

**The Evolving Role of Online Assessment as a Steering Mechanism for  
21<sup>st</sup>-Century Learning**

by

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## **PROJECT REVIEW INFORMATION**

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The Project was approved on August 10, 2023 by the following review committee:

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The above review committee determined that the Project is acceptable in form and content and that a satisfactory knowledge of the field was covered by the work submitted. A copy of the Certificate of Approval is available from the School of Graduate and Postdoctoral Studies.

## **ABSTRACT**

Framed by Jürgen Habermas' theory of society as being constituted of systems and lifeworlds, this project aims to critically analyze the recent academic literature on online assessment in higher education. Through a metasynthesis template analysis, the research in this project intends to uncover themes that help elucidate what informs assessment design, development and implementation in online learning and the impacts this has on teaching and learning. The findings suggest that online assessment in higher education is geared towards instilling 21<sup>st</sup> century learning skills through more formative assessments. However, somewhat paradoxically, the desire to instill these skills and satisfy institutional imperatives is leading to the closer monitoring of student learning and activity through assessments. These developments in online learning are contributing to the changing roles of teachers and students, with the former entailing a focus on facilitation, or management, and the latter an emphasis on self-reliance. Nevertheless, there remain opportunities for collaboration and communicative action through online assessment practices.

**Keywords:** higher education; online learning; online assessment; critical theory; Habermas

## **AUTHOR'S DECLARATION**

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Graham Lean

## **DEDICATION**

To Clare! My wife, best friend, and the unfortunate person who had to listen to me complain about and explain (unclearly, most of the time) my project. You instilled a confidence in me that wasn't there before, and you supported me when I needed it the most. My daughter, Ada, who keeps me inspired to work for a better educational world. And my parents because... well... they raised me!

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## **STATEMENT OF CONTRIBUTIONS**

### **Sole Authorship**

I hereby certify that I am the sole author of this work and that no part of this work has been published or submitted for publication. I have used standard referencing practices to acknowledge ideas, research techniques, or other materials that belong to others. Furthermore, I hereby certify that I am the sole source of the creative works and/or inventive knowledge described in this document.

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## **Introduction**

### **Background**

Lifelong learning, perspective transformation, and identity development have long been central theoretical concerns in higher and adult education (Knud, 2014; Mezirow, 1981; 2000). These goals have contributed to the development of curricula that, to varying degrees, emphasize the importance of critical thinking, collaboration, and critical self-reflection. For each of these skills, assessments are of particular importance as they are fundamental to the design and development of curricula, and they influence the behaviour of teachers and students (Davis, 2013, p.227; Madaus & O'Dwyer, 1999, p.689). However, assessments have not always facilitated these learner-centred goals. Instead, assessment has prioritized instrumental goals of governments, educational institutions, and industry.

### **Problems with Assessment**

Assessment design and implementation have often struggled to balance reliability and validity. Historically, institutions preferred reliable, reproducible assessments (Wiggins, 1998; Madaus & O'Dwyer, 1999). This, according to Madaus and O'Dwyer (1999), emerged out of the influence of the scientific management movement and a subsequent "school-based efficiency movement" (p.693). These movements successfully pushed for more short-answer and multiple-choice testing in schools, which was aided by the technological development of high-speed optical scanners in the 1950s, and then computer-adaptive testing in the 1970s (Madaus & O'Dwyer, 693).

Since the 1970s, however, there has been criticism of mass testing in the academic literature on assessment. The late 1980s saw a movement towards authentic assessment (Madaus & O’Dwyer, 1999; Wiggins, 1989, 1990), which emphasizes a balance of validity and reliability, with an emphasis on real-world design and development. While well-intentioned, this conception of authentic assessment often involved a limited idea of the “real world” (Lean & Barber, 2022a; McArthur, 2022; Vu & Dall’Alba, 2014). These real-world biases, that often prioritize the world of work, may be indicative of one of assessment’s underlying purposes: to steer education, teaching and learning towards more economic ends.

Whether determined by administrative goals of disseminating reliable, reproducible tests, or by economic imperatives of the world of work, assessment design, development, and implementation often contributes to educational tensions. The emergence of tensions through the imposition of economic or administrative goals, driven by institutions and markets are not always compatible with learners’ goals, and may even directly encumber their subjective and intersubjective will. However, other key factors influence assessment. For instance, the level of education, as well as the type of course delivery, impact the methods and purposes of learning, and therefore of the assessments involved.

This study aims to investigate online assessment’s underlying purposes within higher education, and the impact they have on teaching and learning. To do this, a systematic analysis of journal articles was conducted through a metasynthesis template analysis (Au, 2007) and the findings are discussed through the lens of Habermas’ (1987a, 1987b) social theory of systems and lifeworlds. Systems and lifeworlds will be discussed in detail in the

literature review. Nevertheless, the theory is useful as it distinguishes between the systematic (i.e. assessment) and the unsystematic (i.e. learning).

## **Literature Review**

### **Assessment's Recent History**

Historically speaking, assessment development and design have revolved around balancing reliability with validity, with an overemphasis on reliability and reproducibility too often coming at the expense of what is relevant or important to learners. This has led to testing and assessment becoming ends that exert disproportionate influence over educational processes, also referred to as the backwash effect (Boud et al., 1999; Davis, 2013, p.227; Madaus & O'Dwyer, 1999; Wiggins, 1989).

The modern period of education, from the late 19<sup>th</sup> century to the mid-20<sup>th</sup> century, saw assessment taking on the guise of scientific rigour and reliability while maintaining efficiency and cost-effectiveness (Madaus & O'Dwyer, 1999, p.693) particularly from an administrative perspective that aimed to test and assess at a large scale. The broadest consequence of these reliable, reproducible assessment forms is that they, to an extent, unavoidably disregard students' subjective learning needs in favour of the ability to widely distribute mass assessments (Wiggins, 1989, p.703). The result of using mass, reproducible tests is that courses, curricula and approaches to teaching and learning are then motivated by the educational goal of achieving higher test scores for particular tests. This is often referred to as the “backwash” effect (Davis, 2013, p.227; Madaus & O'Dwyer, 1999, p.689) and is indicative of an instrumental, means-end approach to education and brings into focus the tension between reliability and validity in assessment (Davis, 2013; Wiggins, 1989). The emphasis on time and cost efficiency in modern-era

testing, such as the multiple choice test (Madaus & O'Dwyer, 1999, p.693) was indicative of broader political, structural and economic constraints placed on educational institutions (Wiggins, 1989, p.704).

While there has not been a full emergence from modern-era assessment design and implementation, Wiggins (1989), in advancing notions of authentic assessment, sought to redress the imbalance between reproducibility and validity that that led to testing and assessment that was not representative of realities external to education. Wiggins argued that assessments should replicate challenges and expectations of the professional world and respond to local contexts and individual needs. For Wiggins (1990), for an assessment to be authentic, it must involve the direct examination of “worthy intellectual tasks” (p.1). Wiggins goes on to describe intellectually-worthy assessments as those that draw from real-world contexts, require students to justify responses beyond just being correct according to the test or curriculum, depend on “real-world” simulation, balance validity and reliability through standardized scoring of subjective and varied products, and involve challenges, situations and roles that lack a rigid structure (Wiggins, 1990, p.1). This conception of authentic assessment looks beyond aligning assessment with what has been studied throughout a course or semester to what assessment should be for, what it should represent, and what it must aim to achieve. Yet, this more recent emphasis on validity and accuracy in assessment design and development is often too narrow and may lead to the valorization of professional skills (Lean & Barber, 2022a; McArthur, 2022; Vu & Dall’Alba, 2014).

This prioritization of the world of work may indicate a top-down approach to education, assessment, and curriculum design that neglects student needs (Lean &

Barber, 2022a). This is demonstrated by Wiggins' (1989) statement that "if we wish to design an authentic test, we must first decide what are the actual performances that we want students to be good at" (p.705). This implies a lack of student involvement in assessment design and delivery fundamentals, which indicates the imposition of institutional ideas of what assessment should be for. This unidirectional implementation of assessments may neglect the subjectivity of students and intersubjectivity of groups of learners. The balance of decision-making is left entirely at an institutional level, perhaps demonstrating that one of assessment's underlying purposes is to steer learning along economic lines. That is, educational assessment has been oriented towards ensuring institutional or market-oriented imperatives. All of this means that attempts to reconceptualize assessment may still be overburdened by the instrumental reason of economic and administrative systems (Lean & Barber, 2022a).

While the emphasis on reproducible testing and assessment indicated a systematic approach to assessment implemented by educational institutions, the more recent emphasis on authentic, valid assessment may not simply indicate a shift towards forms of assessment that respond to economic imperatives. It may also indicate the ongoing tension between rationalized systems and human realms of intersubjectivity (Aper, 2002). Testing and assessment can be seen as being, to varying extents, both detached from and imposed on intersubjective teaching and learning environments or lifeworlds.

