**Areas of Psychology**

Abnormal Uses DSM- IV

Biological Uses e.g. MRI and PET scans

Clinical assess diagnose treat

Cognitive Thought processes and cognition

Comparative compare with animals

Developmental over life cognitive moral identity etc

Forensic legal & criminal

Industrial work performance and improvement

Personality incl Freud’s big 5

School children with problems

Social social influence.

**Perspectives**

Biological AKA biopsychology physiological psych

Behavioural learned behaviour lost hold in 50s used in applied areas

Cognitive focus on process starts in 60s Jean Piaget Albert Bandura

Cross-cultural Cultural influences

Evolutionary mental processes have evolutionary purpose

Humanistic Motivation concepts eg. Self actualization Carl Rogers Abraham Maslow

Psychodynamic Unconscious Sigmund Freud

**Objectives for teachers**

* Different angles
* Explain classroom behavior
* Understand different strategies

**History**

* Berliner notes theories previously there. Plato and Aristotole.
* Socratic questioning
* Value of practice Juan Luis Vives 1500s
* Visual aids Comenius 1700s
* Pestalozzi emphasized activity
* Herbart 5 step approach
  + Preparation (of mind)
  + Presentation
  + Association and cmparison
  + Generalisation or abstraction
  + Practical application

Harris “not so much seeing and hearing and handling things as recognizing and understanding them.” Minds on not hands on.

Psychology and formal discipline book James Sully 1886 Mind has separate facilities learning the classics best way to train –mental exercise.

Psych linked to education Thorndike & Judd. Cubberly “Psych guiding science in Education.”

1926-56 most teachers had a psych course Continued to 70s Thornberg noted prevalence

**Developmental Psych** = human development incl psycho-physio skills, and psych alone e.g. problem solving. Look at e.g. are children and adults qualitatively different. Informs applied fields and complements others. Physical dev occur same age psych development affected by conditions.

Roots in Descartes, Aristotle, Tabari, Rhazes, Alhazan and Shakespeare. (As you like it stages of man.)

Rousseau three stages of childhood.

Link of Darwin to Psych late 19th C G Stanley Hall.

Scientific approach James Mark Baldwin.

5 psychosexual stages Freud 1905

Steiner developmental stages through out life.

Piaget stages of childhood

Vygotsky and Piaget strong empirical tradition by mid 20th C

**Why development matters.**

* Single grade teaching: Appropriate material and expectations.
* Multigrade teaching. Appropriateness and expectations.

Some theorists generalise re all others only some changes in some people in some conditions.

Variations staircase v kalaidescope Lewis Harris

Educational psych generally favours staircase easier with a variety of kids. Risky.

**Stages of Development**

**prenatal**

Germinal conception – week 2

Embryonic week 2 – week 8

Foetal week 9- birth

**Infancy** Birth – speech 6 states:

* Quiet and active sleep
* Quiet and active waking
* Fussing and crying
* Different responses to stimuli in different states.
* Habituation occurs – respond less to stimuli the more exposure there is. Dishabituation
* Poor vision pos no colour before 2 months
* Hearing is well developed
* Smell and taste present
* Full sense of touch

**Toddler**

* Demonstrate intelligence with use of symbols
* Language matures
* Memory and imagination develop
* Thinking non-logical, non-reversible.
* Egocentric
* Attempting independence

**Early Childhood**

* At preschool broaden social horizons
* Impulses into fantasies

**Childhood**

* Logical and systematic manipulation of symbols
* Operational thinking – actions are reversible egocentricity diminishes
* Make things use tools accept feedback from outsiders

**Adolesence** Onset of puberty - commitment adult role

* + Return to egocentricity.
  + Only 35% develop ability to reason formally in adolescence or adulthood Huitt & Hummel
  + Who am I who do I want to be.
* Puberty
* Body change
* Increased sexual attraction (10-11) can affect social life McClintock & Herdt
* Possible accentuation of gender difference change in behaviour in some subjects e.g. girls downplay maths and science ability. Taylor, Gilligan & Sullivan, Sadker. Boys may become more sporty. Reluctance to associate with other gender, or wish to for non-academic reasons.

**Early Adulthood**

* Learn intimate relationships.
* Develop socio-political views Jeffrey Arnett

**Middle Age 40 – 65**

* Conflict generativity v stagnation

**Old age 65 ->**

* Integrity v despair
* accomplishment or failure.
* Intellectual powers probable crystallised stable fluid decrease.
* Cognitive development
* Cognition = thinking and memory

Jean Piaget genetic epistemological theory re growth of intelligence (ability to accurately represent the world and perform logical operations on representations of concepts grounded in interaction with the world)

* Emergence and construction of schema.

