Theory of learning and development

Behaviourism

- Ignoring a behaviour leads to increase in frequency for a short time before it decreases
- Extinction burst
- Satiation
- Punishment
- Behaviour modification
- Reinforcement or Reward
- Operant conditioning
- Skinners behaviourism
- Link between behaviour and cognition
- Cognitive processes
- Neobehaviourism
- This is learning
- Conditioned response
- Unconditioned stimulus
- Conditioned stimulus
- Stimulus generalization
- Pavlov
- Classical conditioning
- Extinction
- Bandura
- Observational learning
- Cognition bridges the environment/behaviour connection
- Experience or observation can influence learning/ knowledge
- Social learning theory
- Emphasis is placed in the effects of external events on the individual
- The process through which experience causes change in behaviour
- It is evident in the classroom today
- Learning is observable
- Dominated until 1960s
- Learning is social

Cognitivism

- Concentrating and focusing mental resources to a task
- Meaning making is key
- Attention
- Reviewing
- Ability to focus on important parts while blocking out other stimuli
- Selective attention
- Elaboration
- Organization
- Strategies
- Something changes so you need attention
- Dishabituation
- Rehearsal
- Habituation
- Basic processes of memory
- No longer paying attention to a stimulus
- Values memory
- Sensory memory
- Fraction of a second up to 30 seconds
- Automaticity
- Processing information with little or no attention
- Long term memory
- Up to 30 seconds
- Working or short term memory
- Has an affect on school achievement
- As short term memory increases so does processing speed
- Schemas
- How memories are stored in long term memory
- Up to a lifetime
- Personal schemas
- Scripts schemas
- Predictable events
- We all have different connections
- Stages of cognitive development
- Sensorimotor 0-2 child interacts with env't
- Pre operational 2-6 or 7 child begins to represent world symbolically
- Concrete operational 7-11 or 12 child learns rules such as conservation
- Formal operational 12-adulthood adolescent can transcend concrete situations and think about future
- Each stage qualitatively different, follow a regular sequence, experience and time needed to progress
- Learning is social
- Thinking as information processing
- Active learning Self-observation Multimodal learning
- Influenced by environmental conditions and internal conditions/ abilities
- Piaget
- Learning as a constructive process
- Assimilation
- Accommodation
- Equilibration
- When a student adjusts to new knowledge
- Teachers should use developmentally appropriate practices to enable children to learn
- Incorporating new information into existing knowledge
- Activity is key
- Children must be developmentally ready to learn
- Children think differently than adults
- Children are active learners

Constructivism

- Individuals seek equilibrium in cognitive systems (explains how we go from one stage to next) disequilibrium is cognitive conflict
- Importance of experience

Social constructivism

- Modelling
- Cueing
- Thinking aloud
- Glance/gesture
- Scaffolding
- Asking questions
- Teachers role is to provide activities within each students ZPD
- The distance between what you can do on your own and what you can do with help from an adult
- Zone of proximal development ZPD
- Cognitive development requires interaction with peers
- Importance of experience
- Rulers
- Computers
- Real tools
- Numbers
- Culture tools
- Symbols
- Language
- Speech
- Private speech (self-talk)
- Culture is key
- Inner speech (thought)
- Vygotsky
- Teachers role co-explorer
- Thinking reflects language

Social constructionism (sociological constructivism)

- Learning involves a process of engagement in a community of practice
- Common interest in subject or problem
- Social learning
- Can be part of many communities
- Initially people are at the periphery, as they become more important they move more to the centre
- We become active participants and construct identities in relation to these communities
- Collaboration over time to share ideas, find solutions, build innovations
- Learning involves activity
- Ideas are judged as useful or true, good or bad
- Situated learning (all learning is contextual)
- Importance of collaboration and interaction in learning
- Help students become expert learners
- Teachers role
- Get students to reflect on and talk about what they are doing and how their understanding is changing
- Children learn at different stages and
- Use active techniques to create knowledge
- Create an environment where students learn how to learn
- See social participation as important part of class
- Give students tools to support their thinking
- Mind filters information to create its own interpretation of reality
- Creation of knowledge through meaningful experiences
- Making meaning of the world is open to change
- Learning does not require memorization of important facts
- Learning must include activity-practice, concept-knowledge, culture-context
- Strategies include collaborative learning, use of multiple sources, debate, discussions, reflective awareness

Piaget

- Knowledge constructed through prior personal experiences to create mental images
- Language reflects thinking
- Children learn according to appropriate ages and stages
- Teacher has a limited role