASSESSMENTS

Psychological instruments are scientifically developed and constructed tools that must be handled strictly according to prescribed conditions, rules and regulations.

In chapter 9 of Foxcroft and Roodt (2013) the important aspects of the administration of psychological assessments are discussed. Study this chapter and make notes for yourself so that you will remember important elements when you have to administer psychological instruments. It is very important that you know the different steps to be taken *before, during and after* an assessment session to ensure fairness (section 9.2 in Foxcroft and Roodt, 2013).

People are often intrigued by psychological assessments and the results that they provide, but it should be remembered that psychological assessments are not games and gimmicks. They need to be treated with caution and responsibility and used only by people who have the professional training and experience to use these instruments. There are also strict ethical codes governing the behaviour of people working in the field of psychology and these also prescribe behaviour in psychological assessment.

 Activity	Think of reasons why it is important to control industrial psychological assessments.

We will provide some extreme (negative) consequences. You may have thought of some other examples too. The important thing is to use this exercise to highlight the importance of the prescribed procedures and ethical principles that govern the use of psychological assessment.

i. Unauthorised use of tests by unqualified persons

Let us think of the consequences if persons with no training in psychology got hold of a psychological instrument, administered it (even to themselves) and had to interpret the results. In the hands of an unqualified person without proper training, the results could be interpreted incorrectly, with serious consequences for the person involved. Think how it could affect an individual if something like a personality questionnaire or cognitive instrument were handled in an irresponsible and possibly damaging manner. It could affect a person's self-image and life-changing decisions could be based on incorrect feedback. It is because these instruments may not be used by lay persons — in South Africa we have a professional board with which people with suitable qualifications register as psychometrists or psychologists. This registration is a requirement for administering or interpreting psychological instruments and no unauthorised or unqualified persons may obtain, administer, interpret or convey any results of these instruments.

ii. Security of psychological instruments and results

Because the results of psychological instruments are very personal and should only be accessible to professionally trained and qualified persons, it is essential that the instruments as well as the results should be kept secure. This is also related to the above points concerning unauthorised use of psychological assessments. When psychological instruments are administered, the results are most often written up in a report by the responsible psychologist. These reports may contain sensitive information about the person involved and should therefore not be accessible to just anyone. Imagine the damage that could be done if the instrument and/or results landed in the wrong hands.

iii. Unprepared assessment administrator

When psychological instruments are constructed, part of the development process involves the writing of a user's and a technical manual. The user's manual contains information and instructions that need to be studied and followed carefully by any person who administers the assessment. Because the key features of psychological instruments are that they are standardised instruments used to obtain a sample of behaviour, deviation from the written instructions means that the assessment situation is no longer standardised and, as a result, the instrument results may be rendered useless. When administrator is unprepared to administer the instrument, he/she may give incorrect or insufficient instructions or allow too little (or too much) time to complete the assessment in cases where time limits are part of the instrument and the results of the person taking the assessment may be directly influenced.

Consequently, the results may not be a reflection of the individual's characteristics, behaviour, skills or whatever is being measured.

iv. Poor assessment conditions

In the general administration instructions, specific mention is often made to the physical conditions for assessment administration. Imagine having to take a cognitive assessment for selection purposes for a job that you would really like, but you have to write the instrument in a room where visibility is poor, there are constant interruptions and noise or where you are somehow prevented from doing your best in answering the questions.

v. Lack of rapport and poor assessment orientation

Rapport refers to the interpersonal relationship between the administrator and the test taker. Part of the duty of the person who administers a psychological instrument is to put persons at ease, to reassure them and to motivate them to do their best. If the person who administers the assessment does not establish good rapport, it may lead to the person doing the psychological instrument not being motivated to do his/her best. Poor rapport may also lead to anxiety, which may negatively affect the results.

vi. Examiner variables

Research has shown that examiner variables affect examinees and could also affect results. Factors such as the gender, race and age of the examiner could influence the assessment situation and the results. Factors such as dialect and pronunciation of instructions are examples of an examiner's characteristics that could have an influence on examinees.

vii. Examinee or test-taker variables

Characteristics of the person undergoing the assessment could also influence the results. Extreme anxiety prevents good concentration and would negatively affect any assessment that required concentration. Personal orientation to time restriction and assessment conditions could also affect results. A person who feels anxious when strict time limits have to be adhered to may be more negatively affected when speeded assessments are administered. Language proficiency or poor reading skills may also affect results. Administrators should be aware of both obvious and subtle aspects that could influence results and report such aspects when relevant.

viii. Effects of coaching on assessment performance

In the USA assessment is a big business and entrance to colleges and universities is based on psychometric results. Consequently, it has become quite common for people to prepare for these assessments and undergo coaching in an effort to increase their scores. Assessment

sophistication refers to people who, through repeated taking of assessments, increase their familiarity with assessment material, and therefore often do better because they are more at ease in the assessment situation and familiar with what is expected of them. Psychological instrument questions are often different from the types of material that people encounter in their daily lives. In most cases, practice examples are provided to explain the procedure and familiarise test-takers with the format of the instrument questions. These examples help to put them at ease and ensure that they know how to answer the questions. They should help to equalise people in terms of previous experience or assessment sophistication.

Information on instruments can be obtained either from the developer or the publisher. It is important for the user to find out as much as possible about any instrument before using it and ensure that the instrument complies with the acceptable technical standards and psychometric requirements. The most important characteristics of a psychological instrument that determine its merit for particular application are the relevance of the norm group together with the empirically proven indexes of reliability and validity. By the end of this module, you should be able to evaluate psychological instruments on these grounds.

6.4 ASSESSMENT OF SPECIAL POPULATIONS

In addition to the standard rules and regulations that guide the administration of psychological assessment measures, special care is required when assessing persons from special populations such as children or disabled persons.

Study Chapter 9 of Foxcroft and Roodt (2013) and note what special care is required and what instruments are available for the assessment of small children and disabled persons.

6.5 SUMMARY

This Learning unit dealt with quite a number of important aspects of industrial psychological assessment. Control regulations, administration procedures, specific duties of the assessment practitioner and care required for the assessment of special groups.

TOPIC 5: TYPES OF INDUSTRIAL PSYCHOLOGICAL ASSESSMENTS

TOPIC 5: TYPES OF INDUSTRIAL PSYCHOLOGICAL ASSESSMENTS
Learning unit 7: Assessment of cognitive functioning
Learning unit 8: Measures of affective behaviour, adjustment and wellbeing
Learning unit 9: Personality assessment
Learning unit 10: Career counselling assessment

Chapter 10 of Foxcroft and Roodt (2013)

 *Key concepts*	• Cognitive ability • Intelligence • Individual assessment • Group assessment • Moderating variables • Dynamic assessment

7.1 INTRODUCTION

Cognitive assessment has been a fundamental part of the development of industrial psychological assessment. It is a very important part of psychological assessment as research has indicated that cognitive abilities are significant predictors of performance in the work environment. Various terms are related to cognitive assessment and this learning unit aims to clarify cognitive functioning as a whole and assist you to understand how the assessment thereof evolved. In this learning unit we discuss various instruments that assess ability, which refer to instruments that measure mental or cognitive ability.

7.2 COGNITIVE ASSESSMENT AND THE MEANING OF IQ

Section 10.2 in Foxcroft and Roodt (2013) gives a brief overview of the history of intelligence instruments and theories of intelligence. This section will give you important information to understand the background to measurement of intelligence and the different theories used to develop these measurements. It is important that you note the latest development namely "dynamic assessment" where training is incorporated in the assessment and the focus is more on potential than current level of cognitive ability or performance. You should be able to describe what dynamic assessment is as well as mention some of the instruments used in South Africa.

The measurement of intelligence is undoubtedly one of the most contentious issues of psychological measurement. Over the years many debates have raged and many vicious and personal attacks been made. As a practising industrial psychologist that makes use of instruments to assess cognitive ability, it is important for you to be informed on the important issues in this field.

