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TEACHING ECONOMIC INEQUALITY: PLURALISTIC KNOWLEDGE AND LEARNING DISPOSITIONS

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Teaching Economic Inequality: Pluralistic Knowledge and Learning Dispositions

Abstract

This study examines whether pluralistic teaching is associated with students' learning dispositions. The data are drawn from an economic inequality course delivered at an English university between 2016 and 2025. A new scale capturing pluralistic knowledge of economic inequality is developed around six principles: structural and relational ontology; epistemic pluralism and situated knowledge; intersectional and decolonial analysis; normative commitment to justice, equity and transformation; methodological diversity and grounded inquiry; and engaged scholarship and evidence-informed policymaking. The results show that, after completing the course, students reported higher levels of pluralistic knowledge of economic inequality and stronger learning dispositions relating to critical thinking, epistemic curiosity, civic engagement, self-efficacy and social justice. Pluralistic knowledge of economic inequality is also positively associated with these learning dispositions. In addition, both pluralistic knowledge and learning dispositions are positively associated with academic performance in course assessments. These findings are relevant to educators, curriculum designers and policymakers seeking to strengthen students' analytical, ethical and civic capacities in engaging with socio-economic phenomena.

JEL Classifications: A20; A23; B50; D63; I24; I28; Z13

Keywords: Pluralism; Pluralistic teaching**;** Economics education**;** Economic inequality**;** Critical thinking**;** Civic engagement**;** Epistemic curiosity**;** Social justice orientation**;** Curriculum design; Grades

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1. Introduction

The United Kingdom's Gini index rose from 26% in 1977 to 33% in 2024, indicating a substantial increase in income inequality over the past five decades (Office for National Statistics, 2025). A similar trend is evident in the United States, where the index increased from 35% in 1979 to 42% in 2023 (Federal Reserve Economic Data, 2025). These developments point to widening income disparities (Jodhka and Rehbein, 2024; Pickett and Wilkinson, 2015) and raise important policy questions concerning the effectiveness of taxation and welfare provision in reducing inequality (Avram and Popova, 2022; Piketty, 2020; Novak, 2018). Distributional outcomes have also evolved alongside economic growth (Kharlamova et al., 2018; Phillips, 2017; Galbraith, 2011) and remain uneven across demographic groups (Jodhka and Rehbein, 2024; Akee et al., 2019; Kawachi and Subramanian, 2014), reflecting long-standing structural hierarchies and historical legacies of exclusion and exploitation (Gimenez, 2001; Cullenberg, 1998).

Contemporary approaches to inequality increasingly combine empirical measurement with historical and institutional analysis (Piketty, 2020, 2014). Drawing on extensive longitudinal evidence across countries, this literature documents long-run tendencies towards wealth concentration where returns on capital exceed economic growth and emphasises the role of institutions in shaping distributive outcomes. By locating these processes within wider structures of power and historical change, such work demonstrates the value of drawing on multiple analytical traditions. This orientation is consistent with pluralist approaches that emphasise theoretical and methodological diversity (Thornton, 2026; Stilwell, 2019, 2016; Decker et al., 2019; Garnett Jr et al., 2009; Dow, 2007) and the integration of quantitative evidence with historical and institutional inquiry in understanding complex socio-economic processes (Sen, 2008; Fraser, 2007).

This broadening of economic analysis also raises questions about how such analytical diversity can be reflected in economics education. Recent curriculum reforms have sought to address this challenge. CORE Econ, for example, has contributed to introductory economics education by bringing contemporary economic problems, institutional context and diverse analytical perspectives more directly into the curriculum (Cortinhas, 2023; Bowles and Carlin, 2023). Yet evidence from the most recent national survey of introductory economics teaching in the United States indicates that traditional lectures continue to dominate principles courses, while teaching practices engaging explicitly with diversity, inclusion and gender remain comparatively underused (Asarta et al., 2026). There is therefore continuing scope for approaches that deepen students' engagement with economic problems through theoretical, methodological and interdisciplinary plurality.

Against this background, the aim of this study is to examine whether a structured pluralist teaching framework is associated with students' knowledge and broader learning dispositions. The empirical setting is an intermediate-level economic inequality course offered at a university in England between 2016 and 2025. At this level, students can engage more systematically with competing explanations, forms of evidence and disciplinary perspectives, allowing pluralist commitments to be developed across curriculum organisation, seminar activity and assessment. Economic inequality provides the common substantive problem through which these elements are connected. This setting raises a broader pedagogical question concerning how theoretical, methodological and interdisciplinary pluralism can be organised coherently across an entire course and connected with multiple dimensions of student learning. Existing research provides important examples of pluralist and political economy education (Schroeder, 2026; Bryant and Stilwell, 2026; Schweitzer-Krah and Engartner, 2019; Coombs and Frawley, 2019; Obeng-Odoom, 2019, 2017), but comparatively limited evidence examines explicitly specified course-level frameworks using multidimensional learning measures across repeated course deliveries.

The study is theoretically grounded in pluralist and political economy approaches to economic inequality. Pluralism in economics recognises the value of multiple theoretical and methodological perspectives for understanding complex socio-economic phenomena (Drydakis and Martell, 2026; Stilwell, 2019, 2016; Decker et al., 2019; Garnett Jr et al., 2009). In the context of inequality, this includes structural and relational analysis (Pratten, 2015; Tilly, 2000), intersectional and decolonial perspectives (Yuval-Davis, 2015; Grosfoguel, 2011), and normative accounts of justice (Sen, 2008;

Fraser, 2007; Rawls, 2001). These traditions inform the Pluralistic Framework of Economic Inequality developed in this study, which integrates six interrelated principles: structural and relational ontology, epistemic pluralism and situated knowledge, intersectional and decolonial analysis, normative commitment to justice, equity and transformation, methodological diversity and grounded inquiry, and engaged scholarship and evidence-informed policymaking (Drydakis, 2026a; Drydakis and Martell, 2026). The six principles provide a course-level architecture connecting theoretical comparison, methodological choice, contextual analysis, normative reasoning and policy engagement. In this way, the framework translates the intellectual foundations of pluralism into curriculum content, teaching activity, assessment and multidimensional student learning.

The study is guided by three overarching research questions. It examines whether students report higher post-course levels of pluralistic knowledge of economic inequality and stronger learning dispositions in relation to critical thinking, epistemic curiosity, civic engagement, self-efficacy and social justice. It also examines whether pluralistic knowledge is associated with these broader learning dispositions and whether pluralistic knowledge and the learning dispositions under consideration are associated with students' academic performance. These questions reflect a multidimensional conception of learning in which substantive understanding is considered alongside cognitive, affective and civic dispositions. To support the empirical examination of these questions, the study develops and validates the 42-item Pluralistic Knowledge of Economic Inequality Scale. The scale operationalises the six principles and provides a measure of the forms of knowledge represented in the course design. It is examined alongside established measures of critical thinking (Sosu, 2013), epistemic curiosity (Litman and Spielberger, 2003), civic engagement (Doolittle and Faul, 2013), self-efficacy (Solberg et al., 1993) and social justice (Torres-Harding et al., 2012), as well as students' academic performance. The scale therefore serves as an empirical component of the wider pedagogical inquiry, enabling systematic examination of how knowledge represented in the framework relates to a broader profile of student learning.

The empirical design uses matched pre- and post-course observations across eight course waves, allowing examination of whether similar patterns recur across successive deliveries of the same course. This repeated-wave structure extends existing evidence based on course evaluations, cross-sectional surveys, qualitative feedback and retrospective accounts of pluralist education. Illustrative reflections drawn from standard end-of-course evaluations provide additional contextual evidence on how some students described their engagement with competing perspectives, structural and historical explanations, methodological diversity, interdisciplinary inquiry and policy application. These reflections complement the quantitative analysis by illustrating how elements of the framework were expressed in students' accounts of their course experience, while remaining illustrative self-reported evidence.

The findings indicate higher post-course levels of pluralistic knowledge of economic inequality and stronger learning dispositions across the dimensions examined. Higher levels of pluralistic knowledge are also associated with critical thinking, epistemic curiosity, civic engagement, self-efficacy and social justice, while both pluralistic knowledge and learning dispositions are positively associated with academic performance. Similar pre- to post-course patterns are observed across the eight course waves, suggesting that the pooled results are not attributable to a single cohort or delivery period. Given the observational design, these findings are interpreted as course-associated patterns and do not establish an independent causal effect of the course. The principal contribution of the study lies in connecting an explicit pluralist pedagogical framework with its implementation across curriculum, teaching and assessment and with multidimensional evidence on student learning. The framework specifies the intellectual and pedagogical commitments of the course, the course design shows how these commitments are enacted, and the empirical analysis examines the learning patterns associated with that design. The measurement instrument supports this wider pedagogical inquiry.

The remainder of the study is structured as follows. Section 2 reviews previous knowledge on pluralism, political economy and pedagogy in economics education and positions the present study within the existing literature. Section 3 presents the economic inequality course design, the Pluralistic Framework of Economic Inequality and its pedagogical implementation. Section 4 develops the study's hypotheses. Section 5 explains the data collection process, and Section 6 describes the dataset. Section 7 details the scale validation procedures, while Sections 8 and 9 present the descriptive statistics and

estimation results, respectively. Section 10 discusses the findings, integrating the quantitative evidence with illustrative student reflections and considering the study's theoretical, empirical and pedagogical contributions, implications for teaching, limitations and directions for future research. Section 11 concludes the study.

2. Previous Knowledge and Positioning of the Present Study

Research on economics education has increasingly examined how pluralism and political economy can broaden students' engagement with complex economic problems. This literature provides the foundation for the present study by clarifying the educational purposes of pluralism, the role of political economy as an interdisciplinary and contextual mode of inquiry, and the pedagogical approaches through which competing perspectives can be incorporated into curriculum, teaching and assessment. Section 2.1 reviews these developments and the evidence on associated student learning, while Section 2.2 identifies the remaining research space and positions the present study as a structured pluralist approach to teaching economic inequality.

2.1 Previous Knowledge: Pluralism, Political Economy and Pedagogy in Economics Education

Pluralism in economics education extends beyond the inclusion of heterodox economics within an otherwise conventional curriculum. It creates space for mainstream and non-mainstream perspectives to be examined comparatively, enabling students to consider their assumptions, explanatory possibilities and limitations (Thornton, 2026; Stilwell, 2019, 2016). This range of perspectives can make learning more complex, as students must develop a clear understanding of the reasons behind differing viewpoints and the ways in which contrasting claims can be examined and assessed. A pluralist curriculum therefore requires an organising purpose, since finite curriculum time makes the simple accumulation of schools of thought impractical. Problem-centred teaching offers one response by selecting perspectives according to their capacity to illuminate substantive economic questions. Comparison and judgement consequently become central educational activities, encouraging students to identify assumptions, examine the role of values and purposes, and evaluate competing explanations (Thornton, 2026; Stilwell, 2019).

Maintaining meaningful intellectual disagreement also requires pedagogical transparency (Scanlan, 2026). The presentation of multiple perspectives can still generate an implicit orthodoxy if students perceive that particular assumptions, criticisms or conclusions are expected. The principles governing the selection, comparison and evaluation of perspectives therefore need to be explicit and open to examination. From this perspective, pluralist education involves structured engagement with disagreement, supported by a clear rationale for how diverse explanations are brought into dialogue (Scanlan, 2026; Thornton, 2026; Stilwell, 2019, 2016).

The scope of pluralism has broadened beyond theoretical diversity to include methodological pluralism and interdisciplinarity. This involves engagement with different schools of thought, quantitative and qualitative methods, and knowledge from neighbouring disciplines (Schweitzer-Krah and Engartner, 2019). Evidence from economics students suggests that these dimensions are educationally important. Students have expressed support for greater engagement with political science, sociology and history while reporting comparatively limited interdisciplinary content and a strong emphasis on mathematical modelling and quantitative techniques within their programmes. They have also reported less exposure to approaches such as case studies, surveys and discourse analysis. These findings suggest that pluralism concerns not only which theories students encounter but also the forms of evidence, methods and disciplinary knowledge through which economic questions are investigated (Schweitzer-Krah and Engartner, 2019).

