

Industrial Psychology

Lesson 1

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Introduction

Lesson Aim

Understand different approaches to the study of psychology and to consider their application to the workplace.

WHAT IS PSYCHOLOGY?

Despite their interest in the subject, students of psychology often find it difficult to answer this basic question in a clear, concise and specific manner. Some might say that psychology is a study of "human behaviour"; some might say it is a study of the "mind or brain"; others might say that it is a study of personality and what motivates people to do what they do". All are partly correct, but each of these answers is emphasising a different aspect of psychology.

Firstly, psychology is a science. Every science has an "object of analysis"; for example, a nuclear scientist studies the structure and dynamics of nuclear energy; or a chemical scientist studies the structure, behaviour and interaction of chemicals. In the discipline of psychology, scientists often disagree upon what the object of their study is. A broad definition of psychology however would be "the study of human behaviour". Psychology is a science concerned with human behaviour.

Neurobiological Approach

Different approaches to human behaviour are evident amongst various psychologists. Some psychologists maintain a close link with the discipline of physiology -they perceive the brain and nervous system to be the main key to human behaviour. They tend to study the relationship between psychological events and biological events (i.e. things happening inside the body). This is a neurobiological approach.

Behavioural Approach

Another fairly conservative approach is that of behaviourist psychologists. They consider the agreed object of psychology to be "behaviour". This approach was founded by "J. B. Watson" who insisted that if psychology was to be a scientific discipline, then it must focus exclusively on observable human behaviour. (I.e. the actions and deeds of the individual). He believed that psychologists could not afford to "speculate" upon the unobservable inner workings of the mind, since they are too private to be studied scientifically.

For the behaviourist, much of their research is executed with subjects under experimental conditions where they use a stimulus-response approach. The psychologist provides a stimulus for an individual, then observes and studies the individual's response to that stimulus. Behaviourists are sometimes referred to as the "black box" theorists because they treat the mind like a black box of no interest or importance. They simply feed information into the box and observe what comes out, without having any interest in what happens inside the box to bring about the result. This behaviourist approach has been used extensively in studying the process of learning. Human beings are often referred to as "blank slates" at birth, which become inscribed with attitudinal and behavioural patterns learnt from their environment.

Cognitive Approach

Another approach developed largely as a reaction to the behaviourist approach is the cognitive approach.

The cognitive psychologist claims that the human individual does not respond passively to stimuli in the environment, but rather *actively processes information* received before responding. In other words, this approach is mainly interested in events that happen in the mind, between the stimulus, and the response.

The cognitive psychologist is interested in the dynamics of mental processes.

Psychoanalytical Approach

One of the most fascinating and influential approaches to human behaviour is psychoanalysis. This approach was developed by Sigmund Freud based upon intensive case studies of a considerable range of patients (On the other hand, the previous approaches were formulated on the basis of mainly experimental studies).

The central emphasis of psychoanalysis is less on the individual's actions or conscious mental processes, and more on the unconscious mental activities. According to Freud, much of the individual's observable behaviour is influenced by wishes, desires or fears which the individual is not consciously aware of. These wishes and fears are buried deep in the unconscious, because society disapproves of their open expression. During early childhood, the individual is punished for expressing them.

The unconscious is thus born as a hiding place for suppressed drives and desires. These unconscious impulses still find expression though as dreams, fantasies, "slips of the tongue", symptoms of mental illness, as well as in artistic expression. According to the psychoanalytic approach (as opposed to other approaches), the individual's psychological history plays an immense role on behaviour patterns.

Phenomenological Approach

All of the approaches previously discussed adhere firmly to the scientific principles of objectivity -the human individual is perceived as a passive object of analysis rather than an active agent of his/her own destiny. On the one hand, behaviourists claim that human behaviour is largely shaped by environmental stimuli; and on the other hand, psychoanalysts claim that behaviour is shaped by unconscious impulses beyond the individual's control.

The phenomenological approach rejects such views of the individual as a passive result of uncontrollable forces. The phenomenological psychologists focus on the individual's active, subjective experience, rather than on fancy scientific theories. According to this approach, human behaviour can be explained in terms of the individual's personal interpretation of the world. The individual is regarded as a free agent with the ability to choose their own values, actions and goals.

Because of the demand that psychology pass as a scientific discipline, many theorists tended to forget that the subject of their study is the human being, who (unlike the atom or amoeba), has self-awareness, freedom of choice, a personal value system, and most of all, a desire to be understood, to gain self-knowledge, and to grow spiritually. It is these neglected aspects of human behaviour that the phenomenologist chooses to emphasise. For this reason, phenomenological psychology is often called humanistic psychology. Because this approach is so "person centred", it has had less emphasis than experimental research, yet it has had a profound influence on methods of therapy and counselling.