### **Lifeworld and Systems**

To understand the design, development and implementation of online assessment and its impact on higher education, this paper utilizes Jurgen Habermas' (1987a, 1987b) Theory of Communicative Action, in particular, the concept of a "two-level social

theory” (Kemmis, 1998) consisting of lifeworlds and systems. This section will attempt to outline the foundational details of lifeworlds and systems according to Habermas and, in doing so, will describe its theoretical significance to education and online assessment.

First, it is important to clarify that Habermas sees modern and post-modern societies as being made up of both rationalized systems and intuitive lifeworlds, that lifeworlds and systems are two distinct yet entangled spheres of society with different institutions, rules, and behavioural norms (Finlayson, 2005). Lifeworlds and systems can also be described as being counterparts that are “inextricable and complementary in the processes of social interaction“ (Crioni et al., 2015, p. 924).

Whereas social systems, like the nation-state and economy, are organised in a formal, more rigid manner to ““follow functional imperatives, the lifeworld acts as a “resource of meaning and situation definitions that are drawn upon for social reproduction” (Roderick, 1986, p.120). The lifeworld exists behind its communicating members (Habermas, 1987b), orienting and stabilizing them. In doing so, it provides a set of shared assumptions supporting intersubjectivity by remaining “implicit, pre-reflexive, and pre-critical” (Roderick, 1986, p.120), yet it has ever-shifting horizons of meaning. The individual cannot exceed these horizons on a conceptual level, and socio-cultural groups and collectives work within the lifeworlds’ horizons. However, the dynamic nature of meaning and knowledge means that horizons do not remain static.

Meaning and situation definitions, for Habermas (1987b), are negotiated in “pragmatic relation” to three overlapping worlds: the objective, normative, and subjective. Any utterance either explicitly or implicitly refers to all of these worlds, and communicative action involves cooperation that is oriented towards a negotiation of



intersubjective understandings of each of the three worlds. The concrete nature of the objective world, intersubjectively acknowledged normative boundaries of social worlds, and subjective spheres of privately held knowledge are subject to constant referral in communicative exchanges (Habermas, 1987b, p.121-122). Thus, there is a “continual process of definition and redefinition” (Habermas, 1987b, p.121) that corresponds and connects particular situations with these three worlds.

Within education, there are many examples of this continuous process. The concrete, objective world could be a college campus, a learning management system (LMS), or conferencing software. Intersubjectively acknowledged boundaries of the social world could involve the student/teacher relationship (often discussed, clarified and defined at the start of any given course). Subjective spheres of private knowledge could range from a student’s motivation to pursue higher education to their perception of a particular course or subject. Each of these spheres of the lifeworld is in constant exchange with the others.

Within lifeworlds, exchanges are driven by communicative rationality, that is, the interest in achieving mutual understanding. This is a key area of contrast with systems, within which instrumental reason, or rational-purposive action, is paramount (Kemmis, 1998, p.275). Systems are “constructed to serve our technical interests” (Fleming, 2000, p.3), or those interests that encapsulate the innate drive to control and manipulate our environments, events and objects (Roderick, 1986, p.52). Satisfying human, technical interests requires rational-purposive action, or “action oriented towards success” (Kemmis, 1998, p.275). This involves the definition of goals, the development of criteria for progress in attaining goals, the construction of targets that make up goals, and the

“monitoring of progress towards goals to evaluate and improve system efficiency” (Kemmis, 1998, p.275). These system-oriented goals, according to Habermas (1987b), tend to dominate and distort communicative rationality, in turn undermining its orientation toward mutual understanding.

Ideally, however, social systems and lifeworlds interact, and different forms of knowledge flow between them. That is, lifeworlds and their inherent drive toward mutual understanding should help contribute to the operation and development of social systems. Problems, and eventually crises, emerge from the breakdown in the relationship between these two worlds. Systems begin to separate from lifeworlds and, in turn, begin to impose instrumental reason on lifeworlds. This is what Habermas (1987a, 1987b) labels the colonization of lifeworld by systems, initiated by the uncoupling of systems and lifeworld.

### **The Uncoupling of Systems and Lifeworlds in Education: From Administrative Control to Market Imperatives**

Habermas (1987b, p.156-165) developed a historical analysis of the emergence of systems from social lifeworlds and, in doing so, described the conditions for the uncoupling of systems and lifeworlds. Over time, archaic, pre-capitalist societies, whose social bonds relied on kinship ties, became differentiated due to developments in exchange relationships, that is, the development first of mercantile economies and, consequently capitalist economies. These new exchange relationships led to the development of state organization, which became “incompatible with the social structure of societies organized along kinship lines” (Habermas, 1987b, p.165). Habermas refers to this as “system differentiation,” or the process of systems becoming distinct from

lifeworlds. The mechanisms that arise from system differentiation begin to bring about rapid change in social structures and, in turn, allow for “further increases in complexity” (p.165). These increases in complexity have led to complicated and diverse economic and political-legal structures that, on one hand, serve to liberate individuals from pre-capitalist social constraints and on the other, begin to impose purposive-instrumental reason on lifeworld spheres. As Morrison (2015) stated, “The movement towards purposive-instrumental rationality not only characterizes modern society but is also its undoing, as the intrusion into, and rationalization of, the lifeworld brings with it increasing bureaucracy” (p.51). This tendency betrays a functional contradiction of the systematization of lifeworld spheres.

In *The Theory of Communicative Action*, Habermas (1987b) seeks to elucidate the above further by looking at the “bureaucratization of spheres of action” as key to the systematization of lifeworlds that dispossess individuals of the ability to define and shape their actions. He highlights the tendency for legal systems, through juridification, to create “pathological side effects” that involve the bureaucratization and monetarization of lifeworld centres (Habermas, 1987b, p.302). Thus, because juridification reshapes lifeworld spheres into places where the actions are systematic and technical rather than communicative, the potential for individuals to engage in communicative action, or action that is oriented toward mutual understanding, is undermined.

Within formal education systems, both system imperatives and lifeworld intersubjectivity are evident. Formal education systems are made up of institutions where sharing and transferring cultural and social knowledge take place. Still, they are built as a means to other ends, that is, to train and qualify individuals for various workplaces and to

integrate them into legal and bureaucratic systems. The key area of distinction for Habermas (1987b) relates to reason. Communicative reason underpins the concept of the lifeworld, where communication aims to help participants reach mutual understanding. However, instrumental reason underpins systems, where power (often in the form of bureaucratization) and money are key steering media (Roderick, 1986, p.120). For Habermas (1987b):

“Steering media such as money and power... encode purposive-rational dealings with calculable amounts of value and make it possible to exert generalized strategic influence on the decisions of other participants while bypassing processes of consensus formation in language. Because they not only simplify communication in language but replace it with a symbolic generalization of negative and positive actions, the lifeworld context in which processes of reaching understanding always remain embedded gets devalued: the lifeworld is no longer necessary for coordinating actions” (p.281).

To bring this into an educational context, it may be helpful to differentiate between learning and education. Learning is of the lifeworld in the sense that it is communicative, carries risks, and lacks a clear structure much of the time. However, within educational institutions, learning’s complexity is simplified by the steering media of assessments, grading and rubrics. Teachers may attempt to fill the gaps of these “symbolic generalization(s) of negative and positive sanctions” through written and spoken feedback. Nevertheless, this attempt at communicative action may be heavily distorted or influenced by rigid grading systems. This is what Habermas (1987b) would

refer to as “a technicizing of the lifeworld” (p.281) that relieves individuals from having to engage in communication that is inherently risky, inefficient and often fruitless from a purposive-rational perspective, which ultimately conditions decision-making in educational institutions and beyond.

What is vital to educational contexts is Habermas’ (1987b, p.148-149) assertion that webs of communicative action sustain the binding together and socialization of individuals, but that this communicative action survives “in the light of cultural traditions and not system mechanisms” that are detached from each member’s intuition. The problem then, as identified by Habermas (1987b), is that the increasing rationalization of lifeworld spheres, and their colonization, atomizes and individualizes society, which erases the “noncoercive, unifying power of collectively shared convictions” (p.301). In essence, it begins to usurp the intersubjective meaning upon which subjectivity can flourish, and the tension inherent in this process is often evident in education.

Bureaucratization is a characteristic of systems and institutions of education. Educational institutions in mid-century late modernity were particularly oriented toward sorting and distributing students according to reliability-driven test results (Madaus & O’Dwyer, 1999). Assessment and testing were designed and used for instrumental purposes, that is to achieve quantifiable learning outcomes. This approach to assessment often came at the expense of learning where the meaning of culture, tradition, roles and purpose are more subject to complex and unstructured negotiation that is not necessarily dictated by purposive-rational action. These spheres for negotiation, which potentially result in shifting horizons of meaning through the facilitation of collaborative meaning-

making, are instead distorted by the instrumental-purposive-oriented action that has underpinned assessment and testing.

