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Student Name: Radu-Mihail Angheluta

Student Number: 2329550

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Reflective Critique on Theories of Learning

Introduction

Learning theory remains one of the most powerful influences shaping education in the twenty first century, even when it is no longer explicitly named in policy or practice. How classrooms are organised, how assessment is designed, how digital platforms structure learning, and how students are judged to be successful all depend on underlying assumptions about how learning happens. In contemporary systems driven by data, standardisation and efficiency, these assumptions are not neutral but rather they shape what kinds of learners are valued, what kinds of knowledge are prioritised, and how teaching is expected to operate. A critical engagement with learning theory is therefore not about choosing the best model, but about examining how different theories frame learners, teachers and the purposes of education.

This reflection focuses on behaviourism and cognitivism because they continue to exert a strong influence on modern educational practice, particularly in areas such as assessment, instructional design, classroom management and digital learning technologies. Behaviourist ideas are embedded in systems of reward, monitoring and performance measurement, while cognitivist ideas underpin curriculum mapping, learning outcomes and the design of instructional materials. Despite their different emphases, both theories remain fundamental to how learning is organised, evaluated and controlled in contemporary schooling.

At the same time, both theories rest on particular assumptions about what a learner is and how learning should occur. Behaviourism constructs the learner primarily as a responder to external stimuli, shaped through reinforcement and habit formation. Cognitivism, by contrast, constructs the learner as an information processor, whose thinking can be optimised through careful design of tasks, content and feedback. These perspectives offer useful insights, yet they also risk narrowing education to what can be measured, controlled or efficiently processed.

The argument developed in this essay is that modern education is shaped by both behavioural control and cognitive design, yet neither is sufficient on its own. While behaviourism provides tools for regulating performance and cognitivism offers models for structuring knowledge, each produces a limited and incomplete view of learning. A critical reflection of these theories exposes how they simultaneously enable effective teaching while also constraining the educational possibilities available to learners in a complex, unequal and rapidly changing world.

Behaviourism as a theory of learning

Behaviourism defines learning as a change in observable behaviour produced through experience. This idea rests on the assumption that what matters in learning is not what a learner thinks or feels, but how they act. Watson (1924) argued that psychology should be a science of behaviour, not of the mind, because only behaviour can be observed and measured reliably. From this perspective, the learner is understood as someone who responds to the environment rather than someone who actively interprets it. Learning is therefore treated as something shaped by external conditions rather than by internal interpretation.

The roots of this approach lie in Pavlov's (1927) work on classical conditioning, which showed how automatic responses could be learned through repeated association between a stimulus and a reaction. Pavlov demonstrated that learning could occur without conscious intention, which supported the idea that behaviour could be trained rather than understood. Thorndike (1911) extended this through the law of effect, which proposed that behaviours followed by positive outcomes are more likely to be repeated. In educational settings, this made reinforcement pivotal to learning, since students are expected to repeat actions that lead to praise, high marks or other rewards.

Skinner (1953) developed this into operant conditioning, arguing that behaviour could be shaped through systematic use of reinforcement. In classrooms, this logic appears in practices such as behaviour management systems, grading, and the use of rewards to motivate students. From a behaviourist point of view, effective teaching is therefore

about designing environments that produce the right responses. The learner is imagined as someone whose progress depends on how well the system of rewards and consequences is arranged, rather than on how deeply they understand the subject. This way of thinking still strongly influences modern education as Illeris (2018) explains that behaviourist ideas continue to shape assessment and teaching, especially in systems that prioritise measurable performance and efficiency. Kirschner and Hendrick (2020) also show how many classroom practices, including frequent testing, drills and immediate feedback, reflect behaviourist assumptions about how learning works. Digital learning platforms in particular often rely on this logic, using points, badges and instant feedback to reinforce correct answers and discourage mistakes.