Political economy provides an intellectual basis for connecting these dimensions. It situates economic processes within historical, institutional, social and political contexts and links questions of production and distribution with institutions, power, social relations and public policy (Stilwell, 2019, 2016). Its interdisciplinary orientation allows economics to draw on concepts, evidence and methods from across the social sciences while contributing its own analytical resources. This is particularly relevant to economic inequality, where distributional outcomes reflect interactions among markets, individual behaviour, institutions, historical processes and public policy. Political economy therefore supports the examination of inequality through competing explanations while retaining attention to its wider social

context. Applied political economy develops this orientation further by treating disciplinary and methodological choices as responsive to the substantive problem under investigation (Schroeder, 2026).

International experience illustrates different ways in which these principles have been incorporated into teaching. The long-running political economy programme at the University of Sydney combines theoretical comparison with problem-centred analysis. Earlier courses juxtaposed neoclassical, Keynesian, Marxian and institutional traditions, while later developments incorporated feminist, ecological, decolonial and Indigenous perspectives and applied them to substantive questions concerning production, distribution, growth and crises (Bryant and Stilwell, 2026; Stilwell, 2019). In the United States, Hobart and William Smith Colleges provide another programme-level example in which institutionalist, Keynesian/Post-Keynesian, Marxian and feminist approaches are taught within their historical and institutional contexts (Cooper and Ramey, 2014). Political-economic reasoning has also been incorporated outside economics departments. Teaching in sociology and social policy in the United Kingdom has combined competing theories of value with simulations and experiential learning to connect economic ideas with politics, social policy and students' lived experiences (Coombs and Frawley, 2019). Evidence from Malaysia further demonstrates the importance of adapting pluralist economics education to local institutional, developmental and socio-economic conditions (Annamalah et al., 2025).

These examples demonstrate that the educational value of pluralism depends largely on how intellectual diversity is incorporated into curriculum design, classroom practice, and assessment. Increasingly, research approaches these dimensions as interconnected elements of course design rather than as separate components (Kathuria et al., 2025; Obeng-Odoom, 2019, 2017). Constructive alignment provides one means of organising them by connecting learning objectives, teaching activities and assessment with the forms of comparison, evaluation and critical reflection that pluralist education seeks to develop. Political economy teaching has applied this principle through dialogical learning, engagement with multiple traditions, real-world applications and assessments requiring students to construct research-informed arguments across competing explanations (Obeng-Odoom, 2019, 2017).

Active, experiential and problem-centred approaches can further translate pluralism into student activity. Simulations, collaborative exercises, problem-solving and policy applications create opportunities to connect abstract concepts with substantive social questions and to compare alternative assumptions and interpretations (Annamalah et al., 2025; Coombs and Frawley, 2019). Sequencing is also important because engagement with multiple perspectives can create considerable cognitive demands. Repeated opportunities to revisit concepts, compare explanations and progress towards synthesis and application can support deeper engagement over time (Bryant and Stilwell, 2026; Coombs and Frawley, 2019). Assessment reinforces this process by signalling the forms of reasoning that are educationally valued. Critical thinking, problem-solving and interdisciplinary effectiveness can be incorporated explicitly into assessment criteria, while transparent expectations help students understand how competing perspectives will be evaluated without implying that a predetermined theoretical position is required (Scanlan, 2026; Schroeder, 2026).

Student agency adds another dimension to this pedagogical approach. Students can be understood as active participants whose experiences, interpretations and social contexts influence their engagement with economic knowledge. Scanlan (2026) discusses the concept of a "doubly historicised" classroom, which connects the intellectual histories of economic theories with the situated experiences of students and teachers, bringing theoretical pluralism into dialogue with epistemological reflection and lived context. This conception also broadens the educational aims of pluralist economics beyond disciplinary knowledge. Independent reasoning and autonomous judgement become relevant alongside students' interaction with teachers, pedagogical practices and wider learning environments (Mearman, 2014). Evaluation of pluralist education may therefore need to consider substantive knowledge together with broader cognitive, affective and civic dispositions associated with inquiry and judgement.

Existing empirical studies provide support for these broader educational aims, although their designs and outcome measures vary considerably. Stakeholder research has associated pluralist curricula with critical thinking, intellectual flexibility, engagement and the interpretation of complex real-world problems (Annamalah et al., 2025). Course-level studies report student perceptions of stronger critical reflection, research and communication skills, awareness of social justice questions, and greater connections among personal experience, economics, politics and society (Coombs and Frawley, 2019;

Obeng-Odoom, 2019, 2017). Retrospective evidence from alumni of a pluralist economics programme similarly indicates perceived strengths in critical thinking and problem-solving (Cooper and Ramey, 2014). The existing literature therefore provides substantial support for pluralist and political economy teaching while also revealing considerable variation in how pedagogical approaches and student learning are conceptualised and examined.

2.2 Positioning the Present Study: A Structured Pluralist Pedagogy for Economic Inequality

The literature reviewed above establishes a strong basis for pluralist and political economy education while identifying continuing scope for research that connects course design, pedagogical implementation and student learning within a common empirical structure (Kathuria et al., 2025). In particular, comparatively limited evidence examines explicitly articulated pluralist pedagogies using multidimensional learning measures, matched pre- and post-course observations and repeated course deliveries. The present study addresses this research space through a structured pluralist pedagogy for teaching economic inequality within an intermediate-level economics course. Its distinctive feature is the Pluralistic Framework of Economic Inequality, which organises pluralist political economy around six interrelated principles and uses economic inequality as a common substantive focus. The framework provides coherence across theoretical, methodological, interdisciplinary, epistemic and normative dimensions of inquiry while preserving meaningful differences among competing perspectives. This approach builds on work emphasising intellectual contestation, explicit comparison and problem-centred political economy teaching (Bryant and Stilwell, 2026; Thornton, 2026; Scanlan, 2026; Stilwell, 2019).

Economic inequality provides a productive setting for this approach because its analysis draws on competing theoretical explanations, different forms of evidence and insights from several disciplines. The framework provides a common structure through which students can examine these differences, evaluate evidence and justify interpretations without prescribing a single explanatory position. The empirical inquiry extends beyond substantive knowledge to consider critical thinking, epistemic curiosity, civic engagement, self-efficacy and social justice, together with academic performance. In this way, the study connects a clearly articulated pluralist pedagogy with a multidimensional examination of student learning across repeated course deliveries. Section 3 presents the structure and pedagogical implementation of the Pluralistic Framework of Economic Inequality, while Section 4 develops the expected relationships among pluralistic knowledge, broader learning dispositions and academic performance into the study's hypotheses.

3. Course Design, Pedagogy, and the Pluralistic Framework of Economic Inequality

This section presents the design, conceptual foundations and pedagogical implementation of the economic inequality course. Section 3.1 describes the institutional context and overall course design, including the academic setting, student background and structure of instruction. Section 3.2 introduces the Pluralistic Framework of Economic Inequality and its six interconnected principles, before showing how these principles are translated into the curriculum and sequenced across the course. Section 3.3 then explains the pedagogical approach and learning design through which the framework is implemented across lectures, seminars, independent study and assessment.

3.1 Institutional Context and Course Design

The study was conducted at a university in England as part of an established international programme that has been running for fifty years. It is a competitive programme for students who wish to follow a regular university degree course as fully matriculated members of the host institution. Teaching follows a small-group model, with lecture groups capped at thirty and seminar groups capped at fifteen. Upon successful completion, students transfer academic credit to their home universities. Students are expected to have prior knowledge of microeconomics, macroeconomics and basic quantitative methods. In line with the pluralistic aims of the course, emphasis is placed both on formal mathematical derivations and on understanding the theoretical foundations and policy implications of economic models. This approach enables students to engage critically with competing frameworks of economic inequality, regardless of differences in their mathematical preparation.

The economic inequality course is delivered by a single instructor, a Professor in Economics, whose research expertise spans labour markets and interdisciplinary approaches to inequality. Given the breadth of the subject, the course does not aim to develop technical mastery across all methodological traditions. Instead, it introduces students to a range of approaches, including quantitative, qualitative, historical and institutional methods, with a focus on understanding their analytical logic. Engagement with seminal academic contributions forms a central component of the teaching, allowing students to examine how alternative research techniques are used to address distinct questions within the field of economic inequality. Through this process, students are encouraged to evaluate how methodological choices relate to theoretical perspectives and research aims, and to assess the strengths and limitations of different forms of evidence. This design facilitates in-depth engagement with methodological diversity while remaining accessible to students with varied technical backgrounds.

The student cohort reflects a diverse and international learning environment, which is central to the pedagogical design of the economic inequality course. Participants are drawn from a range of disciplinary backgrounds, with a large proportion studying business, economics, management and law, alongside students from the social sciences, humanities and the arts. The cohort is broadly balanced in terms of gender and includes both native and non-native English speakers, contributing to a linguistically and culturally varied classroom. Most students are enrolled at universities in the United States, although representation from Asia and Europe further extends the global composition of the group. Students typically enter the economic inequality course at an intermediate stage of their degree, with prior exposure to core economic concepts and, in many cases, practical experience such as internships. This diversity in academic background informs the economic inequality course design. The pluralistic structure of the course is therefore intended to introduce multiple theoretical perspectives and facilitate dialogue across different academic traditions, thereby shaping the course as a shared and interactive learning environment. From the outset, the economic inequality course has been designed as a pluralistic learning environment. Its core purpose has consistently been to introduce students to a broad range of theoretical perspectives and encourage critical engagement with competing interpretations of economic inequality.

3.2 The Pluralistic Framework of Economic Inequality and Curriculum Content

3.2.1 The Pluralistic Framework of Economic Inequality

The Pluralistic Framework of Economic Inequality is organised around six interrelated principles that provide a pluralistic, reflective and justice-oriented approach to the study of economic inequality. The framework adapts Drydakis's (2026a) Pluralistic Framework for the Study of Socioeconomic Phenomena specifically to economic inequality and builds on approaches to pluralist learning that emphasise engagement with multiple theoretical and methodological perspectives (Stilwell, 2019; Decker et al., 2019; Callan, 1991). The Pluralistic Framework for the Study of Socioeconomic Phenomena has been used to train economics researchers through the Royal Economic Society and has been applied to the analysis of economic exploitation (Drydakis and Martell, 2026) and modern slavery (Drydakis, 2026b). Economic inequality is conceptualised as a multidimensional and relational phenomenon that can be examined through different theoretical perspectives, forms of evidence and disciplinary traditions. The six principles provide common dimensions for comparison while preserving the distinctive assumptions and explanatory priorities of different perspectives. They connect conceptual understanding with methodological adaptability, contextual and historical analysis, ethical reasoning and policy engagement.

The first principle, structural and relational ontology, frames inequality as arising from interdependent economic, institutional and cultural systems, extending beyond individual characteristics or choices (Amis et al., 2017; Phillips, 2017; Pratten, 2015). It reflects long-standing relational and systemic accounts in which inequalities are embedded within social and economic structures and reproduced through institutional arrangements over time (Drydakis, 2015a; Mahutga, 2006; Tilly, 2000; Manley, 1983). Political economy and institutional perspectives illustrate how disparities emerge through labour-market institutions, wage-setting processes and wider systems of governance (Phillips, 2017; Wilkinson, 2013), while theories of discrimination and exploitation identify mechanisms through which prejudices, stereotypes and power relations reproduce unequal outcomes across groups (McKeown, 2016; Veneziani, 2013; Arrow, 1998; Becker, 1957). Class and structural analyses further extend this relational understanding of inequality (Gimenez, 2001; Cullenberg, 1998). This principle therefore establishes an

analytical foundation for examining inequality as a systemic process and for connecting theoretical explanation with institutional and policy analysis.

The second principle, epistemic pluralism and situated knowledge, recognises that no single paradigm can fully capture the complexity of economic inequality (Jodhka and Rehbein, 2024; Garnett Jr et al., 2009; Garnett Jr, 2006; Healy, 2003). This orientation is reinforced by approaches that emphasise the limitations of single-framework explanations and the value of examining economic and social phenomena through multiple interpretive lenses (Yadav, 2018; Yuval-Davis, 2015; Drydakis, 2014; Young, 2004). Pluralistic knowledge consequently involves engagement with diverse epistemologies and awareness that disciplinary traditions differ in the questions they ask, the concepts they employ and the forms of evidence they recognise (Gräbner and Strunk, 2020; Decker et al., 2019). Sociological accounts of stratification, for example, illustrate how disciplinary assumptions shape what is treated as relevant knowledge (Power, 2004; Waller and Jennings, 1990). The concept of situated knowledge further highlights how interpretation is shaped by positionality and lived experience (Stoetzler and Yuval-Davis, 2002). Pluralism is therefore understood as both engagement with multiple theories and an epistemic orientation that encourages students to consider how different forms of knowledge generate different interpretations of inequality (Drydakis and Martell, 2026).