The Theory of Communicative Action Vol. 2, Habermas' (1987b) focuses primarily on the colonization of educational lifeworlds through juridification (though the monetarization of education is mentioned). Since the 1980s, however, a significant shift from government-administered education to education more responsive to market forces is evident in Institutes of Higher Education (IHE) (Kemmis, 1998). Juridification still plays a significant role through state regulation, but increased "private provision of education" has led to regulation being based on market principles (Kemmis, 1998, p.273). What Habermas (1987b) described as a "juridification wave... of the welfare state" (p.364) has now become a wave of marketization. Before, the more powerful welfare state aimed to serve social integration, yet instead led to "the disintegration of life-relations" due to "legalized social intervention" (p.364). Now, the claim is that market forces offer freedom to the individual by allowing monetary goals to coordinate action. For Habermas (1987b, p.364), both steering media (juridification and monetarization) narrow the avenues through which the spontaneous formation of opinions and discursive will can occur.

This wave of marketization indicates that the balance between assessment and learning remains in favour of system reproduction over the social reproduction of lifeworlds, and that education is still bolstered by administrative systems, yet underpinned by a neoliberalist economic logic. Neoliberalism is a political-economic theory that advocates for the institutionalization of free trade, deregulated markets, individual freedoms and property rights that maximize entrepreneurial freedoms that in

turn advance human wellbeing (Harvey, 2007, p.22). Neoliberalism has also been described as resting upon the belief that equality of opportunity and prosperity are best supported through the realignment of social and economic arrangements according to free-market capitalism (Vassalo, 2013). Within higher education, proponents of neoliberalism have held positions of influence for some time (Harvey, 2007), and the theory has been central to higher education policy reforms in the majority of capitalist societies. Although Harvey (2007) highlights neoliberalism's "ideological assault" (p.31) on education in the USA, it is worth mentioning the Canadian context, particularly Ontario, where the conservative-led provincial government of the 1990s reduced the education budget by \$400 million (Noonan & Coral, 2015). This squeeze on education is reflected in IHEs emphasising performance, accountability, and standards-driven policy (Zajda & Rust, 2016, p.5). Zajda and Rust (2016) argued that globalization has pushed IHE to increasingly adopt the principles of "efficiency, accountability and profit-driven managerialism" (p.6) with the notion of lifelong learning being embedded in the social conscience. As a result, the ethics of productivity and efficiency are championed at all levels of education, and students are seen as individuals who are, and should be, capable of self-regulation (Vassalo, 2013). At the centre of lifelong learning, and skills such as self-regulated learning, is the idea of the self tied to radical individualism, which encompasses self-interest, the instrumentalization of relationships, highly rationalized autonomy, self-enhancement, calculability and perspicuity (Vassalo, 2016, p.91). These characteristics, Vassalo (2015) explained, are fundamental to the neoliberal logic of viewing people as self-serving individuals whose chief broader purpose is to help maintain a market economy. Institutions then adopt the purpose of instilling in people a

certain sense of the self, of themselves, and of society (Vassalo, 2015, p.92). This narrow focus on the individual, evident in the emphasis on lifelong learning skills, is indicative of market-driven imperatives and a system, or systems colonizing educational lifeworlds.

The literature on educational theory may also reflect the purpose of instilling a narrow individualism. The notion of intersubjectivity as foundational to subjectivity has been inverted, with many theorists centring the individual's subjectivity over social intersubjectivity (Masschelein, 1991). Prioritizing the individual in this way may betray the change in what underlying forces drive system reproduction; a symptom of the further development of the "course of capitalist modernization" that simultaneously develops and distorts reason's "communicative potential" (Habermas, 1987c, p.315); a sign of the expedition of the atomization and individualization of society. Indeed, there is an imperative for education to "prepare students for the world of work" that involves self-discipline, self-regulation, interpersonal skills and compliance (Morrison, 2015, p.57) from elementary-level education (Diaz-Diaz, 2022) through other levels (Vassalo, 2013; 2015). This focus on employability, for Morrison (2015), is evident in higher education's push toward what are purportedly student-centred learning skills (e.g. self-discipline and self-regulation) and the incorporation of digital technologies, and derives from professional accreditation by bodies prioritizing professional training. There is evidence here of education having developed into a managerialist endeavour (Morley, 2023) that risks becoming a service that functions as part of consumerism and at the behest of employers and market forces (Morrison, 2015).



## **Addressing the Colonization of Educational Lifeworlds**

Educational institutions, while administering, classifying and quantifying individuals and groups, also harbour the potential to open up spaces for discourse, dialogue and communicative action. Fleming (2000) looks to Habermas' notion of the public sphere to address the colonization of educational lifeworlds by system imperatives. The classroom can be seen as a sort of public sphere or at least be described as a place where communicative rationality has the potential to flourish. Drawing from Sonnert (1994), Fleming (2000) highlights the potential conceptual utility of *boundary definitions*, *metadiscursive reviews*, and *system transformations* within education. This is a pragmatic approach that seeks to acknowledge the "necessity for the non-discursive" (Fleming, 2000, p.8), that is, rational-purposive action in education. The aim is to contain rational-purposive action through *boundary definition*, evaluate educational movements between discursive and non-discursive moments through *metadiscursive review*, and alter the structures within organizations to instil discursive action in them through the *transformation of the system* (Fleming, 2000, p.8).

Essentially, what Fleming has argued for is the development of public spheres within educational institutions. That is, there ought to be spaces within education where discourse is facilitated away from the direct coercion of purposive-rational action. However, it is necessary to underpin the idea of educational lifeworlds, education as a public sphere, and communicative action in education with the notion that intersubjectivity is foundational. That is, intersubjectivity should be seen as providing the basis for subjectivity rather than subjectivity providing the basis for intersubjectivity

(Masschelein, 1991). This is necessary on a macro-social level and a micro-social level, for instance, in the online learning environment.

### **Bringing it back to Assessment**

Assessments have long been central to driving student learning (Chan, 2023; Fischer et al., 2023). Assessment design and implementation are vital in influencing, even deciding, how students approach learning (Chan, 2023). Generally speaking, assessment is “an ongoing evaluation process aimed at understanding and improving student learning by measuring learning outcomes in knowledge, skills, attitudes, and beliefs” (Chan, 2023, p.41). Chan (2023) identifies four main purposes of assessment: judging achievement; maintaining and safeguarding academic quality; ensuring accountability for external stakeholders; and fostering student learning (p.21). When considered within a theoretical context encompassing the systematic colonization of lifeworlds, the definition and purposes of assessment may be clarified, particularly within IHE.

Honing in on higher education, Ford-Leaves et al. (2023) state that the purposes that assessment practices aim to serve are often in conflict, which is not helped by a systematic-theoretical gap in the field (p.1-2). These purposes are, to some extent, in conflict because of external forces that undermine IHE autonomy, with academic freedom suffering due to the influence of regulatory, statutory and professional bodies (Ford-Leaves et al., 2023, p.2). This push for accountability and “audit culture” may have contributed to the increased monitoring of student performance through assessment (Ford-Leaves et al., 2023, p.2). The logic that underpins these tensions, according to Ford-Leaves et al. (2023), derives from neoliberal frameworks.

Despite these pressures, Forde-Leaves et al. (2023) describe the social element of

assessment that influences how multiple groups of individuals experience higher education. They look toward Assessment for Learning (AfL) as central to student agency and co-creation, emphasizing self-regulated learning and evaluative judgment, employability skills and authentic assessment. The emphasis on authentic assessment is in contrast to traditional assessment, or that of standardized, reliable, and reproducible assessments. Traditional assessment is labelled as insufficient for instilling thinking skills and competencies relevant to the 21st century (Saher et al., 2022). Whereas traditional assessments are often summative, authentic assessments are more often formative as they involve a process underwritten by the ongoing interrogation of what is taught, learned, and achieved through assessment, as well as what motivates educational processes (Saher et al., 2022).

Although this literature review has highlighted as key to 21st century education the development of authentic assessment, this paints a limited picture of assessment and its theoretical literature. The area of authentic assessment is contested. Swaffield (2011) is critical of the summative limitations of authentic assessment and the tendency to conflate AfL with formative assessment. She argued that formative assessment's attempts to regulate learning are flawed as "it is only the learner who can actually regulate learning" (Swaffield, 2011, p.438). This statement may be true, but it is not clear that its sentiment is predominantly represented in the academic literature on assessment. Instead, it may be indicative of stark divides in assessment theory (Forde-Leaves et al., 2023).

If Forde-Leaves et al.'s (2023) claims about gaps in academic consensus and external pressures on education are valid, it may be more helpful to view assessment as a tool in colonizing educational lifeworlds. This means that assessment is not driven purely

by the idea that learning is, in and of itself, necessary, but that learning is necessary in order to achieve certain instrumental purposes. This instrumental focus, considering assessment's tangible impact on learning, narrows and limits educational purviews. Yet, the new terrain of online learning, particularly during the COVID-19 pandemic, adds another layer to the academic debate on assessment.

## **Systems and Lifeworlds Online**

### ***Online Education and Digital Spaces***

Developing notions of online lifeworlds in education has relevance to broader concerns about online communication, particularly regarding the impact of algorithms on subjective and intersubjective knowledge formation (Fisher, 2021). Both Fisher (2021) and Han (2022) identify the lack of “the other” in online spaces and the detrimental effects this may have on critical self-reflection. However, there are opportunities for discursive or communicative action in online settings. Rasmussen (2015) highlights the internet's capacity to cancel out old social divisions that stood between listeners and speakers, which results in an expansion of democratic participation “in an expanded place” (p.1316).