Eclectic Approach

Although the previous five different approaches have been dealt with in isolation with each other; it is important to note that modern psychologists rarely align themselves with one approach exclusively. They are more likely to incorporate aspects of several, or even all, into their approach. This is called the eclectic approach.

FREE WILL VERSUS DETERMINISM

The natural sciences in general are based upon a *deterministic approach* to organic behaviour. This approach implies that behaviour occurs in a regular and orderly manner which is predictable in principle. Because psychology is a relatively young science, it has relied upon imitating the basic principles of other sciences in its approach to human behaviour. Its application of the deterministic approach, however, has proved to be most controversial. If people's behaviour is completely determined, how can they have '*free will*'? Furthermore, how can they normally be held responsible for their actions?

Most of the approaches discussed above adhere pretty firmly to the deterministic approach. We have already touched on the humanist psychologist's objection to the deterministic approaches of behaviourism and

psychoanalysis in the above discussion. A student of psychology should be aware of this problem and other related problems: Is a science of human behaviour possible? Should psychology, as a science, develop its own laws which are more suited to its subject matter?

DEVELOPMENTAL AND INTERACTIVE EXPRESSIONS OF BEHAVIOUR

A developmental explanation of behaviour emphasises influences from the past or present behaviour, for example, genetic history, past environmental influences, past psychological traumas.

An interactive explanation of behaviour focuses on present trends in the individual's life, which together exert influences on their behaviour; for example, present fears and goals, present environmental conditions.

Both explanations of behaviour are valid and necessary. Depending upon the individual's predicament, one approach may be more appropriate than another.

Example: If we are counselling a newly divorced woman, we may probably tend to explain her behaviour in terms of present influences such as social isolation and lack of self-esteem.

On the other hand: imagine if a friend suffers from a nervous breakdown "out of the blue", so to speak. During the last five years, we have known her, and her life appeared to run smoothly. It may be appropriate then to investigate her past history, to determine any causes of anxiety or tension.

Psychoanalysis favours developmental explanations because of its emphasis on childhood history. Behaviourism favours developmental explanations because of its emphasis on past learning experiences. On the other hand, cognitive and phenomenological psychologists favour interactive explanations, because their theories focus on the individual's present perception and interpretation of events. Common sense nevertheless will tell us that it is necessary to use both forms of explanation together, for the past and the present are inextricably tied up. Often our present interpretations of recent experiences are closely related to past experiences.

NATURE VERSUS NURTURE

There are two different ways of describing the origin of psychological attributes.

Nature - attributes develop as a natural process; they may be biologically or genetically predetermined

Nurture - attributes develop as a result of influences they are exposed to (e.g. other people or the environment)

Example:

Why does Bill drink so much? Did his father have alcoholic tendencies genetically (nature); or did he learn the habit by watching his father during his childhood (nurture)?

Nature refers in this instance, to psychological attributes (characteristics) which may be hereditary (e.g. intelligence, creativity, alcoholism, mental health disorder caused by hormonal imbalance, etc).

Hereditary in human beings refers to behaviour or characteristics which have been transmitted from parents to offspring. The units of hereditary are genes. Genes work to determine the course of development in the growing human embryo.

Nurture refers to psychological attributes that have been learned from close environmental influences such as one's family (e.g. authoritarian behaviour, criminal tendencies, loyalty, personal warmth, etc).

Common sense tells us that genetic and environmental influences often interact to produce a specific kind of behaviour. When considering the origin of psychological characteristics therefore, you must consider both natural and environmental causes.

Influence of Environment on Learning Behaviour

Psychological attributes or types of behaviour can be construed as a result of nature or nurture.

Throughout life behaviour is largely a result of learning from our environment. Environment refers to the conditions and influences under which people live and develop.

Learning can be defined as a relatively permanent change in behaviour as the result of practice or environmental influence.

Modelling and Conformity

There are many forms of learning that have been explored by psychologists. Perhaps the most basic form of learning is vicarious learning or modelling.

This refers to the way in which a child imitates the behaviour of those they love and respect.

Example:

It is common for a little girl to imitate her mother turning the backyard into an imaginary kitchen and making mud pies instead of muffins. Although this is a very simple process of learning, we cannot underestimate the profound effects it has upon an individual's behaviour for the rest of their life.

As the above example suggests, we learn our gender roles through vicarious learning, practicing as a child to behave in the way society expects us to behave, as men or women.

Most learning however would not have far reaching effects unless it was influenced and encouraged by the environment and the people who surround us. Parents reward their children for behaviour they approve of and often punish them for behaviour they disapprove of (Through modelling them we become influenced by other people's value systems -that is by what other people regard as right and wrong). This is called conditioning.