The third principle, intersectional and decolonial analysis, examines how social positions and historical relations of power shape the production and experience of economic inequality. Intersectional approaches draw attention to the interaction of gender, race and class in producing differentiated economic outcomes (Agenjo-Calderón and Gálvez-Muñoz, 2019; Kerner, 2017; Yuval-Davis, 2015; Verloo, 2006), while decolonial perspectives emphasise how global power asymmetries and historical processes continue to structure contemporary disparities (Grosfoguel, 2011; Cary and Mutua, 2010). Feminist political economy similarly demonstrates how overlapping inequalities shape labour-market outcomes within different institutional settings (Gottfried, 2008). Engagement with world-systems, dependency and related perspectives enables students to connect contemporary inequalities and poverty with historical asymmetries in economic relations and knowledge formation (Jodhka and Rehbein, 2024; Coudouel et al., 2006; St Clair, 2006; Kothari, 2005). This principle therefore situates present-day inequality within enduring structures of power and supports comparison of how similar economic processes may generate different outcomes across countries, groups and historical contexts (Kothari, 2005; Smith, 1979).

The fourth principle, normative commitment to justice, equity and social transformation, makes the evaluative dimensions of inequality analysis explicit. Inequality is approached not solely as a technical question concerning distribution or economic growth but also as a normative issue involving dignity, fairness, opportunity and substantive freedom (Nussbaum, 2011; Sen, 2008; Fraser, 2007; Rawls, 2001; Young, 1990). Students engage with theories of distributive justice, social equity and human development to examine how normative frameworks shape evaluations of economic outcomes and policy choices (Bozani et al., 2020). The capability approach, for example, provides a basis for considering deprivation in terms of restrictions on individuals' substantive freedoms beyond income alone (Nussbaum, 2011; Sen, 2008). Empirical and policy-oriented research further enables students to examine relationships among systemic inequalities, human capabilities and distributive outcomes (Bozani et al., 2020; Drydakis, 2017, 2015b; Davis and Sanchez-Martinez, 2014; Hull, 2009; Ernst and Berg, 2009). These perspectives provide normative foundations for evaluating interventions such as positive action, minimum-wage reforms and migration policies (Bozani et al., 2020; International Monetary Fund, 2015; Coudouel et al., 2006), connecting empirical evaluation with explicit consideration of justice and equity.

The fifth principle, methodological diversity and grounded inquiry, emphasises that methodological choices should be guided by the substantive question under investigation and the type of evidence required to address it (Lee and Cronin, 2016; Dow, 2007; Lee, 2005). This orientation is consistent with work emphasising methodological diversity and inclusive analytical practices within economic research (Bayer and Rouse, 2016; Finch, 2002; Wimpenny and Gass, 2000). Quantitative, qualitative, historical and participatory approaches provide different forms of evidence about economic inequality. Quantitative analysis can identify patterns in income distribution and macro-level trends, while qualitative and interpretive approaches, including interviews, ethnography and case studies, illuminate lived experiences and the social processes underlying those patterns. Historical institutionalism

and comparative political economy further situate inequality within longer-term political, social and economic transformations (Novak, 2018; Suddaby et al., 2014; Galbraith, 2011). Methodological diversity is therefore connected to grounded inquiry, with students encouraged to assess what different methods can reveal, the limitations of the evidence they produce and their appropriateness for particular theoretical and policy questions.

The sixth principle, engaged scholarship and evidence-informed policymaking, connects academic inquiry with civic engagement, public policy and processes of institutional change (Leibowitz et al., 2017; Head, 2016). It draws on traditions of democratic participation and deliberation that emphasise reasoned engagement in public decision-making (Peterson, 2009; Chambers, 2003), as well as scholarship concerned with collaboration among academics, policymakers and communities in the production and application of knowledge (Sorrentino et al., 2018). Students apply evidence-informed approaches to questions such as progressive taxation and employment protections and consider how policy outcomes depend on interactions among institutions and stakeholders (Avram and Popova, 2022; Coudouel et al., 2006). Participatory approaches further emphasise the value of local knowledge and democratic involvement in social and economic decision-making (Gräbner and Strunk, 2020; DeLaet, 2016; Boland, 2014). This principle connects theoretical and methodological reasoning with the interpretation and evaluation of real-world interventions.

The six principles form the Pluralistic Framework of Economic Inequality and operate as interconnected, non-hierarchical dimensions of analysis. Structural and relational analysis establishes the institutional and systemic foundations of inequality, while epistemic pluralism enables those structures to be examined through different forms of knowledge and explanation. Intersectional and decolonial analysis extends this inquiry by identifying how inequalities vary across social positions, historical trajectories and global contexts. Normative reasoning provides explicit dimensions through which inequalities and possible responses can be evaluated, while methodological diversity enables these questions to be investigated through complementary forms of evidence. Engaged scholarship connects these forms of analysis with policy debate, civic engagement and institutional change. Economic inequality consequently serves as the common substantive problem through which theoretical plurality, contextual interpretation, methodological choice, ethical evaluation and policy application are connected.

Figure 1 presents the Pluralistic Framework of Economic Inequality in visual form. The six principles are organised around economic inequality as the common analytical focus and represented as overlapping, non-hierarchical dimensions. Their intersections indicate that the principles operate in combination and reinforce one another within the broader analytical structure. The figure therefore represents pluralistic inquiry as an integrated process through which theoretical perspectives, forms of knowledge, methods, contextual considerations, normative commitments and policy questions inform one another.

[Figure 1]

3.2.2 Curriculum Content and Course Sequencing

The economic inequality course curriculum translates the six principles into a sequenced programme of study. It combines established economic analysis of inequality with historical, institutional and interdisciplinary perspectives, including influential work that integrates formal modelling with empirical and historical investigation (Piketty, 2020, 2015, 2014). Although teaching materials and examples were routinely updated across successive deliveries, the core structure, learning objectives and pluralistic orientation of the course remained consistent across the eight course waves.

Lectures 1 and 2 introduce the conceptual and theoretical foundations of economic inequality, examining how different schools of thought interpret inequalities in income and opportunity. Lectures 3 and 4 extend this foundation by considering discrimination and the social hierarchies that shape unequal access to resources. Lectures 5 and 6 examine exploitation and power asymmetries in labour markets, including the role of bargaining power and segmented employment structures in generating and reproducing unequal outcomes. Lectures 7 and 8 address poverty and policy responses, connecting individual experiences of deprivation with wider patterns of inequality and considering how policy interventions may mitigate or reinforce these disparities. Lectures 9 and 10 focus on global migration and labour-market segmentation, examining how cross-border mobility interacts with institutional structures

to generate differentiated outcomes for migrant and native workers. Lectures 11 and 12 revisit these themes through feminist economics, drawing attention to gendered divisions of labour and their role in reproducing economic inequalities.

The accompanying seminars provide the main setting in which students apply the six principles comparatively. Activities require students to examine how different theoretical and disciplinary perspectives interpret the same substantive problem, compare forms of evidence and consider the relationship between explanation, methodology and policy. For example, students may contrast econometric evidence on wage inequality with qualitative accounts of labour precarity and consider what each approach reveals, its limitations and how the resulting interpretations differ. Curriculum progression consequently moves from theoretical and structural foundations towards increasingly interdisciplinary, intersectional, methodological, normative and policy-oriented analysis, while returning throughout to economic inequality as the common problem around which comparison is organised.

Appendix Table A.I provides the detailed course-level mapping of lecture and seminar topics, theoretical and interdisciplinary perspectives, research methods, learning aims and seminar activities. It also identifies how individual sessions relate to the six principles of the Pluralistic Framework of Economic Inequality. The table demonstrates how the conceptual framework is translated into curriculum content and provides the course-level foundation for the pedagogical approach and learning design discussed in Section 3.3.

3.3 Pedagogical Approach and Learning Design

The economics inequality course consisted of twelve lectures and twelve seminars, each scheduled for two hours. The pedagogical design combined lectures, seminars and independent study. Students were assigned weekly readings drawn from academic journal articles, book chapters and policy reports, with no single textbook prescribed, in order to reflect the pluralistic and interdisciplinary nature of the subject. These readings were intended to support critical engagement with competing theoretical perspectives and empirical evidence. Seminar sessions were structured around discussion, case study analysis and applied exercises, encouraging students to interpret data, evaluate arguments and relate theoretical frameworks to real-world contexts. Assessment was based on three components: a two-hour mid-term test weighted at 20 per cent, a final two-hour test weighted at 40 per cent, and a 3,000-word essay weighted at 40 per cent. The mid-term test assessed comprehension of core concepts and key readings from the first half of the economic inequality course, while the final test evaluated integrative understanding and the ability to apply theoretical frameworks and empirical cases covered across the full syllabus. The essay required students to construct a research-informed argument that critically engaged with competing and intersecting explanations of socio-economic inequality and drew appropriately on academic sources.

The essay assessment criteria reflected the forms of pluralistic reasoning emphasised throughout the course. These criteria considered students' ability to analyse inequality structurally and relationally, compare and evaluate alternative theoretical perspectives, engage with intersectional and contextual dimensions of inequality, use and assess different forms of evidence, consider justice and policy implications, and construct a coherent research-informed argument. To make these criteria explicit and facilitate adoption of the course design, **Appendix Table A.II** presents the assessment dimensions and corresponding performance descriptors.

The economic inequality course was structured around four complementary pedagogical frameworks. Constructivist principles (Piaget, 1980; Vygotsky, 1962) informed the overall design, framing learning as an interactive process in which understanding is co-constructed through dialogue. Lectures introduced the theoretical foundations, while seminars facilitated comparative interpretation of structural, feminist, sociological and decolonial frameworks through case studies. Students engaged collaboratively in questioning and synthesis, developing reflexivity regarding how theoretical paradigms and personal experience shape interpretation. This dialogic process reinforced pluralistic awareness and encouraged ethical engagement with complex socio-economic realities.

Building on this foundation, experiential learning (Wurdinger and Carlson, 2010; Kolb, 1984) linked conceptual inquiry to lived realities. Through case studies and reflective writing, students examined how economic inequality manifests in specific contexts such as labour precarity and poverty. This cycle of reflection and application aimed to help them connect abstract reasoning with social

experience, fostering critical awareness of the moral dimensions of economic analysis. In addition, a universal design for learning approach (Rose, 2002) aimed to ensure that engagement with economic inequality was inclusive. By combining academic research, statistical data and visual sources, students accessed ideas through multiple modes of representation. Assessments provided varied opportunities to demonstrate understanding. This inclusive design recognised students' diverse interpretive backgrounds and enriched collective meaning-making through exposure to multiple epistemologies. Course sequencing also drew on the zone of proximal development (Schneuwly, 1994; Vygotsky, 1962), which supported progression from foundational comprehension to independent critical analysis. Early sessions focused on structural and institutional theories, while later stages incorporated intersectional, feminist and decolonial approaches. Scaffolded readings and peer collaboration during seminar activities were designed to support gradual intellectual and ethical growth. These approaches positioned students as active participants in meaning-making, encouraged learning through experience and reflection, and aimed to enable the progressive development of analytical and ethical reasoning.

Given the breadth of theoretical and methodological content, the economic inequality course was designed to avoid cognitive overload by structuring learning progressively and emphasising depth of understanding. Core concepts were revisited across lectures and seminars, allowing students to engage with a limited number of key frameworks in depth. Guided discussions and iterative feedback supported students in consolidating their understanding and applying concepts across contexts. This design aimed to ensure that engagement with pluralism remained accessible to students with diverse academic backgrounds.

4. Study's Hypotheses

Having outlined the economic inequality course design and the Pluralistic Framework of Economic Inequality, this section translates the framework into an empirical model that can be examined through the study's hypotheses. While Section 3 conceptualises pluralistic teaching as a set of interrelated pedagogical principles, the present section operationalises these principles as observable learning outcomes that can be empirically assessed. The six principles of the framework are reflected in a set of measurable constructs that capture how students engage with economic inequality. In particular, structural and relational analysis and epistemic pluralism are reflected in students' pluralistic knowledge of economic inequality, understood as their ability to recognise and compare alternative theoretical explanations. This knowledge base is closely associated with the development of critical thinking, as students evaluate competing claims, and epistemic curiosity, as they engage with conceptual uncertainty and diverse forms of evidence. The framework's emphasis on normative reasoning and engaged scholarship is reflected in civic engagement and social justice, while inclusive learning processes are associated with students' self-efficacy in navigating complex interdisciplinary material. By mapping the framework onto these constructs, the study develops a Pluralistic Learning-Knowledge-Performance Model in which course engagement is associated with the development of pluralistic knowledge and related learning dispositions, which, in turn, are associated with academic performance. This operationalisation provides the basis for the hypotheses that follow.