The concerns raised by Fisher (2021) and Han (2022), and the opportunities highlighted by Rasmussen (2015) are reflected in the literature on frameworks for online learning. Tilak and Glassman (2020) extend Fleming's (2000) hope for educational environments to become de facto public spheres to online learning. However, this is set against the backdrop of “top-down domination” becoming prevalent online. For Tilak and Glassman (2020) “modern distance education has been defined as using technical media... to provide content” as a result of a hierarchy that begins with “socially defined experts” at the top, “local administrators” in the middle, and educators just above the

students (p.332). The aim is to distribute and deliver quantifiable approaches to learning that help students reach fixed goals. Evident in this approach is systemic control, with an over-emphasis on instrumental rationality, which ultimately informs assessment and evaluation design. Also detrimental to this approach to online learning is the lack of necessity for collaborative or cooperative learning, which helps bypass subjective and intersubjective knowledge formation, a problem of broader concern to online communication (Fisher, 2021) and to higher education.

While online education may reflect some aspects of broader online communication, it is important to consider engagement in online learning in light of what Fleming (2000), Habermas (1987b), Davis (2013), Kemmis (1998), Regmi (2017), Masschelein (1991), and Tilak and Glassman (2020) define as (at least part of) the purpose of education: to engage in intersubjective knowledge-building and communicative rationality. However, alongside any underlying ethical or philosophical concerns are practical concerns. For example, the remoteness of distance learning combined with the individualizing tendencies of top-down content delivery may result in higher attrition rates due to feelings of isolation (Dabbagh & Kitsantas, 2004; Kizilcec & Halawa, 2015). This may have been compounded by the recent COVID-19 pandemic and the scramble to administer and deliver courses online, during which institutional, pedagogical and learner unpreparedness undermined educational experiences and processes (Lean & Barber, 2022b).

Despite the challenges of online learning, particularly with COVID-19 restrictions in mind, Tilak and Glassman (2020) describe the second-order internet's importance in developing online learning that can facilitate discourse and communicative rationality,

and this echoes Rasmussen's (2015) optimism for new avenues of communicative action to open up. However, this leaves questions about the role assessments play in online learning.

### ***Online Assessment***

Regarding day-to-day practice, the longer-term use of learning management systems (LMS) in higher education may have helped maintain assessment standards going into and throughout the COVID-19 pandemic (Panadero et al., 2022). However, this does not consider the uniqueness of the digital learning environment, which several frameworks such as the Community of Inquiry (CoI) (Garrison et al., 2010) and the Fully Online Learning Community (FOLC) (vanOostveen et al., 2016) have interrogated since before the apparent threshold of the COVID-19 pandemic. Both the CoI and FOLC models emphasize the importance of collaboration, intersubjectivity and subjectivity. The use of LMSs, however, has tended to be limited to content delivery (Tilak & Glassman, 2020).

Even if and when LMSs enable collaborative, communicative processes through various modes of assessment, there is an attachment to the management of learning processes and, by extension, students. The notion of managing learning is indicative that administrative and economic steering media (Habermas, 1987a, 1987b) exert influence on higher education. Out of this influence emerges a tension where education becomes success-oriented. That is, teaching and learning are aimed at achieving higher grades based on the design of assessments, which undermines the communicative action central to learning. Within the literature on assessment, this is called the "backwash effect" (Davis, 2013, p.227).

## **The Research Debate**

This paper works on the assumption that assessments and their multivarious forms have an indelible impact on teaching and learning. There is ample evidence, from high-stakes testing (Au, 2007) to formative assessment and AfL (Forde-Leaves et al., 2023; Swaffield, 2011), that there is a backwash effect (Davis, 2013, p.227; Madaus & O'Dwyer, 1999, p.689). Indeed, there is evidence that the power that testing and assessment has over teaching and learning was identified as long ago as the 1500s (Madaus & O'Dwyer, 1999, p.689). Therefore, this paper is not concerned with verifying the claim that assessments impact teaching and learning. Instead, this paper aims to investigate assessment as a steering medium for teaching and learning. It is concerned with what drives the creation, evolution, development, implementation and continued use of assessment, as well as the effects these driving forces behind assessment and the assessments themselves have on teaching and learning. The research in this paper seeks to explore, in the academic literature on online assessment, the extent to which administrative and economic ends impact online assessments in higher education, and the effect this has on teaching and learning processes.

### **Research Questions:**

1. What emerging roles do online assessments play in steering learning?
2. How do the emerging roles of online assessment impact teaching and learning?
3. Can communicative action take place in assessments?

## **Methodology**

### **Overview**

This study analyzes papers that are diverse in scope and methodology. Some articles are theoretical, and some involve quantitative research, yet the majority use either qualitative or mixed methods approaches. The broad range of papers in this dataset (see Appendix A, A1, Table 2) is motivated by the research purpose of this paper, whose focus is on critically interrogating the underlying assumptions on the purposes and uses of assessments in online education.

### **Data Collection**

The dataset consists of 40 academic papers. The papers were gathered from several searches completed in April and May of 2023. Initial sources were retrieved using [elicit.org](https://www.elicit.org), collected on Zotero, and then an expanded search was conducted through Research Rabbit. Elicit.org was seen as more advantageous than other search engines as the software had built-in benefits. Two particularly relevant advantages were that search results were based on semantic similarity rather than relying on matching keywords, and papers selected were linked to articles cited by that paper as well as articles that cited that paper. The use of Research Rabbit offered similar affordances alongside the ability to sync Zotero libraries.

The initial search terms were “assessment in online learning,” with the term “assessment” used as a Boolean operator. In both searches, active filters were used for inclusion and exclusion criteria, including the type of publication (peer-reviewed journal articles, conference proceedings), subject matter (online learning, distance learning, higher education, assessment and evaluation), and publication dates (2016 and 2023). The



initial sample excluded books, book reviews, and publications prior to 2016. However, the study used three papers that were published prior to 2016, as initial searches for papers from 2016 onwards were limited.

To understand higher education assessment in online learning, the theoretical lens of systems and lifeworlds (Habermas, 1987a, 1987b) is used to help ground a qualitative methodological approach of metasynthesis. Metasynthesis involves the analysis of existing qualitative research findings to contribute to a more complex understanding of phenomena within research (Thorne et al., 2004, p.1343). The specific form of metasynthesis used is template analysis, a thematic analysis that involves hierarchical coding (Brooks et al., 2015, p.203), which, in this study, involves iterative, emergent coding. The advantage of this approach is that emergent codes can be formed through several readings that take place in two stages (Au, 2007, p.259). The first stage involves reading a limited sample of the textual data to develop a preliminary template. The second stage involves applying the preliminary template to the remaining dataset. This enables the researcher to augment the template until a final one is arrived at and used to interpret the entire dataset (Au, 2007, p.259). The coding template goes through processes of expansion and contraction as new themes emerge and become integrated into other emergent themes, thus allowing for a gradual and thorough analysis of the literature sample.

Although the template for this research is developed entirely through emergent coding, the theoretical basis for this paper is informed by Habermasian theory. This means that while the emergent coding may help identify themes that challenge or expand the theoretical framework, the epistemological assumption of this research is that there is

a tension between rationalized systems and underlying human interests in communicating a range of knowledge interests. That is, humans orient their learning towards developing objective, normative and subjective understanding, and that communication is always conducted with these three realms in mind (Habermas, 1987b). However, rationalized systems do not consider each of these knowledge interests.

The use of a Habermasian systems-and-lifeworlds theoretical lens is particularly relevant to what is a necessarily interpretive methodological approach (Thorne et al., 2004, p.1346). However, as this research is broad and systematic, the understanding of individual accounts may slip through the gaps (Brooks et al., 2015, p.218), meaning future research may want to take into account phenomenological approaches to understanding the impact of assessment on individuals and small groups. To understand the paradoxes of systems and their “anticipated pathological side-effects” (Habermas, 1987b, p.364), it may be necessary to employ phenomenological investigations alongside systematic research.

### Data Analysis

For this research, the initial intention was to identify elements of administrative and economic steering media. However, emergent coding was preferred to a priori coding, and the research attempted to develop an initial template through the emergent coding of the first ten papers. It is important to note that, although the entire coding process began with emergent coding, this is not a grounded approach as the emergent coding may rest on certain theoretical assumptions made by this author.

The data analysis followed the iterative process of template analysis mentioned above. Consistent with this, the coding template was subject to change throughout the

coding process. Hence the initial coding of ten papers, then applied to the rest of the dataset, was augmented at different stages of the reading and coding process. Rather than attempting to develop broad, top-level codes from the first ten papers, the emergent approach employed here was to look out for as wide a range of potential themes as possible. This resulted in an initial 35 codes that were then organized into top codes and child codes to form hierarchies. These hierarchies were then used to help code the broader dataset. Again, the initial coding hierarchy was subject to change throughout, which involved the expansion and contraction of coding themes (for exemplars, see Appendix A, A2, Table 3). The advantage of this process' iterative nature was that the hierarchical template developed from the initial ten papers could be augmented to more accurately reflect the entire dataset.