Please note that IQ scores (as with any other kind of assessment scores) should not be used to label individuals, but to help understand them.

 Reading	Read attentively through section 10.2.1 of Foxcroft and Roodt (2013).

When highlighting the main issues of the meaning of IQ scores, the following points are important:

Firstly, intelligence results (cognitive ability scores) should be used to describe rather than try to categorise a person. Many stereotypes have been the result of such labelling and it is often difficult to move beyond them. If you were told as a child at school what your IQ was and it was NOT in the context of individual feedback by a qualified psychologist, it serves as example of the incorrect use of IQ scores.

Unfortunately, IQ scores were often used in a labelling manner by teachers without sufficient training. Unfortunately, a lot of damage can be done when such information is not handled correctly. Do you perhaps know of a school friend who was labelled ‘‘dull’’ at school, but who later became very successful, exceeding all expectations? It may even be true of you.

Intelligence is a composite of several different functions and is not a single unitary ability as it is often incorrectly interpreted. The qualifications for successful achievement differ between cultures and at different times. Can you think of people who are not intelligent in the ‘‘conventional’’ (psychometric, IQ score) sense, but who have achieved much in life and made a success of their lives? As an example, it is said that Einstein was not a good scholar, but he nevertheless became one of the most noted scientists of our time.

The IQ can be seen as both a measure of prior achievement and a predictor of future achievement. In this context, it is important to note that achievement here refers to academic and/or scholastic achievement, because these are the types of criteria that are generally used to evaluate and validate ability instruments.

There are many important psychological functions that are not measured by intelligence instruments, including aspects such as musical or artistic ability or creativity. Success in some fields does not require a high IQ as measured in the conventional psychometric way.

People’s emotional state and level of motivation also clearly affect performance in general, as well as performance in ability assessment. If people come to an assessment situation emotionally upset because of some personal crisis, it is clear that the scores that day will not be a true indication of their ability, because of poor concentration, distractibility and emotional upset.

Different approaches are followed in the measurement and evaluation of measures of cognitive ability (or intelligence), such as standard approaches, information-processing techniques. Each approach takes a certain viewpoint (theoretically) on what ability entails and consequently also how it should be measured. For example, if you believe that musical ability is an important aspect of general ability, you will include measures of musical ability in your assessment instrument. Someone else, who believes that short-term memory is an important aspect of ability, will include such measures in an ability assessment.

 *Reflection*	• When you hear the term "IQ", what is your first thought and reaction? • Have you ever written an IQ test and can you remember what it was like?

7.3 INDIVIDUAL ASSESSMENTS

Individual instruments that assess ability are generally applied in clinical settings or in cases where an in-depth assessment of the individual's ability is required. With individual ability instruments, the examiner needs to be a highly qualified and trained person, because the interaction between the examiner and the examinee also provides information that is used in the assessment of ability. The examiner may, for instance, judge emotion, motivation or concentration, while also taking note of characteristics such as self-confidence and persistence. Having worked through the learning units on the technical aspects of assessment and psychological instrument construction, we will now move on to the practical use and application of that knowledge in the evaluation of individual ability instruments.

It is important for you to be able to assess whether different instruments comply with assessment or psychometric principles. That is the first step of evaluation. Then you will also take professional, ethical and particular contextual issues into account. The procedures involved in instrument development and the type of instrument used, the way the instruments are constructed, what norm groups are used and how reliability and validity information is obtained are general issues that apply just as much too any instrument in South Africa as to international instruments. It is important therefore to focus on the general principles that are discussed. It is not possible to provide a comprehensive list of instruments that you can use, but refer to the HPCSA website for information on some instruments that are used locally. New instruments and revisions of existing instruments are continuously published and for us to try and provide information on the latest available instruments is not practically possible.

However, if you are knowledgeable about psychometric (psychological measurement) principles, and you know what the important things are in evaluating an instrument for suitability for your particular purposes, you should be able to evaluate independently whether a particular instrument meets with general technical and psychometric requirements, as well as whether it can provide useful information in a particular situation or context. Although you may feel this is a repeat of information contained in learning unit 6, we believe it is important to emphasise the need to be cautious, as assessment of cognitive functioning can be detrimental if not done properly, particularly in view of the debates, problems and controversies surrounding fairness in the measurement of cognitive functioning. Our aim is not to train you in particular instruments, but to provide you with the know-how to assess any instrument you may encounter.

The Stanford-Binet intelligence scale, the Wechsler scales, the Kaufman scales, differential ability scales and the Das-Naglieri cognitive assessment system are some of the well-known cognitive ability instruments used internationally. Examples of South African instruments or South African versions of international instruments are given in Chapter 10 of Foxcroft and Roodt (2013). Instruments that assess ability are often used in screening processes in a general context, or to assess mental retardation in the clinical context.

 Reading	Look at the list of topics in sections 10.3 and 10.4 in Foxcroft and Roodt (2013).

Here are some of the important topics we identified:

- *Background to the development of the instrument*

  Some information on the development of an instrument helps to put it in context. The reason why the instrument was developed could help us to understand its format and content. Important information would also include the context for which the instrument was developed, with they ear in which it was first published and some historical background.

- *Description of the instrument (scales)*

  The description of the instrument provides information about the number and types of subtests for instance. It will give some background for the selection of item types and may provide information on the reason for including the particular item types. A description of the age groups for which the instrument can be used may also be included in the description.

- *Administration and scoring information*

  This section of the information provides more details about assessing procedures, the number of items that are administered, assessment times and how scoring is done.

- *Norms and standardisation*

  Information on the standardisation of the instrument is important since the standardisation or norm group is the reference group with which the examinee is compared when assessment results are interpreted. Sufficient information should be given so that the examiner can decide whether the instrument is appropriate for a particular individual. Norm samples should be representative of a clearly defined population and it is common for norm samples to be stratified to match the proportions of the population in terms of geographic region, community size, cultural group and gender. Further information may include conversion of raw scores to standard scores and the type of scales used.

- *Reliability information*

  You will remember from earlier learning units that reliability refers to the consistency of measurement. Information on the reliability of an instrument is essential to evaluate the psychometric soundness of the instrument. Types of reliability determined and the statistical indices found for each type of reliability should be reported.

- *Validity information*

  You will remember that validity refers to whether the instrument measures what it should measure. From a psychometric evaluation of a psychological instrument, validity information is extremely important.

When you read the information provided about a specific instrument, it is important to note that instrument development is a human activity and, as such, there may be elements that are not satisfactory and need adjustment or redoing at a later stage. In this way, instrument construction should be seen as a continuing process. Because the content of items may become dated, it is good practice to revise instruments periodically.

7.4 COGNITIVE ABILITY INSTRUMENTS

Some information on well-known international ability instruments is provided here for *general background purposes*.

7.4.1 The Stanford-Binet intelligence scale

The first Stanford-Binet scale was published in 1916. It has an adaptive administration procedure, and good preparation by a trained examiner is important for smooth administration. There are 15 subtests that cover four major cognitive areas, namely: verbal reasoning, abstract/visual reasoning, quantitative reasoning and short-term memory. The assessment takes approximately 30 to 90 minutes to administer and can be used for ages two to adult. It provides a single score reflecting ability.

7.4.2 The Wechsler scales

The first Wechsler scale was published in 1939 and the initial focus was on assessing the cognitive ability of adults. There are three versions, one for adults, one for school children and one for preschool children. It covers measurement from age three to 74 over the three scales, and separate verbal IQ and performance IQ instruments are provided. The results of various subtests can be used for diagnosis or profile analysis, too.

7.4.3 The Kaufman scales

This clinically administered individual instrument was developed in the 1980s and early 1990s and covers ages 25 to 85 overall in two versions. It is based on the information-processing model and provides four global scales, namely sequential processing, simultaneous processing, mental processing composite and achievement. Multiple scores can be used for profile analysis or diagnostic interpretation.