Through its pluralistic orientation, the economic inequality course aims to strengthen students' understanding of economic inequality as a systemic embedded phenomenon (Agenjo-Calderón and Gálvez-Muñoz, 2019; Novak, 2018; Phillips, 2017). This perspective is further informed by decolonial approaches, which emphasise how power processes shape inequality (Grosfoguel, 2011). By integrating alternative theoretical perspectives, it promotes analysis of how global institutions reproduce inequality. Dialogic discussion and comparative materials encourage co-interpretation of contested awareness of long-run institutional dynamics (Jodhka and Rehbein, 2024; Galbraith, 2011; Mahutga, 2006). This approach is further supported by pluralist and epistemological frameworks that emphasise reflexivity and the interpretation of competing perspectives (Garnett Jr, 2006; Healy, 2003), alongside constructivist learning theories that underpin collaborative learning (Piaget, 1980; Vygotsky, 1962). Experiential and inquiry-based activities support the application of conceptual understanding to empirical policy contexts (Wurdinger and Carlson, 2010; Kolb, 1984). This pluralistic approach cultivates openness for difference, enabling students to evaluate alternative perspectives and integrate insights from diverse disciplinary.

Pluralism underpins the development of critical thinking by exposing students to multiple frameworks of economic reasoning. Engaging with alternative economic approaches refines analytical judgement and supports the evaluation of competing claims (Cooper and Ramey, 2014; Mearman et al., 2011; Garnett Jr et al., 2009; Garnett Jr, 2006). Complementary theories of inequality, discrimination and exploitation further deepen students' ability to assess economic arguments by highlighting how different mechanisms generate unequal outcomes (Gimenez, 2001; Cullenberg, 1998; Arrow, 1998; Becker, 1957). The development of critical thinking is also supported by established educational frameworks that emphasise reflective evaluation (Sosu, 2013). Guided feedback informed by pluralistic principles enables progression from comprehension to critique (Schneuwly, 1994; Vygotsky, 1962), while the integration of quantitative, qualitative and historical methods enhances methodological awareness (Lee and Cronin, 2016; Bayer and Rouse, 2016; Dow, 2007).

Pluralistic engagement also nurtures epistemic curiosity, encouraging exploration and innovation (von Stumm et al., 2011; Mearman et al., 2011; Litman and Spielberger, 2003), and motivating students to apply their understanding to complex social challenges (Loewenstein, 1994). Epistemic curiosity supports intellectual independence by motivating students to develop global and intersectional awareness. Exposure to diverse theoretical and empirical contexts sustains critical inquiry (Powell et al., 2017; Cooper and Ramey, 2014; Negru, 2010). Inquiry-led learning encourages the formulation of original research, while historical and community-based case studies connect conceptual investigation to lived experience (Suddaby et al., 2014; Rose, 2002; Litman and Spielberger, 2003). Pluralism also connects academic learning to civic and ethical engagement. It situates education within the broader social world, strengthening awareness of sustainability and democratic participation (DeLaet, 2016; Doolittle and Faul, 2013). This connection is further reinforced by approaches that link learning to public engagement (Peterson, 2009). By linking socio-economic reasoning to collective responsibility, pluralistic teaching mirrors democratic processes of justification (Chambers, 2003). Frameworks of representation and redistribution enhance ethical and policy literacy (Fraser, 2007), while applied policy analysis approaches support the evaluation of social and economic interventions (Coudouel et al., 2006). Translation tasks improve students' ability to communicate evidence and argumentation effectively in policy and community settings (Powell et al., 2017; Obeng-Odoom, 2017, 2019; Negru, 2010), drawing on traditions of civic education that emphasise engagement with diverse perspectives (Weinstein, 2004; Manley, 1983).

Pluralism strengthens confidence and self-efficacy by enabling students to navigate diverse frameworks of thought and to recognise multiple ways of understanding inequality. Exposure to varied epistemologies and methodological traditions fosters adaptability and confidence in applying knowledge across different contexts (Van Bouwel, 2015; Peterson, 2011; Negru, 2010). These processes are closely related to the development of self-efficacy and confidence in academic settings (Solberg et al., 1993; Tetlock, 1986). Progression from foundational theories to complex intersectional analysis builds competence and a sense of mastery (Rose, 2002), while pluralistic modes of assessment allow students to demonstrate understanding through different forms of expression (Negru, 2010). Collaborative learning and peer dialogue further reinforce self-belief and encourage shared inquiry (Leibowitz et al., 2017; Head, 2016). Pluralistic engagement with ethical and normative frameworks cultivates moral reasoning and reflective judgement (Torres-Harding et al., 2012). In particular, the capability approach (Sen, 2008) and theories of distributive justice (Fraser, 2007; Rawls, 2001) provide key foundations for evaluating inequality in terms of fairness and social justice. Integrating intersectional and decolonial perspectives deepens awareness of how power, identity and history shape inequality (Kerner, 2017; Cary and Mutua, 2010). These perspectives further encourage students to approach social and economic analysis with ethical sensitivity and a commitment to inclusive reasoning (Barrow, 2015; Simpson, 2009).

The pedagogical design of the economic inequality course provides a direct operationalisation of the relationships examined in this study. The integration of multiple theoretical perspectives, dialogic learning and inquiry-based activities creates the conditions through which students engage with economic inequality as a complex, contested and multi-layered phenomenon. These pedagogical features correspond to the core elements of the Pluralistic Framework of Economic Inequality and are reflected in the development of pluralistic knowledge and associated learning dispositions.

On this basis, the study proposes the following first set of hypotheses:

Hypotheses Set 1: *Completion of the economic inequality course is expected to be associated with higher levels of pluralistic knowledge of economic inequality (H1a), stronger critical thinking (H1b), greater epistemic curiosity (H1c), stronger civic engagement (H1d), higher self-efficacy (H1e), and a stronger social justice orientation (H1f).*

While the first set of hypotheses examines whether completion of the economic inequality course is associated with higher levels of pluralistic knowledge and stronger learning dispositions, the second set examines the associations between pluralistic knowledge and these learning dispositions, reflecting their conceptual and cognitive interconnections within the proposed framework. Pluralistic knowledge provides this foundation by fostering recognition of theoretical diversity and interpretive context (Peterson, 2011; Negru, 2010; Garnett Jr et al., 2009; Garnett Jr, 2006; Healy, 2003). Engaging with multiple frameworks encourages reflexivity and strengthens critical thinking by enabling students to compare perspectives and evaluate competing forms of reasoning (Cooper and Ramey, 2014; Sosu, 2013; Mearman et al., 2011). Awareness of conceptual tensions and empirical uncertainty sustains curiosity and inquiry, promoting intellectual openness and a willingness to explore complex problems from diverse angles (Cooper and Ramey, 2014; Van Bouwel, 2015). This process is further supported by experiential and inquiry-based learning approaches that encourage exploration and engagement with uncertainty (Wurdinger and Carlson, 2010; Kolb, 1984).

Pluralistic learning also strengthens civic engagement by framing inequality as a socially embedded process that connects economic analysis with civic responsibility (Weinstein, 2004; Callan, 1991). This understanding reinforces the democratic value of analytical reasoning (Chambers, 2003). Collaborative and inclusive learning environments enable students to internalise pluralism as both a cognitive and civic practice (Leibowitz et al., 2017; Rose, 2002). These environments also support the development of confidence in contributing to social dialogue (Solberg et al., 1993; Vygotsky, 1962). Pluralistic understanding further connects economic analysis with principles of justice (Decker et al., 2019; Obeng-Odoom, 2017, 2019; Nussbaum, 2011; Deveaux, 2000). Stratification, feminist and decolonial approaches reveal how inequalities are experienced differently across social positions (Kerner, 2017; Stoetzler and Yuval-Davis, 2002; Waller and Jennings, 1990). These perspectives cultivate ethical sensitivity and justice-oriented reasoning (Barrow, 2015; Torres-Harding et al., 2012).

By enabling students to recognise theoretical diversity, engage with competing interpretations and navigate conceptual uncertainty, pluralistic knowledge can support the development of critical thinking, epistemic curiosity and analytical reflexivity.

Building on these relationships, the study proposes the following second set of hypotheses:

Hypotheses Set 2: *Stronger pluralistic knowledge of economic inequality is expected to be associated with greater critical thinking (H2a), higher epistemic curiosity (H2b), stronger civic engagement (H2c), higher self-efficacy (H2d), and a stronger social justice orientation (H2e).*

Students demonstrating higher pluralistic knowledge are likely to perform better academically because they can integrate multiple theoretical and methodological perspectives (Peterson, 2011; Negru, 2010; Garnett Jr, 2006). Integrated knowledge supports flexible reasoning and adaptive problem-solving, leading to analytically coherent work (Powell et al., 2017; Biggs and Tang, 2011; Mezirow, 1991; Vygotsky, 1962). Pluralistic understanding fosters analytical sophistication by combining critical thinking and intellectual curiosity, sustaining engagement with complex material and enhancing the quality of reasoning (Sosu, 2013; von Stumm et al., 2011; Mearman et al., 2011). Learners who question assumptions and engage with conceptual uncertainty produce deeper, evidence-based analyses that align with evaluative criteria valuing rigour (Biggs and Tang, 2011; Garnett Jr et al., 2009; Tetlock, 1986). Civic and ethical dispositions, including self-efficacy, also contribute to reflective and applied forms of scholarship. Viewing inequality as a public concern links moral reasoning with economic analysis (Bell, 2007; Barrow, 2015), drawing on broader frameworks that connect economic reasoning to justice (Obeng-Odoom, 2017, 2019; Peterson, 2011; Fraser, 2007). Confidence in navigating interdisciplinary

material and engaging with feedback supports academic achievement (Van Bouwel, 2015; Zimmerman and Kitsantas, 2007; Mezirow, 1991).

By enabling students to integrate diverse perspectives, engage critically with complex material and apply adaptive reasoning, these constructs are associated with variation in academic performance. In this context, academic achievement can be understood as a measurable outcome of pluralistic learning. Whereas the first two sets of hypotheses addressed the development of learning dispositions and their interconnections through pluralistic knowledge, the third set assesses the extent to which these learning dispositions are associated with academic performance as a tangible outcome of pluralistic learning.

Hypotheses Set 3: *Higher levels of pluralistic knowledge of economic inequality (H3a), stronger critical thinking (H3b), greater epistemic curiosity (H3c), stronger civic engagement (H3d), higher self-efficacy (H3e) and a stronger social justice orientation (H3f) are expected to be associated with better academic performance in the economic inequality course.*

The three sets of hypotheses collectively underpin the Pluralistic Learning-Knowledge-Performance Model of Economic Inequality. The model conceptualises pluralistic learning as a relational process in which course engagement is associated with the development of pluralistic knowledge and related learning dispositions, which are then associated with academic performance. Within this structure, pluralistic knowledge functions as a central interpretive foundation connected to critical thinking, epistemic curiosity, civic engagement, self-efficacy and social justice. These elements are interconnected and reflect the broader logic of the Pluralistic Framework of Economic Inequality. **Figure 2** presents these hypothesised associations.

[Figure 2]

5. Data gathering

The final valid sample comprised 229 students enrolled between 2016 and 2025. Eight course waves were conducted from 2016 to 2019 and from 2022 to 2025. Owing to the COVID-19 pandemic, the programme did not operate in 2020 or 2021. Data were collected at two fixed time points, with the pre- and post-instruction surveys administered in class. The same 42-item Pluralistic Knowledge of Economic Inequality Scale was used in all course waves, with item wording, response categories and item order remaining unchanged across cohorts and measurement points to ensure consistency of measurement. Each wave comprised 30 enrolled students, and all students who completed the pre-instruction survey also completed the post-instruction survey, resulting in 30 paired responses per wave and no attrition among participating students. Following data-quality checks, 229 of the 240 enrolled students were retained in the final matched analytical sample, corresponding to 458 valid observations and an overall analytical inclusion rate of 95.4%. Variation in valid observations across course waves therefore reflects data-quality exclusions rather than loss to follow-up.