However, this model of learning also has clear limitations such as when learning is defined only in terms of behaviour, it becomes possible for students to succeed without understanding, simply by learning how to produce the required responses. Waring and Evans (2014) argue that this can reduce education to a technical process, where the focus is on control and performance rather than on meaning and growth. From a wider social perspective, Giroux (2020) warns that behaviourist systems fit easily into cultures of surveillance and accountability, where students are judged by how well they comply with rules and targets rather than by how they develop as thinkers.

Behaviourism therefore constructs the learner as a responder to external forces, shaped by rewards, punishment and repetition. This makes it useful for managing behaviour and improving short-term performance, but weak as a theory of education. It explains how habits are formed, yet it offers little insight into how learners come to understand, question or engage critically with what they are being taught.

Strengths and limitations of behaviourism in modern education

Behaviourism continues to maintain a significant role in modern education because it offers practical tools for managing classrooms, organising learning and producing measurable outcomes. In systems that are required to demonstrate effectiveness through data, grades and performance indicators, behaviourist principles provide a clear way of linking teaching to observable results. Reinforcement, feedback and

repetition remain especially useful for developing basic skills, such as reading fluency, number facts and procedural routines, where automaticity reduces cognitive effort and supports later learning (Kirschner & Hendrick, 2020). From this perspective, behaviourist techniques can support efficiency and reliability, particularly in large, diverse classrooms where consistency is often necessary.

Behaviourist approaches are also embedded in behaviour management systems, where rewards, sanctions and praise are used to shape student conduct. In busy school environments, these systems can create predictability and reduce disruption, allowing teaching to take place. In this sense, behaviourism supports the everyday functioning of schools by providing a framework for regulating behaviour and encouraging compliance with shared expectations. Illeris (2018) notes that these practices are not simply theoretical but form part of the hidden structure of how learning is organised in most institutions.

However, the very features that make behaviourism useful also reveal its limitations. When learning is driven primarily by external rewards and punishments, students may become focused on performing for approval rather than on understanding what they are doing. Over time, this can weaken intrinsic motivation and encourage surface learning, where the goal is to get the right answer rather than to develop meaningful knowledge. Kirschner and Hendrick (2020) warn that excessive reliance on extrinsic reinforcement can lead students to disengage when rewards are removed, because the learning itself has not become personally or intellectually meaningful. This becomes particularly problematic in highly performative education systems, where testing, league tables and accountability measures dominate school life. In such environments, behaviourist logic is often amplified, as students are trained to meet targets rather than to think critically. Waring and Evans (2014) argue that this encourages a technical view of teaching, where success is judged by measurable outputs rather than by the quality of learning. As a negative result, the learner in this system becomes a performer rather than a participant in their own education.

From a social and political perspective, behaviourism also raises concerns about power and inequality. Giroux (2020) argues that education is never neutral, and that systems of control and surveillance often reflect wider social hierarchies. Behaviourist practices can reinforce this by rewarding conformity to dominant norms while

penalising those who do not fit easily into institutional expectations. This means that students from disadvantaged or marginalised backgrounds may be more likely to be labelled as disruptive or unmotivated, not because they lack ability, but because the system values particular forms of behaviour and compliance.

In digital learning environments, these tendencies are even more pronounced as online platforms frequently use behaviourist mechanisms such as points, streaks and automated feedback to drive engagement. While this can increase short-term participation, it also risks reducing learning to a series of responses to prompts, rather than a process of understanding and growth and as a negative result, the learner becomes a data point to be tracked and optimised, rather than a developing thinker.

Behaviourism therefore remains influential because it fits well with systems that prioritise efficiency, order and measurable performance, yet these same qualities make it educationally limited. While it can support routine, discipline and basic skill acquisition, it struggles to address creativity, critical thinking, identity and the social purposes of education. In a world where learners must navigate complexity, uncertainty and inequality, a theory that treats learning as controlled behaviour offers only a partial and ultimately restrictive vision of what education can be.