7.4.4 Differential ability scales

This scale is based on the British Ability Scales which were developed during the 1970s. It provides a general ability level, but can also provide a profile of strengths and weaknesses, since the aim for its use is differential diagnosis and treatment planning. The core subtests measure g (general ability) and are based on a hierarchical model of abilities. Item response theory was used to assess the difficulty level of the items.

7.4.5 Das-Naglieri cognitive assessment system

This measure which is based on the PASS (planning, attention, simultaneous and successive processing) model was published in the late 1990s. It covers ages five to 17 years 11 months and was specifically designed to link assessment with intervention. It is based on Luria's theory of cognition and brain organisation and measures basic cognitive functions involved in learning independent of schooling.

It is important to be able to distinguish between different instruments, not only in their quality, but also in their particular focus. You should be able to make competent decisions on which instrument(s) to use in which situations.

Comment: As you can see, a lot of information is available about each instrument. As a knowledgeable person in this field, you should be able to sift through the information and focus on the essential information on which to base your decisions for using or not using a particular instrument. There are many instruments available, but not all of them are of a good quality, despite what the promotional brochures often proclaim. You should be able to assess for yourself whether the relevant information is provided and to use the knowledge that you gain in this course to judge for yourself what the quality of an instrument is and whether it is suitable and applicable in your particular situation.

 Activity	In the following practical exercise, we will imagine that the only instruments available are those discussed. In the previous section (section 7.4). Below three case studies are given. In each case decide which of the tests you will use and explain why you chose that particular instrument.

Case A

You would like to test the cognitive ability of a two-year-old toddler.

Case B

You are a proponent of the PASS (planning, attention, simultaneous and successive processing) theory and would like to use an ability test that is based on that theory to assess the ability of a 15-year-old high school boy.

Case C

You are requested to do a screening assessment for a 35-year-old woman. Your testing time is limited and you would like to use an abbreviated (shortened) version of an individual intelligence scale.

If we were to answer the questions above we would have given the following explanations:

In *case A*, the best choice would probably be the Stanford-Binet version 4, because it has been standardised for ages two years old to adult. Although some of the other instruments can also be used to assess very young children, they do not cater for children as young as two years old.

The K-ABC starts at two-and- a-half years, and may be used as a possible alternative. The DAS-Naglieri Cognitive Assessment System (CAS) is based on the PASS theory and would therefore be your instrument of choice in *case B*. The Wechsler scales have abbreviated scales or short forms available that reduces administration time considerably, while still providing an estimated full scale IQ that can be evaluated in terms of the published norms. Although some questions have been raised about the use of these abbreviated scales, they can be used as rough screening devices and would therefore be the appropriate choice for *case C*.

 *Reflection*	Have you ever been evaluated by means of a psychological test? If so, what was your experience like? Do you think that you would be able to administer a psychological instrument or a questionnaire to someone else? After working through this first section, you should have an overview of the types of tests that are available for individual ability assessment.

7.5 GROUP ASSESSMENT OF COGNITIVE ABILITY

Group assessments refer to assessments that can be administered to groups of people at the same time. This requires standard and uniform administration – and scoring procedures. While individual assessments are used primarily in clinical settings, group assessments are used most often in selection, educational or industry settings, where large groups have to be assessed and where the aim of assessment is general ability assessment and not individual clinical, diagnostic assessment.

 Reading	Look at section 10.4.2 in Foxcroft and Roodt (2013) that provide information on group assessment of intelligence.

Group assessment originated during World War I and was made available for civilian use after the war. It is important to realise the specific features of group assessment as opposed to individual assessments that were covered earlier in this learning unit.

 Activity	List the main differences between individual and group assessments as well as the advantages and disadvantages of group assessments. Make sure that you can name at least five advantages and five disadvantages of group assessments.

The table below indicates the main differences between the two types of assessments.

Individual assessment	Group assessment
Administered to individuals one at a time	Administered to groups of people at the same time
Open-ended questions can easily be used	Most questions are in multiple-choice format
Instructions are individually oriented and may differ from person-to-person depending on the responses given	Uniform and standard instructions and scoring
Some items may be omitted, once again depending on the answer pattern	All examinees answer the same items in the same sequence
Behavioural observation included in evaluation	Behavioural observation not used

Because group assessments do not use the individual evaluation of assessment-related behaviour based on interaction between the examiner and the examinee as part of the evaluation of the individual, and because administration procedures are standardised so that instruments can be administered to larger groups of people simultaneously, interesting new developments using computers for assessment administration have taken place.

The future of industrial psychological assessment is certain to include the increasing use of computers. It is important to remember that although the method of administration may change from paper-and- pencil to computerised, the essential psychometric evaluation of instruments will stay relevant.

In individual assessment the same items are not always administered to everyone. Similarly, in computerised adaptive assessment, individuals also do not necessarily receive the same items. However, with traditional group assessments, the same items are administered in the same sequence to everyone and the assessment procedure is completely standardised.

7.6 HERITABILITY AND MODIFIABILITY

The terms “heritability” and “modifiability” refer to the way intelligence or cognitive ability is viewed. “Heritability” refers to a person’s inherited or genetic traits, which are generally viewed as fairly immutable to change. Individuals, who favour this viewpoint, therefore tend to believe that a person is born with a certain capacity for cognitive achievement and that a large proportion of the variance in scores of ability is attributable to hereditary differences. On the other hand, people who support the modifiability viewpoint, argue that external factors affect the development of cognitive ability and that a larger proportion of the variance in scores is attributable to environmental factors and that it is therefore possible to modify ability at a later stage.

Reflection

Do you believe that all siblings (brothers and sisters) are treated exactly the same when they live in the same home? Would you say that twins are treated more similarly than siblings, and that identical twins are treated exactly alike?

You can have quite a lively debate among your family and friends (and your siblings too) about this topic. It should be clear, however, that there will probably be agreement as well as disagreement on these issues. The same debate has been going on in academic and research circles for many years and will probably continue in the future. In an attempt to distinguish between the hereditary and the environmental influences on cognitive ability, various studies involving siblings, dizygotic twins (not identical) and monozygotic twins (identical) have been done. Some attempts have also been made to provide indexes by means of which the hereditary vs environmental influences and conditions can be calculated. Not surprisingly, research findings and proposed solutions are the subject of ongoing debate.

7.7 IMPACT OF CULTURAL DIVERSITY

Cross-cultural assessment was covered in learning unit 5 and, if you remember, we told you to study chapter 7 of Foxcroft and Roodt (2013) very carefully. If you need to, just revise that chapter again taking note of how and why instruments are adapted. Then study section 10.3.2 of Foxcroft and Roodt (2013) and see how these sections are related.

South African trends in assessments have embraced the challenge of cultural diversity, as a result more research has been undertaken on bias, fair use of assessment for all cultural groups, culture and language as moderator of assessment performance and validation studies of existing instruments.

 Reading	For your *own interest and background* you can look at some of this research:

- Foxcroft, CD. 2004. Planning a psychological test in the multicultural South African context. *SA Journal of Industrial Psychology, 30*(4):8–15.
- Foxcroft, CD & Aston, S. 2006. Critically examining language bias in the South African adaptation of the WAIS-111. *SA Journal of Industrial Psychology,* 32(4):97–102.
- Paterson, H & Uys, K. 2005. Critical issues in psychological test use in the South African workplace. *SA Journal of Industrial Psychology,* 31(3):12–22.
- Schaap, P.2011. The differential item functioning and structural equivalence of a nonverbal cognitive ability test for five language groups. *SA Journal of Industrial Psychology,* 37(1). DOI: 10.4102/sajip.v37i1.881.
- Theron, C. 2007. Confessions, scapegoats and flying pigs: Psychometric testing and the law. *SA Journal of Industrial Psychology,* 33(1):102–117.
- Van de Vijver, AJR & Rothmann, S. 2004. Assessment in multicultural groups: The South African case. *SA Journal of Industrial Psychology,* 30(4):1–7.