Baseline data were gathered during an induction block immediately before the commencement of teaching, and post-instruction data were collected following completion of the course and the examination period. Both surveys were administered in class using a standardised instrument set. Pre- and post-instruction responses for individual students were linked using anonymous codes. Participation in the study was voluntary, and informed consent was obtained from all participants prior to data collection. All responses were anonymised and stored securely in accordance with institutional research ethics protocols. Data-quality checks were undertaken, and only valid matched responses were retained for analysis.

6. Data Set

6.1 Established Scales

The dataset includes demographic variables such as gender and native English-speaking status, as well as geographical indicators identifying whether students were studying in the United States, Asia or Europe. Academic performance is represented by course grades and distinction achievements, while academic progression is measured by year of study. The dataset also contains information on internship experience and field of study. Course delivery years are incorporated to account for potential cohort and temporal variations.

The dataset utilises five established scales. The Critical Thinking Scale (Sosu, 2013) measures individuals' disposition towards critical thinking, reflecting openness to new ideas and a tendency to engage in reflective evaluation. It captures the attitudinal and motivational aspects underpinning critical thinking, focusing not on ability but on the willingness to question assumptions, evaluate evidence and modify beliefs based on reasoned judgement. Widely used in educational and psychological research, the scale consists of eleven items rated on a five-point Likert scale ranging from 1, "strongly disagree", to 5, "strongly agree", with higher scores indicating a stronger disposition towards critical thinking. The Epistemic Curiosity Scale (Litman and Spielberger, 2003) assesses individual differences in the desire to acquire new knowledge and understanding. It measures the extent to which individuals are motivated to seek out, engage with and derive satisfaction from learning and intellectual exploration. The scale comprises ten items rated on a four-point Likert scale ranging from 1, "almost never true of me", to 4, "almost always true of me", with higher scores denoting greater epistemic curiosity.

The Civic Engagement Scale (Doolittle and Faul, 2013) evaluates individuals' attitudes towards, and participation in, activities that contribute to community well-being. It captures values, beliefs and a sense of responsibility towards one's community, as well as active involvement in volunteering and community improvement. The scale includes fourteen items, each rated on a seven-point Likert scale, from 1, "disagree" or "never", to 7, "agree" or "always", with higher scores indicating stronger civic engagement. The Self-Efficacy Scale (Solberg et al., 1993) measures students' confidence in performing tasks essential for success in higher education. It assesses perceived competence across academic, interpersonal and social domains, capturing how confident students feel in managing university life. The scale comprises nineteen items, each rated on a ten-point Likert-type scale ranging from 0, "not at all confident", to 9, "extremely confident", with higher scores signifying greater self-efficacy.

The Social Justice Scale (Torres-Harding et al., 2012) measures individuals' engagement with and orientation towards social justice principles. It captures cognitive, affective and behavioural components by assessing attitudes, perceived behavioural control and behavioural intentions related to equality and fairness. The scale consists of twenty-four items rated on a seven-point Likert scale ranging from 1, "strongly disagree", to 7, "strongly agree", with higher scores reflecting a stronger social justice score.

6.2 Pluralistic Knowledge of Economic Inequality Scale

Standard assessment instruments provide instructors and researchers with consistent measures of students' knowledge and skills across different areas of the economics curriculum. McKee et al., (2023), for example, describe a suite of rigorously developed standard assessments designed to evaluate course-specific learning goals across several commonly taught undergraduate economics courses. The Pluralistic Knowledge of Economic Inequality Scale developed in this study complements these initiatives by focusing specifically on students' conceptual, analytical and applied understanding of economic inequality through a pluralistic and multidimensional framework.

The Pluralistic Knowledge of Economic Inequality Scale was developed following DeVellis's (2003) framework for scale construction to assess conceptual, analytical and applied knowledge across the six principles of the Pluralistic Framework of Economic Inequality. An initial pool of 63 items was generated from the relevant literature on economic inequality and pluralism (Yuval-Davis, 2015; Garnett Jr et al., 2009; Garnett Jr, 2006; Weinstein, 2004; Power, 2004; Healy, 2003; Deveaux, 2000; Callan, 1991). Items were formulated as declarative statements and assessed using a seven-point Likert scale ranging from 1, "strongly disagree", to 7, "strongly agree". The initial items were reviewed by seven academics from economics, sociology and education and four practitioners working on issues related to economic inequality. The review assessed conceptual clarity, theoretical alignment and coverage of the six principles. Following this process, redundant or ambiguous items were revised or removed, producing a 42-item scale with seven items for each principle.

The Pluralistic Knowledge of Economic Inequality Scale is scored by averaging responses across the seven items corresponding to each of the six principles, producing six principle-level scores. The overall pluralistic knowledge score is calculated as the mean of all 42 items. Higher scores indicate greater reported pluralistic knowledge of economic inequality. As all items use the same seven-point response scale, both the principle-level and overall scores remain on the original 1–7 metric. The study does not impose an externally validated cut-off for a "meaningful" change in scale scores, as no such

benchmark has yet been established for this newly developed instrument. Pre- to post-course differences are therefore interpreted using the direction and magnitude of the mean change, statistical significance and the consistency of the pattern across the six principles and course waves. Further validation research could establish externally referenced benchmarks for interpreting changes in the scale. The revised scale was subsequently piloted with two groups of students enrolled in socio-economic courses (n = 15 and n = 11). Participants provided feedback on item clarity, interpretability and conceptual relevance. Minor wording revisions were made following the pilot, but no further items were removed. The complete scale and item-level information are reported in **Appendix Table A.III**.

The scale may also be used modularly when adapting the instrument to courses with a narrower substantive focus. Because each of the six principles is represented by a distinct seven-item subscale, adopters may administer only those subscales that correspond to content explicitly addressed in their course. For example, where a course does not address the intersectional and decolonial dimensions represented by Principle 3, the corresponding subscale may be omitted. In such cases, results should be reported for the retained principle-level subscales and should not be interpreted as directly equivalent to the full 42-item overall score. Any composite score derived from a reduced set of subscales should therefore be treated as course-specific, and its reliability and validity should be reassessed in the new context.

7. Scale Validation

Psychometric analysis provided support for the reliability and structural validity of the Pluralistic Knowledge of Economic Inequality Scale. As reported in **Appendix Table A.IV**, confirmatory factor analysis indicated generally satisfactory model fit for the overall scale. For the full scale, $\chi^2/df = 1.5$, RMSEA = 0.034, SRMR = 0.030, CFI = 0.956 and IFI = 0.957. The established measures of critical thinking, epistemic curiosity, civic engagement, self-efficacy and social justice were also assessed in the present sample. As reported in **Appendix Table A.IV**, these scales demonstrated good internal consistency and generally acceptable model fit, supporting their use in the subsequent analyses.

8. Descriptive Statistics and Preliminary Results

Appendix Table A.V presents the descriptive characteristics of the study sample. The sample is relatively balanced by gender, with male students representing 51.52% of observations, while 42.79% are native English speakers. Most observations relate to students studying in the United States (82.53%), with the remainder studying in Asia and Europe. Students come from a range of disciplinary backgrounds and stages of study, with business, economics, management and law and social sciences, humanities and the arts forming the two largest disciplinary groups. Observations are also broadly distributed across the eight course delivery years included in the analysis. These characteristics are included as controls in the empirical models to account for compositional differences across students, disciplines, study locations and course delivery years.

Appendix Table A.III reports the item-level descriptive statistics and pre- and post-course comparisons for the 42 items comprising the Pluralistic Knowledge of Economic Inequality Scale. The results show statistically significant improvements across all six principles of the framework, indicating broad development in students' reported pluralistic understanding of economic inequality following the course. At the aggregate level, all six principles increased significantly at the 1% level. The largest mean gain was observed for structural and relational ontology, which increased from 4.13 before course delivery to 5.53 after delivery ($t = 12.3$), suggesting particularly strong development in students' understanding of the structural and relational dimensions of economic inequality. To examine whether average levels of pluralistic knowledge varied across the study period, the Pluralistic Knowledge of Economic Inequality Scale was also examined separately by course delivery year. **Appendix Table A.VI** reports the mean scale score for each of the eight course waves spanning 2016–2019 and 2022–2025. Mean scores range from 4.53 in 2023 to 4.77 in 2016, indicating relatively limited variation across course delivery years. The broadly similar mean levels observed across the eight waves suggest that the pooled results are not characterised by substantial differences in average pluralistic knowledge across cohorts or between the pre- and post-COVID course delivery periods.

Table 1 presents the principal paired mean comparisons for the six study outcomes. Students reported statistically significantly higher scores after the economic inequality course across all six measures, with all paired t-tests significant at the 1% level. The Pluralistic Knowledge of Economic Inequality Scale increased from 4.08 to 5.18 (t = 10.40), indicating higher reported understanding of pluralistic perspectives on economic inequality. Critical thinking increased from 3.37 to 4.35 (t = 16.12), while epistemic curiosity increased from 2.45 to 3.14 (t = 14.11). Civic engagement increased from 4.52 to 5.44 (t = 11.05), self-efficacy from 5.93 to 7.33 (t = 10.92), and social justice from 4.56 to 5.87 (t = 12.31). These results show that the changes observed after course delivery extend beyond knowledge of economic inequality to students' critical, epistemic, civic and self-evaluative orientations.

[Table 1]

Table 2 presents correlations between the post-course measure and the six study outcomes. Post-course observations are positively and statistically significantly associated with all six scales, with the strongest associations observed for critical thinking (r = 0.72), epistemic curiosity (r = 0.67) and social justice (r = 0.62), all significant at the 1% level. The six scales are also positively intercorrelated. In particular, the Pluralistic Knowledge of Economic Inequality Scale is strongly associated with social justice (r = 0.83), self-efficacy (r = 0.80), critical thinking (r = 0.78) and civic engagement (r = 0.78). These patterns suggest that greater pluralistic knowledge about economic inequality is associated with broader critical, civic and social justice orientations.

[Table 2]

9. Estimates

9.1 Post-Course Outcomes

Table 3 reports the estimates for six models examining the associations between participation in the economic inequality course and a set of scales measuring pluralistic knowledge of economic inequality, critical thinking, epistemic curiosity, civic engagement, self-efficacy and social justice. The models cover the full sample, and OLS estimates are presented.

To examine the association between post-course status and pluralistic knowledge of economic inequality, the following OLS regression model is estimated:

$$\text{Pluralistic Knowledge of Economic Inequality}_{it} = \alpha + \theta_1 \text{Post-course indicator}_{it} + \theta_2 \text{Male}_i + \theta_3 \text{Native}_i + \theta_4 \text{USA}_i + \theta_5 \text{Asia}_i + \theta_6 \text{Academic distinction}_i + \theta_7 \text{Year of study}_i + \theta_8 \text{Internship experience}_i + \sum_{k=1}^{K-1} \gamma_k \text{ Study discipline}_{k,i} + \sum_{s=1}^{S-1} \delta_s \text{ Course delivery year}_{s,i} + \varepsilon_{it}$$

Equation (1)

where the dependent variable denotes the Pluralistic Knowledge of Economic Inequality Scale for student i at observation time t, with t distinguishing pre-course and post-course observations. The key explanatory variable is an indicator equal to 1 for post-course observations and 0 for pre-course observations. The coefficient θ_1 captures the association between post-course status and pluralistic knowledge of economic inequality, conditional on the included controls. Gender is captured by a binary variable indicating male students, while native English speaker status is measured using an indicator for native status. Regional indicators include variables for the USA and Asia, with Europe serving as the reference category. Academic characteristics include academic distinction and year of study, while internship experience captures whether the student has undertaken a work placement. Study discipline fixed effects account for differences across fields of study, with one discipline omitted as the reference category. Course delivery year fixed effects capture cohort-specific and time-specific influences, with one course year omitted as the reference category. The error term captures unobserved factors affecting pluralistic knowledge for student i at time t. Because the dataset includes repeated observations for the same students before and after course delivery, standard errors are clustered at the student level. This adjustment allows for within-student correlation in the error terms across the two observation points. Unstandardised coefficients (θ) and standardised coefficients (β) are reported.

A similar empirical approach is employed to estimate the associations between post-course status and the remaining outcome variables. Specifically, the same set of explanatory variables and controls is

used to examine critical thinking, epistemic curiosity, civic engagement, self-efficacy and social justice. In each case, the respective scale is used as the dependent variable, while the specification includes the post-course indicator, demographic characteristics, academic background, internship experience, study discipline fixed effects and course delivery year fixed effects.