Conditioning involves certain environmental factors which encourage learning to take place.

On a large scale, society conditions us to model our behaviour according to a certain set of norms -that is, encourages us to conform. Conformity has been defined as *"a change in behaviour as a result of real or imagined pressure from a person or group of people"*.

Social conditioning is particularly evident in the media (magazines, newspapers, TV etc).

Example: Many people become obsessed with fitness and dieting in order to conform to the conventional standards of attractiveness.

Psychologists who are most concerned with the environmental influences on learning behaviour are said to belong to the **"behaviourist school"**.

Behaviourists provided a systematic study of the process of learning behaviour, with a central focus on *associative learning*. This is the most basic process of learning and involves making associations between two events. There are two types of associative learning:

- Classical Conditioning
- Operant Conditioning

Classical Conditioning involves the organism's recognition that two stimuli tend to go together.

Operant Conditioning involves the organism learning that a particular response to stimulus leads to a particular outcome.

Example:

Hilgard & Atkinson give good examples of both.

- In classical conditioning a baby learns to associate the sight of the breast with the taste of milk.
- In operant conditioning, the baby learns that if they respond to the stimulus (i.e. the sight of the breast) by taking the nipple in their mouth, the outcome will be the ejection of milk.

Classical Conditioning

The Russian physiologist Ivan Pavlov discovered the conditioned reflex when he harnessed dogs to an apparatus to study their salivary response to food. Yet he observed that the dogs started salivating even before they started eating. These responses appeared to be prompted by the sounds of the food carts being wheeled in. So Pavlov experimented to show that animals could learn to salivate in response to other stimuli, such as the sound

of the bell, if these stimuli were associated with feeding.

Because dogs don't normally salivate to the sound of bells, Pavlov decided that they had acquired this response, called a conditioned response (CR) because it had been paired with a stimulus, called an unconditioned stimulus(US)- in this case food which naturally causes salivation.

The salivation to food, an unlearned response (UR) and the bell, a previously neutral stimulus is called conditioned stimulus (CS).

Do you flinch in the waiting room when you hear the dentist's drill?

The sound of the drill may be a conditioned stimulus for conditioned responses of fear and muscle tension. There are many examples in our daily lives where classical conditioning occurs.

Phobias or excessive fears may develop because of classical conditioning. For instance, if you had a traumatic experience in an elevator you may develop a phobia for riding on elevators. In this instance, a previously neutral stimulus (trauma) which leads to the conditioned response (phobia)

On the other hand, cognitive psychologists interpret Pavlov's results in a different fashion. They take more cognisance of what happens inside the organism's mind. No response would occur in their view, unless the organism was capable of actively processing received information. According to these theorists, the organism observes that conditioned stimuli and the unconditioned stimuli occur together and *stores this information in memory*.

When the conditioned stimulus is presented, the organism remembers its previous simultaneous occurrence with the unconditioned stimulus, and thus responds in *expectation* of the uncontrolled stimulus. The difference between these two interpretations might seem small, but their psychological implications are profoundly different.

Operant Conditioning

Operant conditioning describes a form of learning involved in more complex learning.

The concept of operant conditioning was formulated by B.F. Skinner. Skinner distinguished between operant and respondent behaviour. Respondent behaviour occurs as a direct unconditioned response to a stimulus (e.g. the reflex of the knee or salivating at the smell of good food). Operant behaviour, on the other hand, involves the organism actively performing in the environment without responding to a particular stimulus. Such behaviour is influenced not so much by causes, as by results that are produced.

Example: We wake up in the morning in a good mood for no obvious reason. Because the mood is good, we smile at people in the street. The result of this friendliness might lead people to be warm and friendly in return, or maybe even initiate conversations with you. These consequences will then lead you to smile more often in order to encourage such positive responses.

Skinner's Experiments

A rat is placed in a box containing nothing other than a bar. The rat will explore its surroundings. It will eventually discover the bar and play with it. In effect, the rat is voluntarily operating on its environment.

After a while, the experimenter introduces a food pellet through a food chute to coincide with the times when the rat presses the bar. The rat will eat the pellet, and after that, the rate of pressing the bar increases dramatically. The pellets of food have reinforced the rat's operant behaviour. This differs from classical conditioning because *the rat is not simply passively waiting for a stimulus (e.g. light) to happen before doing something*.

Reinforcement

With operant conditioning, reinforcement refers to the occurrence of an event that follows a desired response. With classical conditioning reinforcement refers to the paired presentation of the conditioned stimulus and the unconditioned response.