## **Findings**

### **Overview**

As indicated in Table 1, there is a significant relationship between the goals inherent to education meeting 21st-century demands, the transformation of education, and the development, implementation and use of assessment. These themes do not just have an influence on each other, but they are also complexly interwoven. The findings section will first outline the most prevalent top-hierarchy themes and then describe some of the key complex correlations to help illustrate the relationships between these themes.

**Table 1***Final Coding Themes*

<i>Coding Theme</i>	<i>Number of Articles, N = 40</i>	<i>Total Number of References</i>
<i>Education Meeting 21st Century Needs</i>	40	538
<i>The Transformation of Education</i>	34	266
<i>Feedback</i>	29	240
<i>Managing Engagement and Participation</i>	29	143
<i>Assessment Type</i>	27	335
<i>Access to information</i>	27	151
<i>Collaboration</i>	24	72
<i>Knowledge Construction</i>	21	49
<i>The Online Learning Environment as Distinct</i>	21	56

**Education Meeting 21st-Century Demands**

The broadest theme apparent in the dataset was that of *education meeting 21st-century demands*, which occurred in each paper across the dataset. This theme encompasses a range of child codes that are related to various underlying motivators and influences on assessment design, development and implementation. These child codes include education-focused themes such as *learner-centred* (education), *lifelong learning* and its constitutive skillset, as well as the *reliability and validity of online assessments*. Child codes such as *technological innovation*, which involves widespread technology use and the necessity of educational technology, as well as *readiness for online learning*, covered technological imperatives. The child code *education as a service*, which involves cost and time-related imperatives, highlights the economic imperatives of assessment.

Finally, due to the recent pandemic and its apparent impact on higher education, the theme *impact of COVID-19* appeared in much of the post-2020 literature in the dataset. As the above evidence suggests, there are broad economic, theoretical, and practical imperatives that emerge as key concerns in the literature on assessment.

### **The Transformation of Education**

The second broadest emergent theme is that of *the transformation of education*. There are three key subthemes to this top code: firstly, *the changing roles of teachers and students*, which encompasses new teacher and student responsibilities such as peer accountability and active learning for the latter; secondly, *new forms of assessment*, which involve the development of assessments that are fit for the purpose of online learning and the 21st century; thirdly, the theme of *academic honesty*, which has become a key concern in the literature on online assessment. Evidenced by this theme and its subcodes is that the academic literature on assessment is concerned with the changing fabric of education in the 21st century. These are discussed as new, continuing, or accelerated trends (Cheng et al., 2013; Demosthenous et al., 2020; Moffit et al., 2020; Naicker & Bayat, 2012), transformations (Altinay, 2017; Martin & Ndoeye, 2016) and “fundamental changes... as a consequence of rapidly changing technologies and globalisation” (Boitswarelo et al., 2017, p.1).

### **Managing Engagement and Participation**

Table X also indicates that a recurring theme in the literature on online assessment is *Managing Engagement and Participation*. This theme can be seen as being directly influential on educational processes such as the development of assessments, which is in contrast to the broader themes of education meeting 21st-century demands and the

transformation of education. *Managing Engagement and Participation* is concerned with managing and increasing interactions between students, encouraging socioemotional engagement, explaining engagement challenges, and explicitly using assessment to boost engagement. This coding subset sees the themes becoming more relevant to the methods of education and assessment rather than the purposes.

### **Feedback and Assessment Types**

*Feedback* as a theme is also related to the methods of education and learning. It is concerned with how feedback is communicated and processed, the speed at which feedback can be disseminated, and student involvement in the feedback-giving process. Out of the child codes, *Peer Feedback* was the most common.

As indicated by table X, *Assessment Types* are a key concern in the majority of studies in the dataset. This should not be surprising. However, the most prevalent in the child codes for *Assessment Types* were *Formative Assessment* and *Peer Assessment*. This corresponds with the findings on *Peer Feedback*.

### **Access to Information**

*Access to information* is a consistent theme in the dataset, with it occurring in 27 articles. This coding is relevant to online education and assessment as new digital tools and internet infrastructure allow flexible and consistent access to information within a course LMS, or information that is relevant but not within a course LMS. This theme encompasses the child codes *flexible access to learning*, such as *asynchronous activity*, as well as the *close monitoring of student activity*.

## **Collaboration and Knowledge Construction**

Perhaps indicated by the significant representation of peer feedback and assessment in the literature, the theme of *collaboration* occurs in over half of the dataset, which includes *computer-supported collaboration*. In connection with this, particularly from a social constructivist perspective, *knowledge construction* emerges as a theme with the child codes *deep learning* and *constructivism*. Although *Knowledge Construction* as a concept may derive from constructivism, it occurs more often largely because constructivism is not mentioned explicitly as often as knowledge construction.

## **The Online Learning Environment as Distinct**

Floating around with loose connections to many but not all of the other codes is *The Online Learning Environment as Distinct*. This finding is somewhat surprising as it was expected to be higher, especially considering the emphasis on boosting engagement and participation, along with the long-standing theoretical frameworks of the CoI (Garrison et al., 2010) and FOLC (vanOostveen et al., 2016), both of which are models that acknowledge the need for researchers and practitioners to develop social and cognitive presence in online spaces. This may be due to the desire to transfer methods of education seen on-campus, in face-to-face learning directly online.

## **The Complexity of Correlations**

The most prominent theme pairing is between Education Meeting 21st-Century Demands and The Transformation of Education. However, a number of complex correlations appeared in the research. This is where coding themes strongly correlate with more than two other themes.

### ***Education Meeting 21st-Century Demands Underpinning Everything***

As the dominant theme, Education Meeting 21st-Century Demands encompassed many child codes and overlapped with each of the other top codes. Its deepest connections, though, were with feedback, assessment type, collaboration, managing engagement and participation, and access to information. This, to some extent, aligned with the themes that overlapped with the Transformation of Education, which correlated strongly with access to information, feedback, and assessment type. This may indicate the important mediating role of feedback and assessment between education's underlying impetuses and its ongoing transformation.

### ***Feedback as Integral to Assessment***

Feedback appeared in fewer papers than the broadest themes of Education Meeting 21st-Century Demands and The Transformation of Ed. However, it correlated highly with both as well as the theme of Managing Engagement and Participation. It is important to note the deep connection between assessment type, for which peer assessment and formative assessment were commonly occurring themes, and feedback, under which timely feedback, immediate feedback, and peer feedback were commonly occurring themes. This indicates that formative assessment, peer assessment, and peer feedback play more significant roles than summative assessment in the literature on online assessment. Timely and immediate feedback are goals from both an educational perspective and an economic perspective, and they may also be supported by the affordances of digital tools and educational technologies.



### ***Engagement and Participation through Assessment, Feedback and Collaboration***

Although the theme of Managing Engagement and Participation correlated more with Education Meeting 21st-Century Demands than the Transformation of Education, it nevertheless showed a strong correlation with feedback and assessment types, particularly peer assessment. Another correlation of note here is with collaboration, which also correlated strongly with Education Meeting 21st-Century Demands. This may indicate that, while collaboration is helpful and encouraged through assessment and feedback (especially peer feedback), it can be conceptualized as holistic. Also of note is the correlation of the above with the theme access to information, which also overlaps significantly with the two broadest themes: Education Meeting 21st-Century Demands and The Transformation of Education.

### ***The Transformation of Education***

It is worth noting again that there are significant correlations between The Transformation of Education and Education Meeting 21st-Century Demands, particularly with regards to the latter's child codes. The research found that some of the main connections with the transformation of education are learner-centred (education), lifelong learning, readiness for online learning, and tech innovation. These results point towards a broad, two-pronged influence on education consisting of theoretical and practical concerns. These theoretical and practical concerns impact education by leading to the development of new forms of assessment, the changing roles of teachers and students, and a renewed focus on academic honesty.

## Discussion

### System Steering and its Effects

The two most prominent themes, Education Meeting 21st Century-Demands and The Transformation of Education, may be seen broadly in terms of causes and effects. That is, the complex imperatives of 21st-century demands are contributing to the transformation of education, and this is evident in the literature on assessment. The other key themes of feedback, assessment type, managing engagement and participation, access to information, and collaboration, can be seen as products of these imperatives.

What the coding of the dataset reveals is that the economic demands of the 21st century become a part of the theoretical and practical goals of education and, as a result, online assessment. These goals determine to a large extent approaches to assessment in the literature. Visible as a result of these demands is a growing tendency to manage engagement and participation through a number of different methods and tools. Peer feedback and assessments, formative assessments, and an emphasis on collaboration are all approaches through which to engage students not only in learning, but also in developing particular skills such as problem-solving, self-regulation, self-reflection, and self-directed learning.