The coefficients for the post-course variable are positive and statistically significant at the 1% level across all models. Specifically, post-course status is associated with higher levels of pluralistic knowledge of economic inequality (Model I: $\theta = 1.106$, $\beta = 0.567$), critical thinking (Model II: $\theta = 0.984$, $\beta = 0.727$), epistemic curiosity (Model III: $\theta = 0.693$, $\beta = 0.676$), civic engagement (Model IV: $\theta = 0.920$, $\beta = 0.587$), self-efficacy (Model V: $\theta = 1.398$, $\beta = 0.583$) and social justice (Model VI: $\theta = 1.303$, $\beta = 0.627$). These estimates indicate that post-course observations are associated with higher scores across all six outcomes, conditional on the included controls. For example, the standardised coefficient for pluralistic knowledge, $\beta = 0.567$, indicates that post-course status is associated with a score approximately 0.567 standard deviations higher on this outcome, conditional on the included controls. These findings are consistent with Hypotheses Set 1.

[Table 3]

9.2 Pluralistic Knowledge and Related Learning Outcomes

Table 4 presents the estimates for five models examining the associations between pluralistic knowledge of economic inequality and a set of scales measuring critical thinking, epistemic curiosity, civic engagement, self-efficacy and social justice. The models cover the full sample, and OLS estimates are presented.

To examine the association between pluralistic knowledge of economic inequality and critical thinking, the following OLS regression model is estimated:

$$\text{Critical thinking}_{it} = \alpha + \theta_1 \text{Pluralistic Knowledge of Economic Inequality}_{it} + \theta_2 \text{Male}_i + \theta_3 \text{Native}_i + \theta_4 \text{USA}_i + \theta_5 \text{Asia}_i + \theta_6 \text{Academic distinction}_i + \theta_7 \text{Year of study}_i + \theta_8 \text{Internship experience}_i + \sum_{k=1}^{K-1} \gamma_k \text{ Study discipline}_{k,i} + \sum_{s=1}^{S-1} \delta_s \text{ Course delivery year}_{s,i} + \varepsilon_{it}$$

Equation (2)

where the dependent variable denotes the Critical Thinking Scale for student i at observation time t, with t distinguishing pre-course and post-course observations. The key explanatory variable is the Pluralistic Knowledge of Economic Inequality Scale for student i at time t. The coefficient θ_1 captures the association between pluralistic knowledge of economic inequality and critical thinking, conditional on the included controls. The control variables, study discipline fixed effects and course delivery year fixed effects are defined and interpreted as in Equation (1). A similar empirical approach is employed to estimate the associations between pluralistic knowledge of economic inequality and the remaining outcome variables. That is, the same set of explanatory variables and controls is used to examine epistemic curiosity, civic engagement, self-efficacy and social justice. In each case, the respective scale is used as the dependent variable, while pluralistic knowledge remains the key explanatory variable.

Across all models, the coefficients for pluralistic knowledge of economic inequality are positive and statistically significant at the 1% level. Specifically, higher scores for pluralistic knowledge of economic inequality are associated with higher levels of critical thinking (Model I: $\theta = 0.549$, $\beta = 0.793$), epistemic curiosity (Model II: $\theta = 0.388$, $\beta = 0.740$), civic engagement (Model III: $\theta = 0.619$, $\beta = 0.771$), self-efficacy (Model IV: $\theta = 0.968$, $\beta = 0.788$) and social justice (Model V: $\theta = 0.887$, $\beta = 0.833$). These results indicate that pluralistic knowledge of economic inequality is consistently and strongly associated with cognitive, motivational, civic and social justice-related outcomes among participants, conditional on the included controls. These findings are consistent with Hypotheses Set 2.

[Table 4]

9.3 Grade estimates

Table 5 presents the OLS estimates for six models examining the associations between grades in the economic inequality course and measures of pluralistic knowledge of economic inequality, critical

thinking, epistemic curiosity, civic engagement, self-efficacy and social justice. The models cover the full sample.

To examine the association between pluralistic knowledge of economic inequality and grades, the following OLS regression model is estimated:

$$\text{Grades}_i = \alpha + \theta_1 \text{Pluralistic Knowledge of Economic Inequality}_{i,post} + \theta_2 \text{Pluralistic Knowledge of Economic Inequality}_{i,pre} + \theta_3 \text{Male}_i + \theta_4 \text{Native}_i + \theta_5 \text{USA}_i + \theta_6 \text{Asia}_i + \theta_7 \text{Academic distinction}_i + \theta_8 \text{Year of study}_i + \theta_9 \text{Internship experience}_i + \sum_{k=1}^{K-1} \gamma_k \text{ Study discipline}_{k,i} + \sum_{s=1}^{S-1} \delta_s \text{ Course delivery year}_{s,i} + \varepsilon_i$$

Equation (3)

where the dependent variable denotes the grade achieved in the economic inequality course by student i. The key explanatory variables are the post-course and pre-course values of the Pluralistic Knowledge of Economic Inequality Scale. The coefficient θ_1 captures the association between post-course pluralistic knowledge of economic inequality and grades, conditional on the included controls. The coefficient θ_2 captures the association between pre-course pluralistic knowledge of economic inequality and grades, conditional on the included controls. The control variables, study discipline fixed effects and course delivery year fixed effects are defined and interpreted as in Equation (1). The same empirical approach is used for the remaining five models. In each case, the post-course and corresponding pre-course values of the relevant scale are included simultaneously, while retaining the same set of control variables and fixed effects. Specifically, the models examine critical thinking, epistemic curiosity, civic engagement, self-efficacy and social justice in turn. This specification allows the association between each post-course measure and grades to be estimated conditional on students' baseline level of the same construct.

The estimates presented in Table 5 show positive coefficients for the post-course measures across all six models, although the magnitude and statistical significance of these associations vary across the scales. Specifically, grades are positively associated with post-course pluralistic knowledge of economic inequality (Model I: $\theta = 9.638$, $\beta = 0.850$, $p < 0.01$), critical thinking (Model II: $\theta = 3.358$, $\beta = 0.194$, $p < 0.05$), epistemic curiosity (Model III: $\theta = 3.475$, $\beta = 0.170$, $p < 0.10$), civic engagement (Model IV: $\theta = 6.580$, $\beta = 0.474$, $p < 0.01$), self-efficacy (Model V: $\theta = 5.070$, $\beta = 0.610$, $p < 0.01$) and social justice (Model VI: $\theta = 2.851$, $\beta = 0.272$, $p < 0.05$), conditional on the corresponding pre-course value and the included controls.

The pre-course estimates provide additional evidence on the role of baseline differences. Pre-course critical thinking (Model II: $\theta = 8.111$, $\beta = 0.398$, $p < 0.01$), epistemic curiosity (Model III: $\theta = 8.093$, $\beta = 0.305$, $p < 0.01$) and social justice (Model VI: $\theta = 3.416$, $\beta = 0.313$, $p < 0.01$) are positively associated with grades. By contrast, the pre-course values of pluralistic knowledge of economic inequality, civic engagement and self-efficacy are not statistically significant. These results indicate that the associations with academic performance vary across constructs. For critical thinking, epistemic curiosity and social justice, both pre-course and post-course levels are associated with grades, whereas for pluralistic knowledge of economic inequality, civic engagement and self-efficacy, statistically significant associations are observed primarily for the post-course measures. The findings provide broad support for Hypotheses Set 3.

[Table 5]

10. Discussion

10.1 Outcomes evaluation

The findings show a broad pattern of higher post-course pluralistic knowledge and stronger learning dispositions, alongside positive associations between pluralistic knowledge, the dispositions examined and academic performance. Higher post-course scores were observed across all six principles of the Pluralistic Framework of Economic Inequality, as well as across measures of critical thinking, epistemic curiosity, civic engagement, self-efficacy and social justice. The direction of the pre- to post-course pattern was also consistent across the eight course waves, indicating that the pooled results were not attributable to a single cohort or delivery period. These findings provide evidence of recurring course-

associated patterns across the study period, although the absence of a control group prevents attribution of the observed differences exclusively to the pedagogical design. One of the clearest areas of development concerned structural and relational understanding. Following completion of the course, students reported greater recognition of economic inequality as connected to institutional arrangements, social relations and historical processes. The comparatively large increase in structural and relational ontology is educationally significant because this form of reasoning directs attention beyond explanations centred on individual characteristics or isolated market outcomes towards the wider organisation of economic and social systems.

The post-course pattern also indicates stronger engagement with plural and situated forms of explanation. Feminist, sociological and decolonial perspectives provide different analytical lenses through which inequality can be examined, while pluralist approaches emphasise comparison among competing explanations and awareness of the assumptions underlying different forms of knowledge (Agenjo-Calderón and Gálvez-Muñoz, 2019; Garnett Jr et al., 2009; Power, 2004). The accompanying increases in critical thinking and epistemic curiosity are relevant because they indicate stronger reported dispositions towards evaluating competing claims and pursuing further understanding where explanations remain incomplete or contested. This is consistent with conceptions of pluralist education that emphasise comparative judgement and intellectual openness alongside knowledge of alternative perspectives (Thornton, 2026; Stilwell, 2019; Mearman, 2014). Students also reported greater recognition of the intersectional and historically situated character of inequality. Attention to gender, race, power and historical context broadened analysis beyond differences among economic schools of thought to include the social conditions through which inequality is produced and experienced. This pattern supports a conception of pluralistic knowledge that operates across several levels of analysis, connecting institutions and economic processes with social identities and historically embedded relations (Kerner, 2017; Yuval-Davis, 2015; Grosfoguel, 2011).

Higher post-course scores in civic engagement and social justice further indicate that the observed pattern extended beyond cognitive dimensions of learning. The course examined inequality through questions of fairness, capabilities, distribution, representation and policy responsibility. This is consistent with previous work identifying citizenship, social awareness and justice-oriented learning alongside critical thinking and intellectual independence as relevant outcomes of pluralist economics education (Obeng-Odoom, 2019, 2017; Cooper and Ramey, 2014; Mearman, 2014). The results therefore support consideration of pluralist learning as a multidimensional process encompassing cognitive, affective and civic dispositions. Self-efficacy provides a further perspective on this multidimensional pattern. Students reported greater post-course confidence in engaging with complex academic material, although the design does not establish that this difference was caused by course participation. This finding is relevant because pluralistic learning can place substantial intellectual demands on students by requiring them to work across competing theories, forms of evidence and multidimensional explanations. The increase in self-efficacy suggests that this complexity was not accompanied by lower reported confidence in students' capacity to engage with the material. This interpretation is consistent with research emphasising structured progression, scaffolding and repeated comparison when students encounter theoretically diverse curricula (Bryant and Stilwell, 2026; Annamalah et al., 2025; Coombs and Frawley, 2019).

The associations among the study variables reinforce this broader interpretation. Students reporting higher pluralistic knowledge also tended to report stronger critical thinking, epistemic curiosity, civic engagement, self-efficacy and social justice. These relationships suggest that pluralistic knowledge was connected empirically with wider dispositions towards inquiry, judgement, engagement and confidence. They do not establish the direction of influence among the constructs, but they are consistent with a conception of pluralistic learning in which substantive knowledge and broader learning dispositions are interconnected. Academic performance was likewise positively associated with pluralistic knowledge and the learning dispositions examined, although the strength of these relationships varied across dimensions. This does not establish that any individual disposition independently produced higher marks, but it indicates that the forms of comparative, contextual and evaluative reasoning emphasised in the course were compatible with conventional academic performance.

10.2 Student reflections on learning and engagement

To complement the quantitative findings and provide further insight into how students interpreted their learning, qualitative feedback was drawn from standard end-of-course evaluations. Although these evaluations covered a broader range of questions, the reflections presented here focus on four prompts that are particularly relevant to the aims of this study. These addressed the effectiveness of the lecturer in engaging students, the contribution of the economic inequality course to the development of knowledge and skills for future careers, the aspects of the course that students valued most, and any additional comments they wished to provide. The comments were not collected for the purpose of formal qualitative analysis and are therefore used only as illustrative student reflections. The excerpts were selected because they relate to key dimensions of the pedagogical framework and help to contextualise the quantitative findings.