7.8 SUMMARY

In this module we dealt with individual and group assessment of ability and their unique characteristics as well as the differences between them. A brief history of the theories of intelligence was given as background. Examples of typical items found in psychological instruments and ways in which they may be grouped together give a broad understanding of the decisions that are made when instruments are developed.

After having worked through this learning unit, make sure that you know the meaning of IQ and are aware of the uses (and sometimes misuses) of IQ scores. Think about your own view on the heritability versus modifiability debate, and use scientific evidence to substantiate your arguments.

TOPIC 5: TYPES OF INDUSTRIAL PSYCHOLOGICAL ASSESSMENTS
Learning unit 7: Assessment of cognitive functioning
Learning unit 8: Measures of affective behaviour, adjustment and wellbeing
Learning unit 9: Personality assessment
Learning unit 10: Career counselling assessment

Chapter 11 of Foxcroft and Roodt (2013)

 Key concepts	• Wellbeing • Quality of life

8.1 INTRODUCTION

South Africa has experienced dramatic political, educational, social and economic changes in the recent past. Mergers, downsizing and globalisation have become common terminology in business spheres, while the Employment Equity Act (EEA) (Act 55 of 1998) and the Skills Development Act (Act 97 of 1998) have emphasised affirmative action and the development of workers at all levels in organisations. As a result of all these changes, the ability to orientate oneself again and adjust to changing situations has become important. There has also been a shift in the field of psychology in general to focus attention not only on preventative approaches but also on proactive and developmental approaches.

 Reading	Read sections11.1 and 11.2 of Foxcroft and Roodt (2013) as an introduction to well-being. This should help you understand the concept of affective behavior and how it relates to adjustment,well being and quality of life.

8.2 WELL-BEING IN THE WORKPLACE

It is important to know how people adjust to and cope with the stresses and strains of life. Study section 11.2 and reflect on the importance of adjustment and coping in the changing South African world of work. The ability to orientate oneself again and adjust to changing situations is important for one's well-being.

 Activity	• How can emotionally affective behaviour assist a person to cope under stressful work situations? • Why is it important to adjust to and cope with stress in the workplace? • What kind of proactive measures promote mental health?

8.3 MEASURES OF WELLBEING

Measures of emotional status are described in section 11.4 of Foxcroft and Roodt (2013). This section should help you understand the different instruments used in assessing anxiety, depression and stress responses.

The measures of well-being in diverse context (such as anxiety, depression and responses to stress) are discussed in section 11.4.1 while specific measures of well-being in the work environment are discussed in section 11.4.2. Industrial and organisational psychologists use these measures frequently to assess well-being in the work place.

Mental health and coping have become important topics in industrial psychology. Knowing what makes people thrive under stressful situations is gaining more attention as opposed to studying what makes people ill. It is important and informative for the organisation to be aware of factors that enhance performance, even when stressed, as this gives management an idea of the kind of support employees may need.

 *Reflection*	• Why is well-being such an important aspect of any employee's work life? • What is the cost to the organisation of ill-health?

8.4 SUMMARY

This learning unit covered measures of affective behaviour with a focus on wellbeing, adjustment and coping. The instruments used to assess well-being were divided into measures used in diverse contexts and those used in the work environment.

TOPIC 5: TYPES OF INDUSTRIAL PSYCHOLOGICAL ASSESSMENTS
Learning unit 7: Assessment of cognitive functioning
Learning unit 8: Measures of affective behaviour, adjustment and wellbeing
Learning unit 9: Personality assessment
Learning unit 10: Career counselling assessment

Chapter 12 of Foxcroft and Roodt (2013)

 *Key concepts*	• Personality • Inventory • Traits • Projective techniques

9.1 INTRODUCTION

To introduce this learning unit to you, we want you to read the following statements:

- "She may have all the qualifications but her personality leaves a lot to be desired."
- "She was born to be on television. People with her kind of personality are at home in front of the cameras."
- "No wonder there is such conflict in that department; those two have totally different personalities."

Do these statements sound familiar? Of course, they do. We hear them almost daily in conversation. However, as an industrial psychologist tasked with placement of applicants, you cannot discard people because of such statements. You need to do a scientific analysis (an assessment); consequently you have to let applicants complete a personality inventory before you can make any statements about their personality.

Before explaining what these instruments/inventories are, here are some facts you need to take into consideration when dealing with personality:

- Individuals are unique, that is, no person is exactly the same as the next person.
- Individuals do not behave the same way in all situations.
- There is considerable commonality in human behaviour even though individuals are different (Owen & Taljaard 1989).

9.2 CONCEPTUAL SCHEME FOR PERSONALITY ASSESSMENT

Foxcroft and Roodt (2013 section 12.2) describes the three levels on which personality can be understood.

These levels are

i. stable characteristics within each individual and are the personality traits or basic behavioral and emotional tendencies.
ii. the motivation behind what a person is doing, personal projects and concerns.
iii. integrated identity of person's life story.

Personality assessment usually focuses on the first two levels and structured methods (such as personality questionnaires/inventories) or projective assessment techniques are used.

9.3 WHAT ARE PERSONALITY INVENTORIES?

The simple answer to the question above would be to say, personality inventories are psychological tools used to measure personality. But then, you would have to go further and ask what personality is. Much research has been done on the concept but there is still not one definition or explanation that has been accepted. Therefore, we would rather not get into a debate of what personality is, except to say that there are traits or characteristics that are generally accepted as personality.

If, at one time of your life, you have used statements like those above, you should have a general idea or understanding of what personality is.

Personality inventories cannot be failed and no preparation is necessary. They are measurements of emotional, motivational, interpersonal and attitudinal characteristics. The various classifications of personality inventories are

- self-report inventories
- interests and attitudes (used mostly for career counselling)
- projective techniques


Activity

In learning unit 1 we asked you to "Think about your own job (or that of your parents if you are not employed), try to identify and list the skills, knowledge, interests and abilities needed to perform well in that specific position".

We want you to think about that same job/position again, but this time list four or five personality traits that you think are necessary for someone to be successful in that position. Motivate why those traits are necessary for someone in that position.

9.4 ADVANTAGES AND DISADVANTAGES

Self-report inventories, like all things in life, also have advantages and disadvantages. It is important to be aware of these so as to have realistic expectations. Knowing the advantages and disadvantages of self-report inventories also helps to provide opportunities for research and development.

Case study

Read this conversation between Linda and Paul on personality assessment, and then make a list of the advantages and disadvantages you picked out. (You can add more if you think of others not mentioned here.)

Paul: *Yesterday, I went to the assessment library to browse through self-report personality inventories. It was quite interesting. I realised that an assessor's bias would not influence the results. Each personality inventory has its own instructions which need to be applied precisely every time the inventory is used. There are marking grids that will ensure uniform scoring.*

Linda: *Yes, personality questionnaires are one of the easier tools to use and require less training than say, projective techniques.*

Paul: *But with all that simplicity, I think they might frustrate the person being assessed because some of the items cannot be answered by a "yes" or "no" you need to explain further, but you are not given that chance.*

Linda: *Well, even roses have thorns. Sometimes you are given items that are too obvious, and faced with that, you may lie. In another case you are given the ambiguous item then you get frustrated. But one thing you have to remember when using personality inventories is to ensure that the instrument you are using is valid for that particular situation.*

Paul: *Why does it need to be valid for the particular situation? Aren't the instruments validated before certified by the HPCSA to use?*

Linda: *Yes, but with personality inventories, validity can differ from situation to situation. So considering the increasing requirements to justify the use of instruments, evidence has shown validity to be the strongest justification.*

See how your list compares with that of Smit (1996). He listed his advantages as follows:

- Self-report inventories are applied according to uniform and specific instructions.
- Responses are scored in a uniform manner through the use of an answer key or marking grid.
- Norms for the interpretation of results rely on scientifically selected population samples.
- Personality traits of a substantial number of individuals can be compared with the aid of a personality inventory.