However, a problem that emerges in the literature is that 21st-century demands are more oriented towards economic reproduction, a form of system reproduction central to Habermas' concerns about the colonization of lifeworlds (Habermas, 1987a, 1987b). These systems serve human technical interests (Habermas, 1987a, 1987b), which rational-purposive action, or instrumental reason, dominates (Kemmis, 1998, p.275). As Kemmis (1998) argued, this involves the setting of goals and the outlining of success-oriented action that lead to "the monitoring of progress towards goals to evaluate and

improve system efficiency defined in terms of the ratio of inputs to outcomes achieved” (p.275). This monitoring of progress leads to the domination and distortion of other forms of rationality, namely intersubjectivity and subjectivity (Habermas, 1987b). What is key to this theoretical assertion in the context of educational assessment, and this study, is the use of new forms of assessment such as formative and peer assessment as well as the perceived necessity of educational tech to help engage in the close monitoring of students’ activity.

### **Explicit and Implicit Economic Steering Media**

Highlighted in the literature review was Habermas’ (1987b) notion that increasingly complex political-legal and economic structures have great liberatory potential, yet also prioritize a narrow, instrumental form of rationalization. This singular form of rationalization leads to the juridification, or bureaucratization, of lifeworlds (Morrison, 2015, p.51). However, as argued in the literature review, there is evidence of a shift towards more economic steering in higher education. The coding of the dataset uncovered explicit economic steering with the theme of *education as a service*, which includes an emphasis on cost-effective and time-efficient assessment (namely in Akimov & Malin, 2020, p.1211; Gamage et al., 2019, p.11; Tuah & Naing, 2021, p. 63, Xiong & Suen, 2018, p.247). It also found a number of implicitly economic themes relating to lifelong learning skills (including, but not limited to self-regulation, self-reflection, problem-solving, and self-direction). These lifelong learning skills may appear to be rooted in emancipatory learning, yet they aim to convince “society into exchanging its own freedom to be, forever upgrading its work-related skills or vocational qualifications” (Lee & Friedrich, 2011, p.165). In the language of lifelong learning, there is a paradoxical

implication: the freedom to work and work. Taken to a seemingly extreme conclusion, this work-focused logic leads to self-exploitation (Han, 2015; 2017), a pathological and paradoxical side-effect (Habermas, 1987b, p.302) reflected in education's focus on lifelong learning (Lean & Barber, 2023). This focus on lifelong learning not only compels students to learn far beyond education, or else they may fail to address life's challenges, but it also obscures the politics and purposes of education (Biesta, 2015). To Biesta (2015), the focus on learning and learners also tends to individualize, while a broader focus on education is more likely to involve a discussion of relationships, communities and broader purposes of teaching and learning (p.62 - 64). However, a focus on broader purposes and communities in education may not align with the underlying economic framework of neoliberalism.

### **The Role of Formative Assessments**

Seemingly contrary to the idea of freedom achieved through lifelong learning is the role of formative assessment in managing engagement and participation. Online learning necessitates new approaches to monitoring as the physical space of the IHE afforded more opportunities for control, particularly for monitoring learning, pushing engagement, and ensuring academic honesty. This is where formative and peer assessment play important roles. This echoes Swaffield's (2011) concerns about formative assessment being used to regulate learning, as well as the tendency, highlighted by Swaffield, to incorrectly conflate formative assessment with AfL, which occurred in several texts (namely Xiong & Suen, 2018, p.245; Martin & Ndoeye, 2016, p.2). Formative assessments, some examples of which are journals or peer evaluation and assessment (Gammage et al., 2020, p.6), may allow for closer or ongoing monitoring of

students and their learning processes as well as instilling the skills inherent in lifelong learning.

Peer assessment is both a learner-focused and student-centred mode of formative assessment, and a method of improving students' assessment knowledge and literacy (De Brún et al., 2022). The latter of the two purposes is the explicit focus of several texts in the dataset, namely McCarthy (2017), Ma et al. (2021), and Moffit et al. (2020).

Therefore, peer assessment's function is twofold. That is, it aims to more closely steer learning processes as well as familiarize students with assessment guidelines. Both aims can be seen as key to managing learning and attempting to guarantee outcomes.

Formative assessments and peer assessments overlap considerably with the predominant theme within feedback that is peer feedback. While it is not always the case, peer assessment involves peer feedback, which adds another formative layer to online learning and assessment.

### **Efficiency, Technology and Feedback**

Although formative assessment such as peer feedback has become central to online learning for the purposes of boosting engagement and assessment literacy, another reason why peer feedback is utilized is because it can help save time by redistributing labour. Teacher workload was a consideration of several papers, for example Cook and Babon (2017), McCarthy (2017), Naicker and Bayat (2012), Usher and Barak (2018) and Xiong and Suen (2018) explicitly discussed the advantages of peer feedback to lightening teacher workloads. Through this labour redistribution, peer feedback can boost the efficiency of feedback processes by spreading the workload of the teacher throughout the entire class. This is the case in Massive Open Online Courses (MOOCS), where student

numbers are very high (Xiong & Suen, 2018) and smaller online courses (McCarthy, 2017). Within MOOCs, peer feedback may be a practical necessity, but within smaller classes, its main purpose is to expedite feedback. Redistributing what was typically the work of teachers through the use of peer feedback in online learning and assessment is also facilitated by new digital tools. Focuses on dynamic assessment (Sun et al., 2021), automated feedback (Gamage et al., 2019; Doğan et al., 2020), and new tools for communication (Moffit et al., 2020; Naicker & Bayat, 2012) all highlighted the importance of digital technology in expediting communication, resulting in timely and cost-efficient feedback. Timely or immediate feedback is seen as essential for learning as well as saving time and money. What becomes evident from the data is the importance of using technology to reduce the time between completing an assignment and gaining feedback. This can be done through digital technology such as automated grading or through peer feedback. Both approaches can alter or reduce teachers' workloads and may allow for increased student enrolment. Besides the obvious economic imperatives that underlie this move towards efficiently-disseminated feedback, there is an emphasis on student satisfaction (Moffit et al., 2020; Naicker & Bayat, 2012) when it comes to receiving feedback in IHE. Boosting student satisfaction can be seen as a pedagogical and economic motivator behind developing tools and methods to disseminate immediate and timely feedback. However, the imperatives behind improving learning prioritize maximizing efficiency, which betrays a limited set of goals, and an orientation towards success defined through economic steering (Kemmis, 1998).

## **Technology and Access to Information**

Throughout the dataset, digital technology was described as providing opportunities for more efficient communication, access to information, and allowing for timely or immediate feedback on assessments (see, e.g., Boitshwarelo et al., 2017; Cohen & Sasson, 2016; Shalatska et al., 2020; Sun et al., 2021). However, what is significant about the affordances of digital technologies is the ability to monitor students.

Monitoring and safeguarding academic honesty is an emergent theme within the dataset, being a key focus or concern of many of articles (see e.g., Akimov & Malin, 2020; Boitshwarelo et al., 2017; Chan, 2022; Cheng et al., 2013; Doğan et al., 2020; Gamage et al., 2019; Gamage et al., 2020; Halaweh, 2020; Mostafa, 2023; Okada et al., 2019; Rambe, 2021; Tuah & Naing, 2021; Xiong & Suen, 2018). Many articles acknowledged that academic honesty is more difficult to guarantee in online learning. These difficulties arise from institutions and teachers losing the opportunity to determine the students' physical environments. Therefore, institutions and teachers have employed solutions ranging from utilizing proctoring technologies and employing identity verification through recording videos of students, to attempting to preempt plagiarism through the randomization of questions in quizzes, and the monitoring of timestamps and logs of students. These approaches indicate a reluctance to address the inherent flaws of the assessments, whether they are formative or summative assessments, quizzes or written essays.

The emphasis on secure online testing and safeguarding academic honesty may also rest on the idea that the assessments being offered in the physical classroom can be replicated in online settings. This is particularly relevant in the aftermath of the COVID-

19 pandemic, during which learners, educators and IHEs rushed to transfer learning from the physical space to digital environments (Lean & Barber, 2022b). The use of proctoring software can be viewed as an attempt to not only safeguard academic honesty, but to also retain prior assessment practices.

What may be a more insidious type of monitoring comes in the form of monitoring student activity and engagement in online learning environments. For example, Cheng and Chau (2016), Doğan et al. (2020) and Martin and Ndoeye (2016) discuss LMS affordances that aid the monitoring of activity and engagement. Monitoring student engagement through the use of learning analytics was also a focus of several articles (Doğan et al., 2020; Kent et al., 2016; Martin & Ndoeye, 2016; Nyland et al., 2017). This use of learning analytics, while most commonly drawing from grades, has more recently encompassed student activity around assessment (Nyand et al., 2017). That is, learning analytics are moving towards a focus on mining data on the processes students engage in when working on assessments. Kent et al. (2017) also highlight the apparent need to “consistently measure and assess learning” (p.124). The aim of learning analytics to eliminate knowledge gaps (Nyand et al., 2017) is an all-encompassing form of monitoring students. From a systems and lifeworlds perspective, it demonstrates a further encroachment into lifeworld spheres of learning by systems. In essence, it is a logical progression of the systematic analysis and rationalization of learning. Significantly, it is indicative of the paradoxical nature of helping students reach autonomous states of being by increasingly monitoring their personal spaces and private functions.