Students' reflections indicate that the economic inequality course was experienced as engaging and accessible despite the conceptual complexity of the material. One student commented that "the lecturer made challenging ideas easier to follow by connecting theories to real-world issues, which kept the subject engaging throughout." Another noted that "the case studies made the material feel relevant and encouraged me to think more deeply about the topics, and to choose a topic for my dissertation." These comments are consistent with the course's problem-centred design, in which theoretical perspectives were repeatedly connected to substantive questions of inequality. Students also highlighted the value of engaging with multiple frameworks and perspectives. One student explained that "the course helped me develop the ability to analyse problems from different viewpoints." Another commented that "learning how to evaluate different methods has improved my critical thinking. It was the first time I studied alternative schools of economic thought and understood both the differences and the similarities." These reflections illustrate how some students understood pluralistic learning as involving comparison, evaluation and judgement across competing explanations.

Several comments also emphasised the interdisciplinary character of the course. One student stated that "what I liked most was how the course combined economic, social and political perspectives." Another observed that "economics is a social science, and this course has been the highlight of my studies so far. Economic phenomena cannot be explained by one theory alone." These accounts are consistent with the course's emphasis on connecting economic analysis with wider institutional, social and political contexts. Students further described changes in how they interpreted the causes and persistence of economic inequality. One student noted that "this course helped me understand how historical factors shape economic outcomes." Another highlighted the role of power and social relations, stating that "what I liked about this course was that it helped me study the political economy of inequality with a focus on power relations." These comments correspond to the structural and relational ontology dimension of the framework and illustrate how some students articulated a move towards more historical, institutional and relational accounts of inequality.

Reflections also pointed to greater awareness of intersectional and global dimensions of inequality. One student commented that "this period is particularly important for understanding how inequality affects people differently depending on gender and race." Another stated that "learning about historical dimensions has influenced how I think about inequality across countries." These responses illustrate student engagement with the ways in which inequality may be shaped by intersecting social positions and by historically specific institutional contexts. Methodological plurality also appeared in the student feedback. One student noted that "using both data and real-life examples helped me understand inequality in a more balanced way. It was the first time I practised using mixed methods for a given research question." Another commented that "this course showed how different research methods can lead to different policy insights." These reflections suggest that some students recognised methodological choice as part of the analytical process and connected different forms of evidence with different kinds of explanation.

Students also referred to the wider policy and professional relevance of the course. One student stated that "I now see how research and evidence can be used to inform policies." Another observed that "the course encouraged me to think about how economic knowledge can be applied to real-world problems." These comments correspond to the engaged scholarship and evidence-informed policymaking dimension of the framework and illustrate how some students connected academic analysis with policy application. Because participation in course evaluations and the submission of written comments were

voluntary, these reflections may disproportionately represent students who were particularly engaged with the course or who held stronger views about their experience. They should therefore not be interpreted as representative of the experiences of all students. The comments are also self-reported and cannot serve as an independent validation of the quantitative measures. These reflections provide qualitative context for the quantitative findings by illustrating how some students articulated pluralistic learning in their own accounts of the course. Their contribution is interpretive, showing how comparison, contextualisation, methodological awareness and policy application appeared in students' descriptions of their learning experience.

10.3 Contributions and Implications

Theoretically, the study contributes to pluralist economics and political economy education by conceptualising a pluralistic understanding of economic inequality as a multidimensional form of learning. The dimensions of the Pluralistic Framework of Economic Inequality draw on traditions that locate inequality within institutions, relations of power and historical processes, while connecting economic analysis with questions of justice and capability. The contribution lies in organising these intellectual commitments within a common educational structure through which they can be developed and examined as interrelated dimensions of student learning. This conceptualisation also extends broader accounts of pluralism in economics education. Previous research has emphasised theoretical diversity, methodological openness, interdisciplinarity and comparative judgement as central features of pluralist learning (Thornton, 2026; Schroeder, 2026; Stilwell, 2019, 2016; Schweitzer-Krah and Engartner, 2019). The present study connects these features to a broader conception of learning that encompasses critical thinking, epistemic curiosity, civic engagement, self-efficacy and social justice. In this sense, pluralistic learning encompasses engagement with competing perspectives and evidence alongside dispositions towards inquiry, judgement, confidence and the wider social significance of economic questions.

Empirically, the study contributes a systematic measure of pluralistic knowledge of economic inequality and applies it alongside established measures of cognitive, affective and civic learning dispositions, as well as academic performance. The Pluralistic Knowledge of Economic Inequality Scale operationalises the six principles of the framework as dimensions that can be examined both separately and collectively. Its application to matched pre- and post-course observations across multiple course waves provides evidence that complements studies based on classroom feedback, cross-sectional surveys, student evaluations and retrospective alumni accounts. The empirical contribution therefore lies in examining pluralistic knowledge, broader learning dispositions and academic performance within the same pedagogical setting and across repeated course deliveries.

Pedagogically, the study shows how pluralist political economy can be organised at the level of a complete course. Previous research has highlighted active learning, constructive alignment, progressive scaffolding and interdisciplinary engagement as important features of pluralist pedagogy (Bryant and Stilwell, 2026; Schroeder, 2026; Annamalah et al., 2025; Coombs and Frawley, 2019; Obeng-Odoom, 2019, 2017). The present course brings these elements together around economic inequality as a common substantive problem and connects the six principles of the framework with curriculum content, seminar activity and assessment. This course-level organisation makes pluralistic reasoning an integral part of students' academic work across the course.

Several implications for teaching follow. An explicit organising structure can help students connect theoretical diversity with a common economic problem while preserving meaningful differences among perspectives. Alignment across curriculum content, seminar activity and assessment can also make the expectations of pluralistic reasoning more transparent, particularly where students are required to compare explanations, evaluate evidence and justify interpretations. A multidimensional approach to evaluation can further help educators examine learning through critical thinking, curiosity, confidence and civic engagement alongside substantive knowledge. Progressive sequencing and repeated application are also important where students encounter competing theories, disciplinary perspectives and forms of evidence, because they provide opportunities to develop more complex forms of comparison and evaluation over time (Bryant and Stilwell, 2026; Annamalah et al., 2025; Coombs and Frawley, 2019). The Pluralistic Framework of Economic Inequality should therefore be understood as structured but adaptable. Its six principles provide a transparent course-level architecture, while their emphasis can vary

according to subject matter, learning objectives, institutional context and student population. This flexibility creates scope for application beyond economic inequality and for adaptation across other areas of economics and political economy, subject to appropriate evaluation of how the framework and its associated measures perform in each setting.

10.4 Limitations and future research

The findings should be interpreted in light of the institutional setting. The study examines an intermediate-level economic inequality course delivered at one English university within an international programme. Although the eight course waves provide evidence across different cohorts and periods, the results remain specific to this educational context. The student population also included individuals with relatively strong academic backgrounds, which may have influenced their engagement with the course and the magnitude of the observed relationships. The consistency of the findings across cohorts therefore supports their recurrence within this setting but does not establish that similar patterns would emerge under different admissions profiles, curricula, disciplinary cultures or student populations. Research across more heterogeneous institutions, national contexts and levels of study would help establish how contextual factors shape engagement with pluralistic pedagogy.

The repeated-measures pre- and post-course design identifies within-student differences and associations among pluralistic knowledge, learning dispositions and academic performance but does not establish causal direction. Without a comparison or control group, observed changes cannot be attributed exclusively to the economic inequality course, since maturation, concurrent study, wider university experience and unobserved student characteristics may also have contributed. Measurement at the beginning and end of the course also provides no evidence about the durability of the observed patterns. Comparative, quasi-experimental and longitudinal designs could therefore examine course-associated changes more directly and assess whether they persist at later stages of study or after graduation.

A further limitation concerns the reliance on self-reported Likert-scale measures. Such instruments provide systematic indicators of pluralistic knowledge and learning dispositions, but responses may be influenced by social desirability, response tendencies, students' perceptions of their own development or increased familiarity with course terminology. The Pluralistic Knowledge of Economic Inequality Scale should consequently be interpreted as a measure of reported understanding and recognition of pluralistic principles rather than as a direct performance-based test of mastery. Future studies could combine it with written argument analysis, concept mapping, interviews, open-ended responses, classroom observation or other performance-based measures to assess whether reported changes correspond to observable differences in reasoning and application.

The scale also requires validation beyond the context in which it was developed. Although it demonstrated strong internal consistency and an acceptable factor structure in the present sample, this constitutes an initial validation within a single educational setting. Further research should examine its performance across institutions, disciplines and student populations, including measurement invariance, convergent and discriminant validity, criterion-related validity and the performance of individual principle-level subscales. Such work would also help establish more externally grounded benchmarks for interpreting the practical magnitude of pre- to post-course differences. The grade regressions require similarly cautious interpretation. Post-course learning measures were collected after instruction and the examination period, and although the models control for the corresponding pre-course values, the estimated relationships remain associational. The available data also lack a continuous measure of prior academic attainment, with the binary distinction indicator providing only a limited proxy for previous achievement. Richer measures of prior attainment, previous exposure to economics and relevant educational characteristics would strengthen control for pre-existing differences among students.

Interpretation of the relationship between pluralistic knowledge and course grades should also take account of the assessment design. The mid-term test, final examination and research essay rewarded forms of reasoning that overlap with the pluralistic framework. The positive relationship between pluralistic knowledge and academic performance may therefore partly reflect constructive alignment between the knowledge emphasised in teaching, the dimensions captured by the scale and the reasoning evaluated in assessment. This alignment is pedagogically relevant, but course grades do not constitute independent external validation of the scale. Component-level assessment data would allow future

research to examine whether these relationships differ across essays, examinations and other forms of assessment and to compare course performance with independent measures of analytical reasoning. The study also examines a specified set of learning dispositions. Critical thinking, epistemic curiosity, civic engagement, self-efficacy and social justice capture important cognitive, affective and civic dimensions of learning, but they do not encompass the full range of potential outcomes associated with pluralistic education. Collaborative problem-solving, ethical reasoning, tolerance of ambiguity, intellectual humility, communication, teamwork and behavioural civic participation may also be relevant. Future studies could broaden the range of outcomes while pre-specifying primary and secondary measures and addressing multiple testing where larger sets of related constructs are examined.

Finally, the present analysis provides limited evidence about the pedagogical mechanisms underlying the observed patterns. The framework was implemented through lectures, seminars, comparative theoretical work, interdisciplinary materials, progressive sequencing and aligned assessment, but the data do not isolate the contribution of individual components or their interaction. Implementation may also vary according to instructors' disciplinary backgrounds, pedagogical beliefs, experience with pluralist teaching, available teaching time and institutional support. Classroom observation, instructor interviews, teaching-material analysis and measures of implementation fidelity could help identify how the framework operates in practice. Qualitative research with students could further examine how they experience theoretical disagreement, manage the cognitive demands of pluralistic learning and use competing perspectives in constructing their own interpretations. Future research can therefore build on the present study by testing the framework and scale across different educational contexts, using stronger longitudinal and comparative designs, and examining more directly the pedagogical processes through which pluralistic knowledge and wider learning dispositions develop. Such work would clarify which elements of the approach are transferable across settings and which require adaptation to particular courses, institutions and student populations.

11. Conclusions

This study indicated that participation in the pluralistic delivery of the economic inequality course was associated with higher post-course levels of students' pluralistic knowledge of economic inequality, critical thinking, epistemic curiosity, civic engagement, self-efficacy and social justice. Students who demonstrated stronger pluralistic knowledge of economic inequality also reported higher levels of critical thinking, epistemic curiosity, civic engagement, self-efficacy and social justice. These learning dispositions were, in turn, positively associated with academic performance. The findings suggest that pluralistic knowledge is closely connected to the cognitive, affective and moral dimensions of learning and are consistent with the pedagogical relevance of justice-oriented and relational approaches to socio-economic education.

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Table 1. Descriptive statistics and paired mean comparisons

	Panel I Pluralistic Knowledge of Economic Inequality Scale	Panel II Critical Thinking Scale	Panel III Epistemic Curiosity Scale	Panel IV Civic Engagement Scale	Panel V Self-Efficacy Scale	Panel VI Social Justice Scale
Before the economic inequality course (n=229)	4.08 (0.84)	3.37 (0.42)	2.45 (0.32)	4.52 (0.64)	5.93 (0.90)	4.56 (0.79)
After the economic inequality course (n=229)	5.18 (0.76)	4.35 (0.50)	3.14 (0.42)	5.44 (0.62)	7.33 (1.04)	5.87 (0.82)
Combined (n=458)	4.63 (0.97)	3.86 (0.67)	2.80 (0.51)	4.98 (0.78)	6.63 (1.19)	5.21 (1.03)
Paired t-test	10.40***	16.12***	14.11***	11.05***	10.92***	12.31***

Notes: The sample includes course waves from 2016–2019 and 2022–2025. The analytical sample comprises 229 students observed both before and after the course, yielding 458 student-period observations. Standard deviations are reported in parentheses. The reported t-statistics are based on paired-samples t-tests comparing pre-course and post-course means. (***) Statistical significance at the 1% level.