He listed his disadvantages as follows:

- Some items are obvious and can lead the testee into giving dishonest responses.
- Validity of personality questionnaires can differ from situation to situation.
- Scores may sometimes be obtained on a trait which the testee does not possess.
- Some items may be ambiguous and the testee may feel that two answers could be given or an explanation needs to be added.

9.5 TEST-TAKING ATTITUDES AND RESPONSE BIASES

As an extension to the disadvantages discussed above, let us look closely at the problems associated with self-report inventories. If you remember, we mentioned earlier how simple and direct these questionnaires are. This, however, is also their drawback.

Here are one-sentence explanations of the test-taking attitudes and response biases which you should have noted.

- *Faking:* Respondents may choose answers that create a favourable impression or a bad one, depending on the circumstances.
- *Social desirability:* Tendency to give responses that are thought to be socially acceptable (put up a good front).
- *Impression management*: Conscious lying designed to create a specific effect desired by the respondent.
- *Self-deception*: Positively biased responses that the test taker actually believes to be true.
- *Response sets and response styles*: One that can be mentioned is acquiescence, which is the tendency to answer "true" or "yes".

Some of the approaches used to meet these problems have been to

- construct psychological instrument items that are socially neutral to reduce faking and related response sets
- construct special scales to address social desirability and other impression management responses
- include specific items that will be answered in a socially desirable manner only by those who exhibit such behaviour
- construct items with two alternatives that are both desirable or undesirable to the respondent
- strike a balance between "yes" and "no" responses to address acquiescence

Note that not all people lie or present themselves favourably to get jobs, but most try to present the *best* profile of the person they are.

9.6 PERSONALITY AND COMMONALITY IN HUMAN BEHAVIOUR

If you can remember, when we started this learning unit we gave you a number of statements which people (including yourself maybe) may have used at one time of their lives. These are similar statements, but in this case, showing how inconsistent behaviour is in different situations.

- "I cannot get over the shock of how organised and serious she is about her work. She is totally different at home. She is never on time for her dates, never remembers where she put stuff and doesn't show concern for anything except herself."
- "Most celebrities talk about how reserved and shy they are off stage. Quite unbelievable when you see how lively they perform on stage."
- "No wonder he failed, he was visibly shaking when he got into the car for his driving test. If I was not there myself, I wouldn't have believed it. He's always so sure of himself."

Again, go back to the introduction of this learning unit, and look at the considerations we cautioned you on when dealing with personality. The first consideration was that individuals are unique. The second was on how individuals do not behave the same way in all situations, and the last one was the commonality in human behaviour in spite of these differences. Don't you think these considerations are applicable in this section?

Of course, yes. The uniqueness of individuals implies differences in behaviour, just as different emotional conditions imply different behaviour.

Your behaviour can be expected to be different if you are angry or tense to when you are relaxed, just as it can be expected to be different in different situations. Your behaviour can also be expected to be different from that of a person from a different cultural background to yours.

All in all, this section is about the relationship between traits, states, persons and situations and how they affect the consistency and inconsistency of behaviour.

9.7 CURRENT STATUS OF PERSONALITY INVENTORIES

Self-report personality inventories are sets of standard questions with no right or wrong answers that seek information about personality characteristics. They are simple questionnaires with multiple-choice questions about the person's behavior and personal style. They are easy to administer and score and relatively inexpensive. The responses in these questionnaires are categorised and conclusions/profiles made from them. There are various approaches to developing personality inventories. As you read through the different personality inventories available, see if you can identify the different approaches used. When evaluating the current status of anything, one of the main questions is whether the status is good, average or bad. The same question can be posted on personality inventories.

Personality inventories, like other instruments in this country, are constantly improved. Concerns over issues, such as representativeness of samples used for norms, validity and reliability, fairness (cultural issues) and language differences are regularly scrutinised. Questions on long-standing problems, such as social desirability and impression management, are common matters in personality inventories research. In general, the current status is good with many opportunities for research to ensure additional development and technical improvement of personality inventories.

9.8 PERSONALITY INSTRUMENTS AVAILABLE IN SOUTH AFRICA

It is important that you understand the different personality inventories discussed in Foxcroft and Roodt (2013) sections 12.3 and 12.4.

We will briefly discuss personality questionnaires that are available in South Africa.

9.8.1 THE SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE (16 PF)

The 16 PF is based on the factor analysis approach. It is one of the widely used personality inventories used in vocational guidance, selection, counselling, clinical evaluation and academic and research work. It was developed and published by Cattell and his co-workers in 1949 and is currently on its fifth edition. It is a typical performance, pen-and-paper group assessment with a time range of 45 to 60 minutes.

Read section 12.3.1 in Foxcroft and Roodt (2013) for further background to the 16PF, and then look at the table below to see how the factors are arranged.

The factors covered by the 16PF are listed in the table below.

A	Reserved	Warm
B	Less intelligent	More intelligent
C	Emotional instability	Ego strength
E	Submissiveness	Assertiveness
F	Seriousness	Impulsivity
G	Low superego strength	Superego strength
H	Shyness	Social boldness
I	Tough minded	Emotional sensitivity
L	Trust	Suspiciousness
M	Practicality	Imagination
N	Naive	Shrewdness
O	Untroubled adequacy	Guilt proneness
Q1	Conservatism	Questioning
Q2	Group dependency	Self-sufficiency
Q3	Lack of control	Control
Q4	Relaxed	High tension

It would be difficult to give specific feedback on this exercise as we do not know which factors you chose. As a guideline, we will use factor F [impulsivity], factor Q2 [self-sufficiency] and factor L [suspiciousness]. Some of the characteristics included in factor F are: cheerful, happy-go-lucky, expressive and talkative.

People who scored high on this factor would most probably have many friends, love parties, go for jobs that offer constant change, variety or travel. Some of the characteristics of factor Q2 are: resourcefulness and preferring own decisions. Those who score high on this factor would most probably avoid people as they would be seen as time wasters therefore would rather work alone. Some of the characteristics of factor L are jealousy, self-opinionated and dogmatic.

People who score high would most probably be difficult to get along with as they are highly critical of others, and may not easily forget mistakes or criticisms.

Remember, the results for 16PF are a combination of all these factors. So, do not make conclusions about your friends or yourself for that matter, based only on some of these factors. Most important though, you cannot make justifiable conclusions about a person, unless that person completes the inventory.

The 15FQ plus is another personality inventory which is similar to the 16PF.

9.8.2 THE MEYERS BRIGGS TYPE INDICATOR (MBTI)

This instrument is discussed in section 12.3.5 of Foxcroft and Roodt (2013). It is based on Jung's theory of personality types and provides a four-letter type indicator which indicates an individual's preferences.

After studying section 12.3.5 of Foxcroft and Roodt (2013) you should be able to name the four bipolar scales and describe the typical behaviour associated with each of the eight preferences.

9.8.3 OCCUPATIONAL PERSONALITY QUESTIONNAIRE (OPQ)

The occupational personality questionnaire (OPQ) is a Saville and Holdworth (SHL) product. It is used as an assessment tool in selection, counselling, occupational research, training and development, assessment centres, and as a management tool. It comprises a series of questionnaires from which users can choose the one most suitable for their particular application. For example, a questionnaire suitable for the selection of managers would most likely not be suitable for school leavers. The estimated time for completion of these questionnaires ranges from 20 to 50 minutes.

Next the questionnaires are discussed briefly:

Concept model (CM): This questionnaire gives a detailed picture of how individuals see themselves. The 30 dimensions used look at the individual's relationships with people, thinking style and how that individual handles feelings and emotions. These are divided into nine groups, namely: assertive, gregarious, empathy, fields of use, abstract, structure, anxieties, controls and energies. The CM also forms the basis for the OPQ applications, which are team types, leadership and subordinate styles and selling or influencing styles. It is usually used for managerial, professional and graduate groups.