With operant conditioning, there are two types of reinforcement:

- Positive Reinforcement
- Negative Reinforcement

During **positive reinforcement** the production of a positive stimulus after the response, reinforces the response.

Example: If you are busy working and someone brings you food and drink, you are encouraged to work more.

During **negative reinforcement** the withdrawal of a negative stimulus after the desired response increases that response.

Example: If you are working hard and not enjoying it, but you know that when a certain amount of work is finished, you can stop: that knowledge will encourage you to finish faster.

Note: the greater amount of reinforcement, the faster the rate of learning. On the other hand, intermittent reinforcement is a form of conditioning that can be far more successful than regular reinforcement. Intermittent reinforcement is based upon the fact that if positive reinforcement occurs occasionally (instead of all the time), the desired response will then strengthen.

Imagine that you have a child, or a little sister that you are looking after during the day. Suddenly you get work that you can do from home. The child who has been used to your full attention becomes jealous every time you settle down to work.

She comes into your room and causes havoc to attract your attention. At first you try to ignore her, hoping that she will get used to playing on her own. Eventually she becomes impossible, and you sit her on your lap to try to calm her down. If you give her attention every time she begins to perform, you are reinforcing bad behaviour regularly (i.e. she is learning to cause havoc in order to receive attention). If you ignore her occasionally, and only occasionally give her attention; she will probably get used to entertaining herself.

Intermittent reinforcement changes behaviour on the basis of the fact that there is an element of uncertainty in the child's mind. This uncertainty encourages her to explore alternative forms of behaviour, such as playing alone.

Negative reinforcement should NOT be confused with punishment.

The aim of punishment is not to increase the probability of a certain response, but rather to decrease that response.

Example: A child might be shouted at every time they reach for a hot plate on the stove. This stimulus (i.e. being shouted at) is provided to discourage that action.

Punishment can take the form of inflicting an unpleasant sensation - some parents might put soap in a child's mouth if they have been swearing -or it can take the form of depriving someone of pleasure (e.g. a parent might restrict a child to staying at home; society might restrict a criminal to prison).

In the light of what you have read so far in this lesson, you should be starting to see some relevance to psychology in the workplace.

Think about it, and ask yourself:

“How can understanding a person's psychology, help you to better deal with them in a workplace situation?”

What does an Industrial Psychologist do?

So now we will consider how psychology can be used in the workplace. But before we do that, what is industrial psychology?

Industrial Psychologists are also known as Work Psychologists, Organisational Psychologists and Industrial-Organisational Psychologists.

So, what does that mean?

After the industrial revolution, humans were expected to work in different ways –

- In factories
- For set hours
- To perform quick tasks etc.

Now with the technological revolution, this has again led to changes in the way we work –

- Increase sedentary time
- More time on computers
- Reduced factory work

And so on.

Industrial Psychology rose to greater prominence after World War I, following the Hawthorne Studies, which looked at the impact of observation and working conditions on workers, and the need to reassign troops to new job roles.

Industrial psychologists apply the use of psychology to organisations and the workplace. Industrial psychology is a branch of applied psychology. It is concerned with the efficient management of staff and with the problems that staff may encounter in a mechanised and technological environment. It has also been defined as –

“the scientific study of the relationship between man and the world of work....in the process of making a living”

(Guion)

“Simply the application or extension of psychological facts and principles to the problems concerning human beings operating within the context of business and industry.”

(Blum and Naylor)

SET TASK 1

Make a list of all the areas of work that you think that psychology may be used.

You may have come up with a short or a very long list.

Industrial Psychologists can contribute to the success of an organisation in a range of different ways. By looking at the performance and well-being of staff, hiring/recruitment, training and much more. Historically, industrial psychology has covered two broad areas of study – industry and psychology.

Industrial Psychologists may look at -

- Personnel selection
- Personnel recruitment
- Performance appraisal
- Management
- Leadership
- Executive coaching
- Job analysis
- Assessments, such as personality assessments, ability testing.
- Job performance
- Psychometrics
- Training

- Training evaluation
- Compensation
- Work/life balance
- Human factors
- Organisational culture
- Group work
- Technology in the workplace
- Job attitudes -
- Job satisfaction
- Commitment
- Citizenship within the organisation
- Employment law
- Motivation
- Ethics
- Diversity
- Human resources
- Job design

SET TASK 2

Discuss the following questions with one or two friends and make notes of their responses.

- What environmental circumstances have affected your personality, life choices, and work attitudes?
- In your opinion, to what extent are mental characteristics inherited?
- What factors in the workplace encourage you to work to the best of your ability?
- What factors in the workplace discourage you from working to the best of your ability?
- How does your workplace encourage or nurture learning?
- How does your workplace hinder learning?