Cognitivism as a theory of learning

Cognitivism emerged as a response to the limits of behaviourism, particularly its refusal to engage with what happens inside the learner's mind. While behaviourism treated learning as a change in observable behaviour, cognitive theorists argued that learning involves internal mental processes such as perception, attention, memory and problem solving (Neisser, 1967). This shift reframed the learner not as a passive responder to stimuli but as an active processor of information. From this perspective, teaching becomes less about shaping behaviour and more about structuring experiences in ways that support thinking.

Central to cognitivism is the idea that learners do not simply absorb information but interpret it through existing mental structures. Bartlett's (1932) work on memory introduced the concept of schemas, showing that people organise knowledge into frameworks that shape how new information is understood and remembered. This

means that learning depends not only on what is presented, but on what the learner already knows. In educational terms, this supports practices such as activating prior knowledge, using examples and analogies, and carefully sequencing content so that new ideas can be integrated into existing understanding.

Cognitivism also developed through research on attention and memory, which highlighted the limits of human information processing. Miller's (1956) work on short-term memory showed that learners can only hold a limited amount of information at once, which has direct implications for teaching. If too much information is presented too quickly, cognitive overload occurs and learning breaks down. This insight has been highly influential in modern instructional design, particularly in digital and multimedia environments, where information can easily overwhelm learners.

Language also played a crucial role in the cognitive revolution. Chomsky's (1959) critique of Skinner's behaviourist perspective on language demonstrated that children produce sentences they have never heard before, which cannot be explained through imitation and reinforcement alone. This suggested that learners actively generate and manipulate mental representations rather than simply responding to external input. In addition to this, learning, from a cognitivist point of view is therefore creative and rule governed and not just reactive.

Problem solving research further strengthened this view, for instance, Köhler's studies of chimpanzees showed that learning can involve insight rather than gradual conditioning, as animals were able to restructure a problem mentally before acting (Neisser, 1967). This reinforced the idea that cognition involves organising and reinterpreting information, not just accumulating responses.

The development of computers and artificial intelligence also shaped cognitivist thinking, as the mind began to be understood as an information processing system. Learners were imagined as systems that receive input, process it, store it in memory and retrieve it when needed. This analogy still dominates modern education, particularly in curriculum design, assessment and learning technologies.

However, this view also imposes limits, for example cognitivism imagines the learner primarily as an individual mind, separated from social, cultural and emotional contexts. Learning becomes something that happens inside the head, even when it is influenced by instruction. While this allows for precise models of memory and attention, it risks

reducing education to a technical problem of optimising information flow rather than a human process shaped by relationships, identity and power.

Cognitivism therefore offers powerful tools for understanding how knowledge is processed, but it also frames learners in narrow terms. The learner becomes an efficient or inefficient processor, rather than a person situated in a social world. This tension lies at the core of its influence on modern education, where learning is increasingly designed, measured and optimised, yet often disconnected from the lived realities of students.

Strengths and limitations of cognitivism in modern education

Cognitivism has had a profound influence on how education is organised in the modern era, particularly through its impact on curriculum design, assessment and digital learning. Because it treats learning as a process of information processing, it has encouraged educators to think carefully about how knowledge is presented, sequenced and stored in memory. Concepts such as attention, working memory and long-term memory have become fundamental to instructional design, shaping everything from lesson planning to the architecture of online learning platforms (Neisser, 1967; Miller, 1956).

One of the most significant contributions of cognitivism to contemporary pedagogy is its emphasis on cognitive load. Sweller (1988) showed that when learners are required to process too much information at once, their working memory becomes overloaded and learning suffers. This insight has been used to justify practices such as breaking content into manageable chunks, using worked examples, and avoiding unnecessary visual or textual clutter. In well designed classrooms and digital environments, these principles can make learning more efficient and more accessible, particularly for developing learners who do not yet have strong schemas to support understanding.