Factor model : This questionnaire gives a summary of the main personality characteristics based on factor analysis. Some of the dimensions (grouped under relationships with people, thinking style, emotions and energies) are outspoken, traditional, optimistic and competitive. This is often used for clerical, administrative and supervisory groups, and sometimes for graduate selection.

Images : Images gives a broad overview of personality by measuring six dimensions derived from the word "IMAGES" as Imaginative, Methodical, Achieving, Gregarious, Emotional and Sympathetic. It enables a comparison between self-perception and how an individual is seen by others. It is most usable for counselling, training and development purposes.

OPQ applications : This can be used for the development of managers or supervisors and sales staff and for counselling purposes. It looks at team types, leadership and subordinate styles, selling or influencing styles. Some of the dimensions looked at are coordination, monitor-evaluator, negotiative leader, self-reliant, culture fitter, team manager and implementer.

OPQ perspectives : This questionnaire gives information about individuals in terms of how they are seen by others. It is completed by a third person who might be that individual's manager, colleague or a friend/family member. It can be used for team building, counselling and training and development applications.

Sales personality questionnaire : It is used specifically for sales groups. It measures 11 dimensions based on interpersonal, administration, opportunities and energies, such as confidence, forward planning, creativity, and results orientation.

Customer service questionnaire : It has been developed for people who have direct customer contact. It also has 11 dimensions, some of which are how to understand people, sociability, emotional sensitivity and need for social approval.

Work style questionnaire : It is most relevant for skilled, semiskilled and unskilled staff. It has 17 dimensions, including controlling, socially confident, methodical, relaxed, active, and competitive.

9.8.4 PROJECTIVE ASSESSMENT TECHNIQUES

You may be asking yourself what kind of assessment that is. Why is it classified as a personality inventory? How is it different from the other instruments you learned about earlier?

This section will answer all these questions.

What are projective techniques?

Before discussing projective techniques, we need to define what they are.

Projective techniques are characterised by unstructured tasks. For example, if someone gave you a paper with nothing written on it and asked you what your thoughts were about it, what would you reply? You could say, ‘‘blank page; possibilities; opportunities or hopelessness’’ or some other response and, who knows, you may be projecting or reflecting some unconscious aspect of your personality.

Projective techniques use the assignment of unstructured tasks to generate an almost unlimited variety of responses. The results from these responses are seen as revealing the covert and unconscious aspects of personality. The focus is not on the measurement of a few personality traits, but on the composite picture of the whole personality.

9.8.4.1 Types of projective techniques

Foxcroft and Roodt (2013) mention certain projective techniques. The major types of projective techniques are inkblot, pictorial, verbal, autobiographical memories and performance techniques. We will briefly discuss what the techniques entail.

i. Inkblot techniques

The Rorschach (available in SA) is the most popular instrument. It has 10 cards with inkblots and respondents are expected to say what the blots represent. Scoring looks at the location, determinants and content of responses.

ii. Pictorial techniques

The Thematic Apperception Test (TAT) (available in SA) uses cards with vague pictures from which respondents are expected to make up stories.

iii. Verbal techniques

Use word association and sentence completion. Autobiographical memories can also be classified as verbal technique.

iv. Performance techniques

They call for relatively free self-expression, including activities, such as drawing and the dramatic use of toys.

9.8.4.2 Evaluation of projective techniques

As with the other assessments, we need to look at the advantages and problems associated with projective techniques.

 *Reflection*	How do South-Africa's eleven official languages influence personality assessment results?

Most personality inventories are imported from Europe and the USA and administered without considering the language differences. Language as a moderator influences the candidates' responses as they may not understand the different items in the personality inventory correctly. Think back to the influence of cultural diversity that we discussed in learning unit 7 (section 7.7).

9.9 SUMMARY

Now that you have worked through this learning unit, you should be able to define and explain concepts and issues of personality inventories. For instance, you should be able to define personality assessment, and self-report inventories, and different approaches to their development. Also you should be aware of the advantages, disadvantages and the problems associated with them. The same applies to projective techniques.

We also discussed some of the instruments used in South Africa. Hopefully, this has given you an idea of the attributes measured by personality instruments.

TOPIC 5: TYPES OF INDUSTRIAL PSYCHOLOGICAL ASSESSMENTS
Learning unit 7: Assessment of cognitive functioning
Learning unit 8: Measures of affective behaviour, adjustment and wellbeing
Learning unit 9: Personality assessment
Learning unit 10: Career counselling assessment

Chapter 13 of Foxcroft and Roodt (2013)

 *Key concepts*	• Interest • Values • Career counselling

10.1 INTRODUCTION

Career counselling involves making career-related decisions based on information about the individual. Some of the information used is obtained by means of psychological assessment measures in career counselling. Measures of cognitive ability (learning unit 7), adjustment (learning unit 8) and personality (learning unit 9) are used together with measures of interest, and values (which will be covered in the present learning unit) to make career decisions.

An "*interest* " is a response of liking and is measured by interest inventories, which are used to assess a person's interests in different fields of work. These inventories differentiate between work-oriented and hobby-related interests.

An "*attitude* " is a strong feeling or belief about someone or something. It is inferred from overt behaviour and usually involves value judgments. Attitude scales are used as measuring tools to give a total score of the direction or intensity of that belief or feeling.

"*Opinions* ", though used interchangeably with attitudes, are less influential than attitudes. They are often seen as viewpoints on specific issues, thus opinion surveys look at specific questions instead of total score as in attitude scales.

"*Values* ", like the other concepts, are related to life choices. However, they are more general and resistant to change than the others.

10.2 MEASURING INTEREST

Various measures of interest are available. Holland's self-directed search questionnaire and the nineteen-field interest inventory are discussed in more detail below.

10.2.1 SELF-DIRECTED SEARCH QUESTIONNAIRE (SDS)

Another questionnaire most suitable for career guidance and occupational choices is the self-directed search (SDS) questionnaire, based on Holland's occupational themes. It is a self-exploration inventory which links the examinee's score to fields of work.

Holland's interest questionnaire is aimed at high school learners/students and young adults from different cultural backgrounds. It is a self-administered, self- scored and self-interpreted questionnaire. However, supervision and checking of scores are recommended.

The inventory consists of four sections (activities, competencies, occupations and rating of abilities/skills) based on Holland's occupational themes (realistic, investigative, artistic, social, enterprising and conventional).

The three-letter code makes the SDS unique compared to other interest inventories. It links the information given directly to the field of work through its Occupations *finder* booklet.

10.2.2 NINETEEN-FIELD INTEREST INVENTORY (19FII)

The Human Sciences Research Council (HRSC) published the 19FII in 1970 as a measure of vocational interest. It is an interest questionnaire with an assessment time of 45 minutes, and is aimed at high school learners in grades 10 to 12 (formerly standards 8 to 10), students and adults. The pen-and-paper instrument consists of nineteen fields of interest, which are listed below. The instrument also measures the extent to which a person is actively or passively involved in the activities, and the interests/activities are work or hobby oriented.

The fields of interest can be divided into six broad areas:

Broad interest areas	**Fields of interest**			
Aesthetic		*Performing arts Social work*		*Historical*
Social service	*Fine arts Service*		*Language Sociability*	
Intellect/science	*Public speaking*	*Law*	*Creative thinking*	*Science*
*Practical fields	*Practical: Male*	*Practical: Female*		
Business	*Numerical*	*Business*	*Clerical service*	*Travel*
Outdoor	*Nature*	*Sport*		

*We thought you might be interested to know what the practical fields with male and female entail.

The practical male interest relates to the physical and rough activities generally accepted as masculine roles and the practical female to the activities associated with women. Whether an individual conforms to or resists these roles can be detected by the responses given to items related to these fields.