The use and study of digital monitoring technology indicate that there is a perceived necessity for facilitators of online learning environments (both educators and institutions) to monitor students. This monitoring is done to safeguard academic honesty, boost engagement, and understand students' assessment completion processes. Monitoring students to safeguard academic integrity indicates an overreliance on forms of assessment that were designed for face-to-face learning. This overreliance on assessments that are not suited to online learning may be the result of the reification of educational institutions and their processes. However, assessment in online learning is quickly evolving, as evidenced by the literature's focus on learning analytics. The drive to understand students' assessment-completion processes through data analysis demonstrates that the reconceptualization of assessment for online learning is hindered by the instrumental reason of economic and administrative systems (Lean & Barber, 2022a). That is, there is a drive to gain control over individuals' learning and studying processes rather than facilitate negotiation between peers and educators. This tendency to look at student activity in response to the assessments given to them reveals the reification of assessment practices and an overreliance on assessment as a steering mechanism.

### **Opportunities for Collaboration and Knowledge Construction**

Although educational lifeworlds and the potential for communicative action appear to be undermined or overwhelmed by administrative and economic steering, much of the dataset focused on collaboration and knowledge construction in online learning and assessment. This is a theme that goes beyond assessment, yet can be integral to it or influenced by it. A key theme that emerged alongside collaboration and knowledge construction was computer-supported collaborative learning (CSCL). This is where an

intersection between technological innovation, and its child codes, collaboration, and constructivism appears. To reiterate, digital technology can enable more frequent, immediate communication, meaning it can facilitate activities such as peer assessment and peer feedback. These forms of assessment involve varying levels of collaboration, a central component in constructivist learning. The literature in the dataset that draws from constructivism or social constructivism does so in a way that is concerned with both the value of learning in and of itself and learning for administrative or economic ends. Embedded some of the dataset (see e.g., Cheng and Chau, 2016; Demosthenous et al., 2020; Kent et al., 2016; Naicker & Bayat, 2013) is the idea of learning as individually constructed through social interactions. That is, social interactions provide individual learners with the building blocks necessary to construct knowledge. Cheng and Chau (2016) and Demosthenous et al. (2020) extend the importance of constructivism to digital technologies and online learning. This, when viewed through a Habermasian lens, seems to encourage, through the use of digital media, intersubjective knowledge-building that can potentially interrogate the objective, social and subjective realms of knowledge through validity claims (Habermas, 1987a, p.120). However, the other key overlap of themes is seen in collaboration being defined as a 21st century skill, meaning that collaboration is something IHE is compelled integrate into learning and assessment (see e.g., Kent et al., 2016). So, students are still pushed and prodded by the pressure of assessments and grades as collaboration is often prompted by peer assessment (see e.g., McCarthy, 2017; Naicker & Bayat, 2012; Usher & Barak, 2018; Xiong & Suen, 2018). The pressure of assessments designed with 21st century demands in mind undermines the ability for students and teachers to engage in collaborative learning that is noncoercive.

The intersection of digital technology, collaboration, 21st century skills, and assessment is where the tension between lifeworld spheres, or spheres of communicative action, and system rationalization is visible. Although collaboration is a skill under 21st century demands, a course or assessment that is based on collaboration may allow for opportunities to mitigate atomization and encourage communicative action. This means, however, that collaboration has to go beyond assessments, that collaboration should not only be engaged in as a means to an end, whether that end is a short-term goal such as a good grade, or a longer-term goal such as employment.

### **The Transformation of Education**

As discussed in the findings, new, continuing or accelerated trends, transformations and fundamental changes in education are a key concern of much of the literature (see e.g., Altinay, 2017; Boitswarelo et al., 2017; Cheng et al., 2013; Demosthenous et al., 2020; Martin & Ndoeye, 2016; Moffit et al., 2020; Naicker & Bayat, 2012). Evident in the dataset is that there are many converging elements contributing to the transformation of higher education. These elements can be traced back to the 21st-century demands placed on higher education that encompass learner-centred education, lifelong learning, and technological innovation.

The emphasis on learner-centred education is both a result of explicit and implicit economic steering media. IHE have to be competitive in a global education economy and responsive to market forces. This, Zajda and Rust (2016) argued, leads IHEs to work towards managerialism, efficiency, and accountability that prioritize profit (p.6), whose ends to which of digital technology, new forms of assessment, and the ability to closely monitor students are geared. This can be seen in the demand to provide timely or

immediate feedback through digital technology. While timely and immediate feedback are associated with improving student learning (see e.g. Boitshwarelo et al., 2017), they are also ways of guaranteeing student satisfaction (see e.g. Naicker & Bayat, 2012), which is indicative of explicit economic steering.

A strong emphasis on lifelong learning requires new forms of assessment and an increased monitoring of student activity and learning. Formative assessments are key for monitoring and managing learning. While formative assessments can help facilitate 21st-century skill development, they also allow educators and institutions to monitor and guide learning processes much more effectively than courses that use summative assessments. The ability to monitor learning processes is enhanced through the use of digital technologies such as LMSs (see e.g. Cheng & Chau, 2016; Demosthenous et al., 2020). There is both a prevalence and necessity of digital technology that enables and further motivates the increased use of formative assessments as well as learning analytics designed to understand how students complete assessments. This ability to monitor students, combined with the centrality of lifelong learning skills such as self-regulation and self-direction, means that teachers are taking more of a facilitative role in learning processes.

Teacher and student roles, therefore, may be changing. Biesta (2015) described teachers as becoming facilitators of learning and expressed his concern that, through this identity transformation, education is replaced by learning. Whereas Biesta (2015) aims his critique at the theoretical developments behind the transformation of teacher identity, the assertion this paper makes is that the role of the teacher is increasingly informed by managerialism. This is not to say that teachers are direct managers of students, rather the

assertion is that teachers are taking on tasks that involve the closer monitoring of students through digitally mediated, formative assessments and learning analytics. Students are also taking on more responsibilities through the completion of formative assessments (see e.g., Naicker & Bayat, 2012) which is necessary to instill the skills vital to lifelong learning. However, by taking on more responsibilities, there is a shift in the role of the student. Students increasingly need to become efficient, effective, flexible and independent learners who can motivate themselves and each other.

### **A New Kind of Efficiency**

Efficiency in education and assessment used to refer to how quickly and cost-effectively large-scale testing could be done (Madaus & O'Dwyer, 1999). Government-funded institutions required reliable tests that could be distributed across entire institutions, regions or even nations. However, a suggestion in the dataset is that IHE are geared towards a new form of efficiency. Previous concerns with disseminating and grading large-scale tests and assessments were largely steered by economic goals of governments and institutions. However, efficiency should be seen as far more complex in online assessment in higher education today. Efficiency now more commonly involves strategically setting goals and meeting targets as quickly and effectively as possible, without digressing or wasting time (Vassallo, 2015, p.86). This efficiency is student-oriented rather than institution-oriented as the task is to get learners to complete tasks efficiently rather than to get systems or institutions to work efficiently. This is form of efficiency that reflects actions that are “oriented towards success (Kemmis, 1998, p.275) and is fundamental to the shift from teacher-centred education to learner-centred

education, to lifelong learning, and to the use of digital technologies and assessment to monitor and optimize learning.

### **Conclusion**

The aim of this paper has been to critically analyze assessment in online learning in higher education. Given assessment's historical evolution, where at times it has been a quantifier, motivator, or chaperone of learning, it is important to ask what assessment can do to enhance learning, why it should (or even should not) impact learning, and how it impacts learning. This study's metasynthesis of 40 articles centred on searches related to assessment, online assessment, and online assessment in higher education in an attempt to identify emergent themes in the literature. The emergent coding was initially expansive, but was periodically reorganized to help identify recurring themes that help critically interrogate the evolving role of assessment in online learning. Although the study aimed to identify emergent themes, the analysis of the literature on assessment utilized the social theory of systems and lifeworlds (Habermas, 1987a, 1985b). Therefore, it is worth reiterating that the theoretical framework is not only central to the analysis, but may also have influenced the elicitation of emergent themes. Many complex themes emerged in the analysis that help address the research questions.

#### **RQ1: What emerging roles do online assessments play in steering learning?**

One of the key findings in the study was that assessments are tasked with meeting 21<sup>st</sup>-century demands. It is clear that assessments are intended to influence and direct students (Ford-Leaves et al., 2023; Chan, 2023), and this is indicative that one of its chief purposes is to act as a steering mechanism for a number of different ends. However, what is important to interrogate is not just the idea of assessment as a steering mechanism, but how it has changed as a steering mechanism. For example, there is increasing literature

that states that traditional, often summative, assessment is not in line with 21st-century demands (Saher et al., 2022). 21st-century demands include providing a service, developing learner-centred pedagogies, instilling the values and skills of lifelong learning, and meeting technological advances and innovations. Formative assessments, often labelled assessments for learning, are better equipped to 21st-century imperatives as they can be used to encourage collaboration, engagement, self-regulation and self-direction.