**Constructivist theory** – construct our abilities through self-motivated action.

Four main periods roughly age associated

1. Sensormotor 0-2 months Born with reflexes – develop essential spatial abilities 6 sub-stages

* Reflex scheme stage birth to 1 month develop reflexes
  + Sucking objects in mouth
  + Following objects with eyes
  + Closing the hand when an object makes contact

2. Primary circular reaction 1 – 4 months

* + - Develop habits repeat an action of one’s body
    - Classical or operant conditioning can work Gruber et al

3. Secondary circular reactions 4-8 months development of hand –eye coordination

* + - Intentional grasping at objects
    - Secondary circular reactions
    - Differentiation ends and means
    - Differentiation of means = dawn of logic Gruber
    - Beginning of sense of object permanence

4. Coordination of secondary course round modest circular reactions 8 – 12 months

* Logic and sense of Coordination of ends and means first proper intelligence
* Beginning goal orientation

5. Tertiary circular reactions 12-18 months Young scientist

* New means to meet goals
* Pseudo-experiments Gruber
* Beginning of symbolic representation 18-24 mths
* Consider before doing
* No need for trial and error
* Beginning of insight
* Passage to pre-operational

6. Preoperational near end year 2 qualitatively different psych functioning

* Mentally acting on objects
* Use and represent objects with images and words – symbolic thinking
* Egocentric
* Classify by single feature eg colour
* Develop language skills 2-7 yrs
* Intuitive not logical
* Imaginative

**7. Preconceptual and intuitive** 2-4 yrs egocentric and animistic

Intuitive 4-7 yrs

* Use mind to solve problems but not aware of how
* Start transition from intuitive to logical
* Not organised or logical
* Dramatic play
* Aware of multi levels – metacognition.

**8. Concrete operational** 7-11 years appropriate logic

* Seriation sort objects
* Classification name and identify objects by characteristic include one set can contain another.
* Decentreing multiple aspects considered
* Reversibility can change and return to original state
* Conservation appearance does not alter character of object eg volume remains in round or square.
* Elimination of egocentrism
* Cannot think about representations of objects or events.
* Concrete operational can recall order of experiment cf pre-operational steps but not order.

**9. Formal operational** 11 -> abstract thinking logic

* Marks entry to adulthood in physiology cognition moral judgement Kohlberg psycho sexual Freud psychosocial Erikson
* Can reason hypothetically
* Stages re
* thought not children
* sequence, not timing, fixed
* universal
* generalisable
* logical wholes
* hierarchical
* qualitative differences.

**Bruner’s cognitive theory three modes of representation**

Enactive encode information and store in memory. Represent the past with motor responses

Iconic store information as images

Symbolic store information as code or symbol – language

* New material go from enactive to iconic to symbolic even as adults
* Language allow the abstract
* Theory non hierarchical gradual development
* Social development

**Social psychology** nature and causes of behaviour John Stuart Mill, Comte state should be scientific study.

* Long term changes in relationships. For classroom especially important:
* Changes in self concept and relationships Erikson
* Changes in needs or motives Maslow
* Change in sense of rights/responsibilities ethics Kohlberg Gilligan

**Erikson 8 crises of development**

Infants -> preschool

* **trust v mistrust** re others in power eg mother feeding
* **autonomy v shame** eg dressing self
* **initiative v guilt** eg want the blocks to self to work with overlaps with school age

Childhood

* **Industry v inferiority** gain respect of others by eg learning set realistic goals tolerate less than perfect.

Adolescence

* **Identity v role confusion** Who am I may differ from who I want to be – role confusion provide diverse role models. Tolerate changes in goals

Adulthood

* **Intimacy v isolation** young adult establish close relationships
* **Generativity v stagnation** middle age contribute or not.
* **Integrity v despair** old age did I live as well as possible

All stages may appear in childhood

**Abraham Maslow Hierarchy of motives and needs**

* Deficit needs basic necessities physical -> safety and security -> love and belonging -> esteem others and self.
* Being Needs: fulfilment. Cognitive, aesthetic, self actualization
* Self actualizing value relationships and solitude, have sense of humour but not at others, expense, spontaneous, humble, creative, ethical.

**Social development L Vygotsky**

* Social interaction fundamental to cognitive development.
* Requires Zone of Proximal Development – social behaviour
* Consciousness = end product of socialisation
* Development limited at any given age,

**Moral Development**

* Beliefs re ethics
* Convention may be both practical with a moral component
* Morality of justice = rights
* Morality of care = responsibility
* Models of learning
* Begun by Pavlov and Thorndike

**Three models**

Classical conditioning Pavlov reflexes

Operant conditioning Thorndike Skinner conscious decision

* need rewards remove reward lose behaviour
* Punishment produces avoidance weakens, not destroys, learning.
* Theory if you can learn you can unlearn

Cognitive

* Trial and error can be replaced by eureka moment – insight solving a puzzle cf responding to stimulus.
* Behaviourism only observable behaviour – learning = new behaviour
* Conditioning = universal learning behaviour
* Classical
* Operant = simple feedback system.