For additional information read section 13.2.3 of Foxcroft and Roodt (2013).

Some of the changes happening around us are reflected in interest inventories through

- the increasing emphasis on self-exploration
- directed focus on expanding career options
- attempts to remove gender biases

- developing inventories relevant to people with disabilities and other previously disadvantaged populations (refer to the discussion on Employment Equity Act [EEA] [Act 55 of 1998] in learning unit 1)

10.3 ASSESSMENT OF VALUES

After studying section 13.2.4 of Foxcroft and Roodt (2013) you should be able to give an opinion on how the assessment of values fits into work-related assessment and what it can contribute to the overall assessment of an individual within the work context. This is not a long section but it should give you the essence of the need for values assessment.

10.4 CAREER COUNSELLING

You may have been exposed to career counselling assessments when you had to make subject choices in high school. Read sections 13.3 and 13.4 in Foxcroft and Roodt (2013) to understand what career counselling is all about.

 Activity	Write down how you will explain to colleagues/friends/family what the process and merits of career counselling assessment entails. Make specific reference to career counselling in a changing environment and its relevance thereof in the South African context.

10.5 SUMMARY

In this learning unit we discussed the interest measurements, the changes they have been faced with and their current status. We also differentiated between opinion survey and attitude scales. You should also have noted the importance of Holland's contribution to interest measurements and how it is still used to increase the interest and occupational scales. We also covered the assessment of values and career counselling.

TOPIC 6: CONTEXTUAL USE OF INDUSTRIAL PSYCHOLOGICAL ASSESSMENT RESULTS

TOPIC 6: CONTEXTUAL USE OF INDUSTRIAL PSYCHOLOGICAL ASSESSMENT RESULTS
Learning unit 11: Uses of assessment results
Learning unit 12: Interpreting and reporting assessment results
Learning unit 13: Factors affecting assessment results
Learning unit 14: The future of psychological assessment

Chapter 15 of Foxcroft and Roodt (2013)

 *Key concepts*	• Assessment in industry • Individual vs group assessment • Selection vs development

11.1 INTRODUCTION

Industry assessment is particularly important in our field of study, Industrial Psychology. In working through this learning unit you will find that assessment in industry is divided into two broad areas, namely assessment of individuals and assessment of groups (and organisations), each with its own type of assessment measure. Knowledge of psychometric theory and the application of psychological assessment instruments also result in many organisational research opportunities.

In this learning unit we look at some general aspects of psychological assessment and assessment administration.

It is clear that there are extensive and varied applications and uses for psychological instruments. In this module the focus is on the use of psychological assessment in the work environment (industry). You have seen that there are many different areas in which and purposes for which psychological instruments can be used. It should be obvious that psychological instruments are different from our everyday observation of behaviour in that they represent the scientific, standardised and objective, reliable and valid observation and measurement of behaviour.

 Reading	Attentively read through section 15.2.1 of Foxcroft andRoodt (2013).

11.2 OTHER APPLICATION AREAS OF ASSESSMENTS

Foxcroft and Roodt (2013) also discuss the application and use of assessment in the areas of education, psychodiagnostic evaluation and research.

Each of the above areas of application has some relevance for assessment in an industrial psychological context, although this is **not the core focus** in this module.

Read chapter 15 of Foxcroft and Roodt (2013) and specifically note where different areas of assessment overlap with industrial psychological uses of assessment and assessment results.

 *Reflection*	This learning unit covered various uses of assessment and assessment results in applied fields. Think of areas where you might have been exposed to assessment processes that overlap with industrial psychological assessment.

The following is an example of overlap between the uses of assessment and assessment results in industrial psychology and psychodiagnostic assessment.

Following a motor vehicle accident in which an individual sustained a serious head injury, the family wishes to submit an insurance claim, as they argue that the individual has changed completely since the accident. They claim that the individual will no longer be able to do his current job or care for himself as he previously (before the accident) did. The insurance company needs to know whether these statements are valid before they will settle the claim.

Although this is a psychodiagnostic assessment, there is an overlap with industrial psychological assessment. An in-depth assessment will be made of the individual's cognitive, emotional, behavioural and personality functioning to determine whether he will still be able to perform his job or any other type of job. Use this example to continue summarising and working through the content of the textbook to find more areas of overlap.

11.3 SUMMARY

This learning unit focused on different application areas of industrial psychological assessments in terms of individual and group assessments as well as the overlap with other application areas.

TOPIC 6: CONTEXTUAL USE OF INDUSTRIAL PSYCHOLOGICAL ASSESSMENT RESULTS
Learning unit 11: Uses of assessment results
Learning unit 12: Interpreting and reporting assessment results
Learning unit 13: Factors affecting assessment
Learning unit 14: The future of psychological assessment

Chapter 16 of Foxcroft and Roodt (2013)

 Key concepts	• Interpretation • Reporting • Ethical considerations

12.1 INTRODUCTION

The interpretation and reporting of results are a very important part of the assessment process as it involves the integration of the results and the linking of the results to the reason the assessment was done in the first place.

After you have administered a measure and obtained a score, you have to decide what the result means for the person who was assessed as well as the person who requested the assessment (for example, the manager of a specific organisation). A psychological assessment score on its own is meaningless (also see the discussion on norms in learning unit 3.4.2 and section 3.5 in Foxcroft & Roodt, 2013). It becomes meaningful only when it is viewed in the light of information about the particular measure used, as well as all aspects of the particular person and the specific purpose of the assessment. The assessment practitioner and/or industrial psychologist therefore has to integrate different assessment results (multidimensionality – learning unit 1.3 and section 1.4 in Foxcroft & Roodt, 2013) and interpret the psychological assessment scores in order for it to be meaningful.

12.2 THE RELATIONSHIP BETWEEN INTERPRETATION AND VALIDITY

In order to assess results in a meaningful way, there must be some relation to the purpose of the assessment and the results obtained. This is where validity (the instrument measures what it is supposed to measure) comes in (this is also a requirement of the EEA discussed in learning unit 2.3.1 and learning unit 3.6).

 Reading	Refresh your memory on: • the EEA by reading learning unit 2.3.1 (section 2.4.4.2 in Foxcroft & Roodt, 2013) again • validity by reading learning unit 3.6 (section 5.2 in Foxcroft & Roodt, 2013) again

It is important that you note that the interpretations of industrial psychological assessment instrument results depend on the validity of the measure.

 Reading	Attentively read section 16.2.1 of Foxcroft and Roodt (2013) to understand how validity influences the interpretation of industrial psychological instrument results.

12.3 METHODS OF INTERPRETATION

Different interpretation methods are used to integrate and interpret industrial psychological assessment results. Make sure that you understand the difference between a norm-referenced and a criterion-referenced interpretation of results, and between a mechanical and a non-mechanical interpretation of assessment results.

Interpretations of assessment results depend on the validity of the measure as was indicated in the discussion above (section 12.2). The different forms of interpretation are to a greater or lesser extent related to the different types of validity. Read about the different types of validity in chapter 5 of Foxcroft and Roodt (2013) and see how the content-description, criterion-prediction and construct-identification procedures relate to the different types of interpretation, namely descriptive, causal, predictive and evaluative, which are discussed in section 16.2.2 of Foxcroft and Roodt (2013). These approaches should not be seen as mutually exclusive, but should be integrated and used to complement one another. You will find the discussion thereof in section 16.2 of Foxcroft and Roodt (2013).

Norm-referenced measures are interpreted within the framework of a representative sample, while criterion-referenced measures compare the test-taker's performance to the attainment of a defined skill or content. You will find the discussion thereof in sections 16.2.3 and 16.2.4 of Foxcroft and Roodt (2013).

Please note that you have to know the difference between the following concepts:

- Mechanical interpretation
- Non-mechanical interpretation

- Norm-referenced interpretation
- Criterion-referenced interpretation

12.4 PRINCIPLES FOR CONVEYING ASSESSMENT RESULTS

Practical, professional and ethical considerations are important when providing feedback on assessment results. It is also important to consider elements such as confidentiality and accountability.