**RQ2: How do the emerging roles of online assessment impact teaching and learning?**

The dataset also suggests that online assessments are more often formative than summative for the purposes of redistributing work and monitoring students. Formative assessment such as peer feedback aims to redistribute teachers' labour, which indicates a more direct form economic steering whose aim is to make institutional processes more time and cost efficient. Peer assessment also aims to encourage participation and engagement in online learning. However, somewhat insidiously, formative assessment seeks to more closely monitor the activity and learning of students. Technology is central to the development of formative assessment as a tool for monitoring student learning and engagement as it enables not only the monitoring of assessment completion and success, but also the monitoring of student activity through learning analytics (Doğan et al., 2020; Kent et al., 2016; Martin & Ndoeye, 2016; Nyland et al., 2017).

**RQ3: Can assessments be used to facilitate communicative action?**

A surprising finding of the research was that the idea of the online learning environment as unique or distinct from face-to-face learning was not often a central concern of the literature in the dataset. This may be attributed to the reification of face-to-

face learning and assessment methods, the scramble to move educational processes online during the COVID-19 pandemic (Lean & Barber, 2022b), and an overreliance on content delivery platforms, or LMSs (Tilak & Glassman, 2020). Nevertheless, collaboration was a key theme in the literature. This is encouraging as collaboration, and its key overlapping themes of knowledge construction, potentially transcend the steering power of assessment. In these findings is an encouraging intersection between collaboration, constructivism and technological innovation. However, this also involves a potentially narrow focus on collaboration as a 21<sup>st</sup>-century skill. Instead, collaboration should be seen as collaboration for learning in and of itself. Furthermore, communicative action can potentially take place in resistance to the colonization of educational lifeworlds, or public spheres. Fleming (2000) points towards the creation of educational spheres that, while impinged upon by steering media, may be critically analyzed. This is extended to online learning by Tilak and Glassman (2020), who highlight the opportunities second-order internet technologies provide for communicative action. Frameworks for online learning such as the CoI (Garrison et al., 2010) and the FOLC (van Oostveen et al., 2016) also encourage the development of learning communities in ways that try to transcend the steering power of assessments. However, these are frameworks that emphasize the online learning environment as distinct, and this is a theme that did not occur frequently in the dataset. Thus, the overlapping emergent themes of collaboration, computer-supported collaboration, and knowledge construction (often rooted in social constructivism) may only hint at the potential for communicative action in the face of administratively and economically-driven assessments.



## **Limitations and Future Considerations**

There are several limitations to this study. The most significant limitations relate to sample size and subjectivity. The dataset consisted of 40 papers, therefore an expanded dataset may help develop the findings of this study further. The reliability of this study is also undermined by the subjectivity of the researcher. Template analysis is known to have reliability issues (Au, 2007). Despite the iterative nature of the template analysis employed in this study, and the explicit theoretical framework, it is recommended that future research is conducted with several researchers who can code independently. Independent coding has been shown to help empirically determine the reliability of coding structures (Au, 2007).

It is also important to note that this research is a broad and systematic account of a section of academic literature on assessment in online education. This means that the stories of individual students, educators, administrators, and researchers are not accounted for (Brooks et al., 2015). Future understandings of the impact of assessment on educational lifeworlds may be enhanced by phenomenological studies on faculty and student experiences of assessments in online environments.

It is this author's view that elements of communicative action can emerge within systems, or institutions whose existence tends to be based on system imperatives. Although systems tend to dominate the official and regimented aspects of human existence, the humanity that is essential to lifeworld spheres is still evident, and this may be particularly so in education. Through the theoretical lens systems and lifeworlds, this study has highlighted the tendency for assessments to be designed, developed and used as steering mechanisms for learning. Immanent in assessment are goals that prioritize

system-reproduction, instrumental reason, and purposive action. Assessments in the mid-1900s attempted to justify educational and governmental institutions and their methods. This manifested itself in the form of widely-distributed assessments (Wiggins, 1989, p.703) and aimed to be scientifically reliable, efficient, and cost-effective for institutions (Madaus & O'Dwyer, 1999, p.693). More recently, particularly since the introduction of neoliberal economic policies, IHE have had to be more responsive to market forces (Morrison, 2015; Vassalo, 2013; Zajda & Rust, 2016). This manifests itself in assessment in explicit ways. Higher education is now more commonly considered a service for students and at the service of the job market. There are also more implicit economic steering mechanisms. Assessment in higher education has become concerned with developing lifelong learning skills, which may have contributed to a growing tendency to monitor student activity around assessment. This is somewhat paradoxical considering the purported liberatory goals of lifelong learning. As a result of these and other processes, we may be seeing the transformation of the roles of teachers and students, with teachers becoming facilitators or managers of student engagement and participation, and students taking on more responsibilities for their learning. There remain opportunities to engage in communicative action, potentially through collaboration aided by digital technology. However, educators and learners alike must orient themselves towards a critical engagement with assessment practices, which begins with reflecting on the design, purpose and impacts of assessment practices.

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## APPENDICES

A1.

Table 2, Final Dataset

Article	Number of Codes	References
Akimov and Malin (2020)	37	133
Altnay - (2017)	25	128
Alverson et al. (2019)	14	37
Arend - (2007)	11	25
Baldwin and Trespalacios (2017)	12	34
Boitshwarelo et al. (2017)	37	130
Chan (2022)	44	220
Cheng and Chau (2016)	28	86
Cheng et al. (2013)	39	165
Cohen and Sasson (2016)	33	117
Cook and Babon (2016)	44	181
Demosthenous et al. (2020)	35	158
Doğan et al. (2020)	58	343
Enders et al. (2021)	33	118
Gamage et al. (2019)	39	126
Gamage et al. (2020)	30	215
Halaweh (2020)	68	1583
Kent et al. (2016)	27	229
Marcu (2021)	4	9
Martin and Ndoye (2016)	30	168
McCarthy (2017)	36	132
Moffit et al. (2020)	28	164
Mostafa (2023)	14	104
Naicker and Bayat (2012)	43	443
Ndibalema (2021)	47	257
Nyland et al. (2017)	21	71
Okada et al. (2019)	9	86
Oyedotun (2020)	25	81
Petrović et al. (2017)	17	371
Rambe (2021)	28	77
Ryan (2021)	25	72
Shalatska et al. (2020)	23	57
Sun et al. (2021)	30	91
Trevisan et al. (2020)	27	108
Tuah and Naing (2021)	44	160
Usher and Barak (2018)	43	871
Xiong and Suen (2018)	61	601
Zainuddin et al. (2020)	30	235
Zhou et al. (2022)	40	142



A2. Table 3, Final Coding Themes with Exemplars

Coding Theme	Number of Articles, N = 40	Total Number of References	Exemplar of Theme
Education Meeting 21st Century Demands	40	538	“The emphasis of SDL (self-directed learning) in the context of online assessment aligns with the view on the need to promote learner centred approaches as the means to achieve the 21st century skills for digital natives.” (Ndibalema, 2021, p. 445)
The Transformation of Education	34	266	“Although some principles are common to improve the quality of education in online and face-to-face environments, the teaching practices have undergone a significant structural change depending on the capabilities of LMSs in online teaching environments.” (Doğan et al., 2020, p. 2)
Feedback	29	240	“For any assessment, feedback is an essential element and teachers should provide ample opportunities for feedback as it helps learners understand what constitutes good performance” (Chan, 2022, p. 2)
Managing Engagement and Participation	29	143	“The interactions that take place within formative assessment also have the potential to strengthen students’ feeling of connectedness, which is sometimes called “social presence” (Tu and McIsaac 2002). The connectedness further promotes student engagement.” (Xiong and Suen, 2018, p. 246)
Assessment Type	27	335	“Therefore summative assessment is used more from an evaluative purpose rather than a diagnostic one which is the domain of formative assessment. While formative assessment can be used to take corrective measures and monitor progress when learning is still happening, summative assessment is used to determine effectiveness of a program, students’ achievements” (Martin and Ndoeye, 2016, p. 2)
Access to information	27	151	“System access: the number of times a student accesses LMSs is measured. The higher the number of accesses to LMSs, the greater is the extent of online participation.” (Cheng and Chau, 2016, p. 261)
Collaboration	24	72	“A third issue is that of the social nature of learning. Individual based assessment misses the opportunity to take advantage of how learning takes place in online collaborative discussion. The democratic nature of online learning fosters collaborative work and should be encouraged.” (Cheng et al., 2013, p. 52)
Knowledge Construction	21	49	“The Internet is an important technology that hosts abundant, accessible resources for today’s students to learn and grow. This technology affords convenient communication and tools for collaborative knowledge construction.” (Zhou et al., 2022, p. 182)

The Online Learning Environment as Distinct	21	56
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“One of the greatest challenges for the higher education teachers... was to overcome the misconception that e-learning is simply a substitute for traditional classroom teaching in presence,” (Trevisan et al., 2020, p. 69)