**Critics**

* does not account for all learning
* Does not explain some learning
* Animals adapt to new information

Can be effective in treating disorders

**Brain based learning** structure and function of brain schooling can punish natural brain behaviour

* Brain can perform several functions at once
* Learning uses whole physiology
* Search for meaning innate
* Search for meaning comes through patterning
* Emotions critical to patterning
* Process whole and parts simultaneously
* Use focussed attention and peripheral perception
* Conscious and unconscious
* Two types of memory spatial and rote
* Understand when in spatial memory
* Learning enhanced by challenge inhibited by threat
* Each brain is unique.

***Instructional techniques***

* Orchestrated immersion
* Relaxed alertness try to eliminate fear and maintain challenge
* Active processing consolidate and internalize.
* Learning must be contextual
* Use teams learn around real problems

***Assessment:***

* allow students to understand own learning styles.
* Immerse in complex interactive experience
* Personally meaningful challenge
* Intensive analysis of different approaches to a problem.
* Feedback best from reality
* Best learning solving real problems
* Big picture and details inseparable
* Learners should customise environments
* Best problem solvers laugh
* Participation not lecturing.

**Constructivism**

* Reflection constructs understanding learning = adjusting to new experiences
* Learning is a search for meaning
* Meaning requires understanding whole and parts in relation – concepts not facts
* Must understand student mental models
* Purpose is to construct own meaning.
* Looks to hands on and abolition of standardised curriculum
* Elimination of grades and standardised testing

**Neuroscience** biology of consciousness, perception, memory, learning.

*Brain has triad structure*

Lower reptilian = basic sensory functions

Mammalian, limbic = emotions, memory, biorhythms

Neocortex = thinking

* Structure flexible webbed.
* Changes with use
* Use integrated whole ideas, real experience, complex thinking

**Communities of Practice** Learning is act of membership of a community.

Theory from Xerox Corp

***Uses cross discipline study. Assumes:***

* Learning is a social phenomenon
* Knowledge is integrated in communities that share values etc
* Learning and community membership inseparable
* Knowledge and practise inseparable
* Ability to contribute creates learning

**Control theory**

* Motivation is current desire never external Glasser
* Boss teachers use rewards and punishment “leaning on your shovel work”
* Lead teachers avoid coercion make intrinsic value of work clear.
* Need to negotiate content and method. Standards are absolute not a curve.

**Multiple intelligences** at least 7 ways of learning Howard Gardner

***Intelligence = group of abilities that are:***

* Largely autonomous
* Have a core set of information processing abilities
* Distinct history in development
* Plausible in evolutionary theory

***Types***:  
Verbal –Linguistic words and language

Logical- mathematical inductive and deductive reasoning, use of numbers, recognise abstract patterns

Visual-spatial visualise objects and spatial dimensions

Body-kinaesthetic wisdom of body ability to control motion

Musical – rhythmic recognise tones and tonal patterns sensitive to rhythms and beats

Interpersonal person to person

Intrapersonal spiritual inner states.

Need to improve balance of intelligences in teaching not just verbal and logical.

**Right Brain left brain**

* Right = random, intuitive, holistic, synthesising subjective looks at whole
* Left = logical, sequential, rational, analytical, objective, looks at parts.

Need to include more right brain activity.

**Systems Model**

Model required to define importance of variables.

Want to know multiple entities study individuals and aggregate. Newtonian physics, much psychology.

Cf systems cybernetics view must understand relationships between entities Gordon, Sciamberg & Smith Thompson

Accepts concept of mind body spirit

Personality 3 dimensions Eysenck, Niller, Norman

* Cognition knowing thinking
* Affect attitudes emotions feelings predispositions
* Conations intentions, reasons volition, will

***5 components***

* Cognitive perceives stores processes retrieves
* Affective modifies after cognitive processing
* Cognative manages input and output
* Spiritual re the unknowns
* Behavioural overt action

Do not develop in isolation

* Microsystem – immediate influences = social institutions incl family
* Mesosystem social institutions transport entertainment etc
* Macrosystem removed eg global .

NB some cultures see child raising as a community responsibility.

* Dualist approach sees biological and spiritual components Danesh, Frankl
* Assumes brain and mind are separate and there is a spiritual dimension cf materialists brain = mind

**Challenges of Educational Psychology**

* Develop and integrate
* Situate learning while keeping understanding
* Identify theories to think with See Alexander and Murphy five-learner centred principles
* Making process apparent and accessible.

**A good teacher is**

* A good communicator
* Keeps temper in check and acts calmly
* Good sense of humour
* Good time management
* Fair
* Command of subject matter
* Dedicated
* Meticulous
* Leader and friend.
* Teacher Efficacy Proctor