 Case study	Read the grey boxes (Ethical dilemma case study 16.1 and 16.2) in Foxcroft and Roodt (2013) and think about the elements of confidentiality and accountability and how they influence industrial psychological assessments.

Dilemmas of confidentiality : Ethical dilemmas do arise with the issue of confidentiality and the assessment practitioner and/or industrial psychologist has to take responsibility for whatever actions are done. Always remember that serving the best interests of the test-taker is paramount to the needs of the organisation.

 Activity	Do you need special skills to convey assessment results? Explain what these special skills are.

Yes, you do need special skills to convey assessment results. When you worked through section 16.3 in Foxcroft and Roodt (2013), you should have noted the following special skills which are important when conveying results: to be supportive, to show respect, to be sensitive and to be aware of the person's readiness to take the information. The person should also be given the opportunity to express his/her feelings. The results should be conveyed in general terms and in a way that best serves the original purpose of the assessment. The results should always be communicated in a context that has taken into consideration all relevant information about the testee.

 Reading	Attentively read section 16.3 of Foxcroft and Roodt (2013). Carefully study the test-taker's bill of rights given in the grey box numbered Box 16.2 in Foxcroft and Roodt (2013). Also note the specific comments on written feedback discussed in section 16.4.

12.5 SUMMARY

This learning unit covered a very important part of the assessment procedure, namely the ethical considerations, the integration of results and aspects to remember when giving feedback on industrial psychological assessment results.

TOPIC 6: CONTEXTUAL USE OF INDUSTRIAL PSYCHOLOGICAL ASSESSMENT RESULTS
Learning unit 11: Uses of assessment results
Learning unit 12: Interpreting and reporting assessment results
Learning unit 13: Factors affecting assessment results
Learning unit 14: The future of psychological assessment

Chapter 17 of Foxcroft and Roodt (2013)

 *Key concepts*	• Context for assessment results • Methodological consideration

13.1 INTRODUCTION

Various factors affect the results obtained in an industrial psychological assessment process. You have learned about reliability and validity in the previous learning units and now we will look at other factors that also influence the results. This learning unit will focus on the context and methods used during the assessment process.

13.2 VIEWING ASSESSMENT RESULTS IN CONTEXT

It is important to keep contextual elements in mind when dealing with and interpreting psychological assessment results.

 Activity	Attentively read section 17.2 in Foxcroft and Roodt (2013) and then: • Make a list of all the contextual factors that could affect assessment results. • Give a short description next to each contextual factor.

While doing this activity, you should have noted that there are three contextual factors that could affect assessment results. These are

- biological context
- intrapsychic context
- social context

 Case study	Read the different case studies presented in the boxes (labelled boxes 17.1 to 17.4) in chapter 17 of Foxcroft and Roodt (2013). Compare the assessment results and think about how the individuals' context impacted on their assessment results.

You will find the discussion of the case study just before section 17.3 in Foxcroft and Roodt (2013). These case studies should illustrate the fact that an industrial psychological assessment score is not always what it seems to be. Every individual has to be viewed within the parameters of his/her own situation and background, and all possible contributory factors need to be considered.

13.3 METHODOLOGICAL CONSIDERATIONS

Various methodological factors that could affect psychological assessment results are discussed in section 17.3 of Foxcroft and Roodt (2013).

 Reading	Attentively read the various methodological factors that could affect psychological assessment results in the administration and standardised procedures that are discussed in section 17.3 of Foxcroft and Roodt (2013).

13.4 SUMMARY

This learning unit dealt with various moderating factors (context and methodological factors) that might affect industrial psychological assessment results. It is important that you know what these factors are and how they influence the results, and what can be done to prevent unfair interpretation of results.

TOPIC 6: CONTEXTUAL USE OF INDUSTRIAL PSYCHOLOGICAL ASSESSMENT RESULTS
Learning unit 11: Uses of assessment results
Learning unit 12: Interpreting and reporting assessment results
Learning unit 13: Factors affecting assessment results
Learning unit 14: The future of psychological assessment

Chapter 18 of Foxcroft and Roodt (2013)

 Key concepts	• Industrial psychological assessment as core competency • Misuse of psychological assessments • Minimum quality standards • Challenges and opportunities • Technological advances

14.1 INTRODUCTION

In the ever-changing work environment of South Africa, new challenges continue to face industrial psychologists responsible for psychological assessments. In chapter 18 of Foxcroft and Roodt (2013),some future challenges are identified and discussed.

14.2 IMPORTANT THEMES IN PSYCHOLOGICAL ASSESSMENT

Study chapter 18, sections 18.1 to 18.3. Note the particular issues that Foxcroft and Roodt (2013) regard as recurrent and important for the future of psychological assessment.

 Activity	List the different methods for debunking the myths and negative perceptions that people have of industrial psychological assessment.

You will find the answer to this activity question in section 18.4 of Foxcroft and Roodt (2013). Make sure that you include the following aspects in your answer: information dissemination, personal benefits, corporate or educational benefits and cost-benefit assessment.

The onus should be on the assessment practitioner to ensure that ethical assessment practices become the norm. How can this be achieved?

If you read section 18.5 in Foxcroft and Roodt (2013), you will get a very good idea of the different ways of attempting this problem.

14.3 TRAINING IN INDUSTRIAL PSYCHOLOGICAL ASSESSMENT

Training and capacity building in the area of psychological assessment are very important for the future of this field.

 Activity	Critically evaluate what Foxcroft and Roodt (2013) have to say regarding training in psychological assessment in section 18.6. Can you add more elements that need to be considered?

Make sure that you have a good understanding of the training of assessment practitioners in both the science and the "art" of industrial psychological assessment.

14.4 THE CHALLENGE OF TECHNOLOGY (ONLINE ASSESSMENT)

Computers are increasingly being used in all facets of our daily lives and it is not surprising that they are also being used more and more in industrial psychological assessments. Computerised scoring has been used for many years, but the more recent developments include computerised instrument administration (online assessments), computerised adaptive assessment and also computer-generated reports. Computerised assessment is discussed in chapter 18 of Foxcroft and Roodt (2013) and its challenges in section 18.8 in Foxcroft and Roodt (2013).

 Reading	You can read more about the challenge of technology in Foxcroft and Roodt (2013) in section 18.8.

Computerised adaptive assessment (CAT) is based on item-response theory (IRT) where the adjustment of items administered depends on the characteristics of the individual test-takers. Computerised adaptive assessment entails the following:

- If an item is answered *incorrectly*, the system/computer automatically chooses an easier item next.

- Should the item be answered *correctly*, the system/computer automatically chooses a more difficult item to be answered next.

This is best achieved by means of computerised instrument administration (online assessments). Different approaches can be used (e.g. two-stage assessment, pyramidal assessment, computerised adaptive assessment) to adjust the items as the test-taker is working through the industrial psychological instrument.

In computerised adaptive assessments the scores are based not on the number of items answered correctly, but on the level of difficulty and other psychometric characteristics of those items. Although all the participants may not receive the same items to answer, final scores are comparable for all. Despite fewer items being administered, adaptive assessment can achieve the same reliability and validity as conventional assessments, with much fewer items and less assessment time. More accurate measurement at the extremes of ability is possible with adaptive assessments. Computerised assessment allows termination of assessment as soon as sufficient information is available to make the required decision. Computerised adaptive testing (CAT) can be used to assign individuals to appropriate levels of academic courses. CAT can be used in personnel selection and classification and has specific advantages in that assessment time is relatively short, a wide range of ability levels can be covered and security is better.

14.5 SUMMARY

This learning unit highlighted future trends and challenges, specifically regarding computerised/online assessments. Doing industrial psychological assessments online has many advantages but you also need to take note of the disadvantages.

Best of luck with your studies this semester!

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