Cognitivist principles have also shaped the way teachers think about explanation and feedback. By focusing on how learners encode, store and retrieve information, educators are encouraged to design instruction that makes key ideas explicit, highlights relationships between concepts and supports metacognition. Strategies such as retrieval practice, spaced learning and dual coding all draw on cognitivist research into memory and attention. In this sense, cognitivism has helped move

education away from purely intuitive teaching towards more evidence-informed approaches.

However, these strengths are also the source of serious limitations, for example, cognitivism tends to see learning as a technical task of transferring knowledge which results in a narrow teaching framework that focuses only on how quickly and clearly information can be moved from the teacher to the student. When learning is treated primarily as information processing, students become data-handling systems rather than socially situated individuals. This aligns problematically with contemporary performative cultures in education, where success is defined through measurable outcomes, standardised tests and cognitive efficiency rather than through meaning, creativity or social growth (Waring & Evans, 2014).

The focus on individual cognition also risks ignoring the social and cultural conditions in which learning takes place. Although cognitivism recognises that learners bring prior knowledge to a task, it tends to treat that knowledge as a neutral cognitive resource rather than something shaped by language, culture and power. As Giroux (2020) argues, education is never simply psychological but instead it is also political and cultural. When cognitivist models are used without this awareness, they can conceal inequalities by framing underachievement as a problem of cognitive processing rather than of access, recognition or belonging.

Cognitivism also struggles to account for emotion, identity and motivation comprehensively. While attention and memory are acknowledged, the emotional and relational dimensions of learning are often treated as secondary or disruptive rather than as part of the main core. Yet in real classrooms, anxiety, confidence, peer relations and teacher-student relationships strongly shape what learners are able to think and do. By focusing on the architecture of the mind rather than the experience of the learner, cognitivism can miss what most powerfully shapes educational engagement.

In modern education, cognitivism has provided powerful tools for designing instruction and understanding learning processes, but it has also contributed to a technocratic view of education where learning becomes something to be engineered rather than something to be lived, which risks narrowing the purposes of education in an increasingly complex and unequal world.

Synthesis

Behaviourism and cognitivism are often presented as competing theories of learning, yet in practice they function together as the hidden architecture of the contemporary education. Behaviourism supplies the logic of control, while cognitivism supplies the logic of design. One regulates what learners do, and the other organises what learners think. Together, they shape classrooms that are increasingly managed through targets, metrics, algorithms and carefully designed learning experiences.

From a behaviourist perspective, learning becomes something that can be shaped through reinforcement, monitoring and feedback. This logic is visible in behaviour management systems, performance targets, attendance tracking, grades and digital reward structures. These practices assume that learners respond predictably to incentives and sanctions, and that educational success can be configured by adjusting external conditions. Cognitivism, by contrast, treats learning as something that can be optimised through careful design of tasks, information and feedback. Curriculum frameworks, learning objectives, assessment criteria and instructional technologies are built on the idea that if cognitive processes are properly managed, efficient learning will occur.

Together, these theories have made education more standardised, measurable and scalable. In systems facing pressure to educate large populations efficiently, this has undeniable value since behaviourist techniques help maintain order and consistency, while cognitivist principles make it possible to structure complex knowledge into teachable units. In this sense, these theories have enabled mass education to function, yet this same combination also reveals the limits of how learning is understood in modern schooling. When behaviourism dominates, learners are reduced to performers who must comply with externally imposed expectations and when cognitivism dominates, learners are reduced to information processors whose thinking must be optimised. In both cases, education risks becoming something done to students rather than something they participate in. Furthermore, creativity, critical thought, identity and cultural difference sit uneasily within systems designed primarily around control and efficiency.

These theories also struggle to account for the realities of contemporary classrooms, which are shaped by diversity, inequality, emotion and digital mediation. Learners do not arrive as neutral minds or passive recipients but as people whose experiences, languages and identities affect how they engage with knowledge. Behaviourism and cognitivism can explain aspects of learning, but they cannot explain why some students feel alienated, why others resist schooling, or why success is unevenly distributed across social groups.

These theories successfully explain the mechanics of learning, but they ignore the ethical and social values that should guide why teachers educate children in the first place. By focusing on behaviour and cognition, they push ethical, cultural and political questions to the margins. A critical understanding of learning therefore requires moving beyond both external control and internal processing to recognise learning as a deeply human, social and moral activity.

Critical reflection of my developing understanding of education

Engaging critically with behaviourism and cognitivism has fundamentally reshaped how learning appears to me, not as a neutral process of acquiring skills or knowledge, but as something that is actively shaped by power, design and underlying assumptions about what learners are and what education is for. Before examining these theories in depth, it would have been easy to assume that classroom practices such as rewards, grading, lesson planning and instructional design were simply practical necessities. However, analysing their theoretical foundations shows that each theory is built on specific assumptions about the nature of the learners and how learning should be managed.

Behaviourism has made me more aware of how much of modern education operates through systems of compliance, such as behaviour management, attendance monitoring, performance targets and grading systems are often justified as tools for supporting learning, yet they also train students to respond to external judgement rather than to develop internal purpose. While I can now see the usefulness of behaviourist approaches for establishing routines and supporting basic skills, I am also more conscious of how easily they can suppress curiosity, taking risks and

independent thinking. This raises ethical questions about whether education should prioritise conformity and efficiency over creativity and personal growth.

Cognitivism has also altered how I understand teaching, particularly in relation to curriculum design, memory and attention. Concepts such as cognitive load, schemas and information processing help explain why some learning experiences are overwhelming while others are effective. At the same time, this perspective risks reducing learners to thinking machines, overlooking the emotional, cultural and relational dimensions that shape how knowledge is experienced. I now recognise that even the most carefully designed instructional materials cannot guarantee meaningful learning if students feel excluded, anxious or disconnected.

Looking forward, these insights will influence how teachers approach education in practice. Rather than relying on either behavioural control or cognitive optimisation alone, they should aim to design learning environments that support understanding while also recognising learners as complex social beings. This reflection has shown me that learning theories are not just abstract ideas, but frameworks that shape whose knowledge counts, how success is defined and what kind of future education makes possible.

Conclusion

This reflective critique has shown that learning theory remains highly useful for understanding how education operates, even in contemporary systems shaped by technology, data and accountability. Behaviourism and cognitivism continue to influence how classrooms are organised, how performance is measured and how learning is designed. Behaviourist ideas underpin systems of monitoring, rewards and discipline, while cognitivist frameworks shape curriculum structures, assessment objectives and instructional design. Together, they provide powerful tools for organising education, yet they also reveal how deeply learning has been shaped by assumptions about control, efficiency and predictability.

At the same time, the relevance of these theories in the modern era is inseparable from their limitations. Behaviourism offers ways to manage behaviour and automate basic skills, but it struggles to account for initiative, creativity and ethical responsibility.

Cognitivism provides insight into memory, attention and understanding, yet it often treats learners as isolated processors of information rather than as social, emotional and cultural beings. In a world characterised by diversity, inequality and rapid technological change, these narrow conceptions of learning risk reproducing forms of education that are technically efficient but educationally shallow.

The key challenge for learning theory in the twenty first century is therefore not whether these theories still matter, but how they are used. When applied superficially, behaviourism and cognitivism can reinforce performative cultures that prioritise compliance, testing and efficiency over personal understanding, fairness for all learners, and active participation. On the other hand, when examined critically, they provide insight into the mechanisms through which education shapes learners, revealing both what is enabled and what is constrained.

Looking to the future, learning theory must move beyond models that focus only on behaviour or cognition and instead engage more fully with the social, cultural and ethical dimensions of education. Behaviourism and cognitivism remain valuable, not as complete frameworks of learning, but as tools for analysing how behaviour is regulated and how knowledge is structured within educational systems.

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