Table 2. Correlation matrix

	Post-course indicator	Pluralistic Knowledge of Economic Inequality Scale	Critical Thinking Scale	Epistemic Curiosity Scale	Civic Engagement Scale	Self-Efficacy Scale	Social Justice Scale
Post-course indicator	1						
Pluralistic Knowledge of Economic Inequality Scale	0.56***	1					
Critical Thinking Scale	0.72***	0.78***	1				
Epistemic Curiosity Scale	0.67***	0.72***	0.79***	1			
Civic Engagement Scale	0.58***	0.78***	0.76***	0.70***	1		
Self-Efficacy Scale	0.58***	0.80***	0.80***	0.77***	0.79***	1	
Social Justice Scale	0.62***	0.83***	0.86***	0.78***	0.76***	0.84***	1

Notes: The sample includes course waves from 2016–2019 and 2022–2025 and comprises 458 student-period observations from 229 students observed before and after the course. The post-course indicator equals 1 for post-course observations and 0 for pre-course observations. Pearson correlation coefficients are reported. (***) Statistically significant at the 1% level.

Table 3. OLS Estimates of Post-Course Outcomes

	Model I Pluralistic Knowledge of Economic Inequality Scale	**Model II Critical Thinking Scale**	**Model III Epistemic Curiosity Scale**	**Model IV Civic Engagement Scale**	**Model V Self-Efficacy Scale**	**Model VI Social Justice Scale**
Post-course indicator	1.106	0.984	0.693	0.920	1.398	1.303
	(0.028)***	(0.022)***	(0.021)***	(0.032)***	(0.040)***	(0.029)***
[Beta]	[0.567]	[0.727]	[0.676]	[0.587]	[0.583]	[0.627]
F	17.61	34.40	24.40	17.89	18.47	22.00
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000
R^2	0.472	0.635	0.551	0.475	0.483	0.526
Observations	458	458	458	458	458	458

Notes: The sample includes course waves from 2016–2019 and 2022–2025. All models control for native English speaker status, region of study, academic distinction, year of study, internship experience, study discipline fixed effects and course delivery year fixed effects. Standard errors clustered at the student level are reported in parentheses. Standardised coefficients are reported in square brackets. (***) Statistically significant at the 1% level.

Table 4. OLS Estimates of Associations Between Pluralistic Knowledge of Economic Inequality and Student Outcomes

	Model I Critical Thinking Scale	**Model II Epistemic Curiosity Scale**	**Model III Civic Engagement Scale**	**Model IV Self-Efficacy Scale**	**Model V Social Justice Scale**
Pluralistic Knowledge of Economic Inequality Scale	0.549 (0.024)***	0.388 (0.019)***	0.619 (0.032)***	0.968 (0.051)***	0.887 (0.032)***
[Beta]	[0.793]	[0.740]	[0.771]	[0.788]	[0.833]
F	35.14	25.09	34.49	40.34	51.53
Prob > F	0.000	0.000	0.000	0.000	0.000
R^2	0.693	0.559	0.635	0.671	0.722
Observations	458	458	458	458	458

Notes: The sample includes course waves from 2016–2019 and 2022–2025. All models control for native English speaker status, region of study, academic distinction, year of study, internship experience, study discipline fixed effects and course delivery year fixed effects. Standard errors clustered at the student level are reported in parentheses. Standardised coefficients are reported in square brackets. (***) Statistically significant at the 1% level.

Table 5. OLS Estimates of Grades						
	Model I Grades	**Model II Grades**	**Model III Grades**	**Model IV Grades**	**Model V Grades**	**Model VI Grades**
Pluralistic Knowledge of Economic Inequality Scale: Post-course	9.638 (0.922)***	-	-	-	-	-
Pluralistic Knowledge of Economic Inequality Scale: Pre-course	0.284 (0.796)	-	-	-	-	-
Critical Thinking Scale: Post-course	-	3.358 (1.475)**	-	-	-	-
Critical Thinking Scale: Pre-course	-	8.111 (1.791)***	-	-	-	-
Epistemic Curiosity Scale: Post-course	-	-	3.475 (1.855)*	-	-	-
Epistemic Curiosity Scale: Pre-course	-	-	8.093 (2.391)***	-	-	-
Civic Engagement Scale: Post-course	-	-	-	6.580 (1.178)***	-	-
Civic Engagement Scale: Pre-course	-	-	-	1.701 (1.098)	-	-
Self-Efficacy Scale: Post-course	-	-	-	-	5.070 (0.892)***	-
Self-Efficacy Scale: Pre-course	-	-	-	-	-0.830 (1.009)	-
Social Justice Scale: Post-course	-	-	-	-	-	2.851 (1.152)**
Social Justice Scale: Pre-course	-	-	-	-	-	3.416 (1.172)***
[Beta: Post-course]	[0.850]	[0.194]	[0.170]	[0.474]	[0.610]	[0.272]
[Beta: Pre-course]	[0.027]	[0.398]	[0.305]	[0.127]	[-0.086]	[0.313]
F	22.51	5.53	3.91	5.98	5.35	5.86
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000
R^2	0.716	0.383	0.305	0.401	0.375	0.396
Observations	229	229	229	229	229	229

Notes: The sample includes course waves from 2016–2019 and 2022–2025. All models control for native English speaker status, region of study, academic distinction, year of study, internship experience, study discipline fixed effects and course delivery year fixed effects. Standard errors are reported in parentheses. Standardised coefficients are reported in square brackets. (***) Statistically significant at the 1% level. (**) Statistically significant at the 5% level. (*) Statistically significant at the 10% level.

Appendix

Table A.I. Structure of the Economic Inequality Course: Lectures, Seminars, and Learning Design

Lecture	Lecture Topic	Theoretical and Analytical Perspectives	Disciplines Engaged	Research and Analytical Methods	Learning Focus / Skills Developed	Seminar Activities	Linked Principles
1	Introduction to Economic Inequality	Neoclassical economics, descriptive analysis	Economics, statistics	Descriptive statistics, inequality indices	Interpreting inequality measures; distinguishing income and wealth inequality; developing data literacy	Interpreting inequality trends	1, 2
2	Theoretical Foundations of Inequality	Neoclassical, human capital, political economy	Economics, political economy	Conceptual modelling, comparative theory	Comparing assumptions across theoretical frameworks; evaluating explanatory scope	Comparing models and their predictions	1, 2
3	Inequality and Discrimination	Neoclassical, institutional, stratification theory	Economics, sociology	Econometric analysis, case studies	Analysing discrimination mechanisms; interpreting empirical evidence	Wage gap and discrimination case studies	1, 3
4	Social Structures, Inequality and Discrimination	Institutional economics, stratification theory	Sociology, political economy	Qualitative analysis, comparative analysis	Understanding institutional and social drivers of inequality and discrimination; linking theory to context	Discussion of institutional inequalities	1, 3
5	Labour Markets and Exploitation	Marxist, labour economics (including productivity-based explanations), segmentation theory	Economics, political economy	Theoretical analysis, empirical case studies	Evaluating competing explanations of labour market exploitation; analysing power relations	Comparing exploitation-based and productivity-based explanations of labour market outcomes	1, 3, 4
6	Precarity and Employment Structures	Labour market segmentation, dual labour market theory	Economics, sociology	Mixed-methods analysis	Applying theory to contemporary labour market issues; interpreting mixed evidence	Gig economy and precarity cases	1, 5
7	Poverty	Welfare economics, capability approach	Economics, public policy	Policy evaluation, quantitative analysis	Assessing poverty measures and policy interventions; applying equity frameworks	Welfare policy comparison	4, 6
8	Poverty and Policy Design	Public economics, institutional economics	Economics, political science	Econometric reasoning	Understanding policy trade-offs; evaluating policy effectiveness and limitations	Policy design and trade-offs discussion	4, 5, 6
9	Migration	Labour economics, segmentation theory, political economy	Economics, migration studies	Empirical analysis, comparative case studies	Analysing labour market outcomes across groups; interpreting migration effects	Migration and inequality case studies	1, 3, 5
10	Migration and Inequality	Development economics, migration economics, dependency theory, world-systems theory	Economics, migration studies, development studies, sociology	Historical analysis, cross-country comparison, comparative migration analysis	Comparing migration and global inequality patterns; analysing how historical and structural processes shape migration and unequal outcomes across countries	Comparing migration, development and global inequality across countries	1, 2, 3, 5
11	Feminist Economics	Feminist economics, social reproduction theory	Economics, gender studies	Qualitative analysis, theoretical critique	Analysing gendered inequalities; integrating social and economic perspectives	Gender inequality and unpaid labour discussion	2, 3, 4
12	Feminist Economics, Policy and Synthesis	Feminist economics, social reproduction theory, integrated pluralist perspectives	Economics, gender studies and related interdisciplinary fields	Qualitative analysis, mixed-method synthesis, applied analysis	Extending the analysis of gendered inequalities; synthesising feminist and pluralist perspectives; applying these perspectives to policy questions	Student presentations, policy applications and synthesis discussion	1, 2, 3, 4, 5, 6

Note: Table A.I presents a structured overview of the economic inequality course design, linking lecture topics to alternative schools of economic thought, interdisciplinary perspectives, research methods, learning aims and seminar activities. The "Learning Focus / Skills Developed" column identifies the analytical and evaluative skills developed in each session, with emphasis on comparison, interpretation, critique and application. The "Linked Principles" column refers to the six principles of the Pluralistic Framework of Economic Inequality outlined in Section 3: (1) Structural and relational ontology, (2) Epistemic pluralism and situated knowledge, (3) Intersectional and decolonial analysis, (4) Normative commitment to justice, equity, and transformation, (5) Methodological diversity and grounded inquiry, and (6) Engaged scholarship and evidence-informed policymaking.

Appendix

Table A.II. Student-Facing Assessment Rubric for the Economic Inequality Research Essay

Assessment criterion	Weight	70% and above: First / Excellent	60–69%: Upper Second / Very Good	50–59%: Lower Second / Good	40–49%: Third / Satisfactory	Below 40%: Fail / Limited
1. Structural and relational understanding of economic inequality	15%	Demonstrates a sophisticated understanding of inequality as shaped by interconnected economic, institutional, historical, and social processes. Clearly identifies relevant mechanisms and power relations.	Demonstrates a strong understanding of structural and institutional explanations, with good attention to relationships and mechanisms.	Demonstrates a sound understanding of structural factors, although some aspects remain descriptive or insufficiently developed.	Identifies some relevant structural factors but provides limited explanation of how they interact or generate inequality.	Shows limited understanding of structural and relational explanations and relies mainly on descriptive or individual-level accounts.
2. Engagement with multiple theoretical perspectives	20%	Critically compares and evaluates several relevant economic and interdisciplinary perspectives, clearly addressing their assumptions, strengths, limitations and points of disagreement. Develops a convincing synthesis.	Engages effectively with more than one relevant perspective and provides clear comparison and evaluation, although synthesis could be developed further.	Uses more than one relevant perspective and demonstrates some comparison, but evaluation is uneven or partly descriptive.	Identifies alternative perspectives but provides limited comparison or critical evaluation.	Relies predominantly on a single perspective or demonstrates limited or inaccurate understanding of alternative approaches.
3. Intersectional, historical and contextual analysis of inequality	15%	Provides a sophisticated analysis of how inequality varies across gender, race, class, migration status or other social positions and connects these dimensions convincingly to historical and institutional contexts.	Provides strong consideration of differences across social groups and appropriate historical or institutional context.	Recognises relevant differences across groups and provides some contextual analysis, although connections may not be fully developed.	Shows some awareness of social or historical context but gives limited attention to intersecting inequalities.	Provides little or no consideration of intersectional, historical or contextual dimensions of inequality.
4. Use and critical evaluation of evidence and methods	20%	Uses a wide range of high-quality academic evidence critically and effectively. Evaluates different forms of evidence and methodological approaches, including their strengths and limitations.	Uses relevant academic evidence effectively and demonstrates good awareness of methodological differences and limitations.	Uses appropriate evidence and demonstrates some critical engagement, although evaluation or methodological awareness is uneven.	Uses a limited range of relevant evidence, with little critical evaluation of sources or methods.	Evidence is inadequate, poorly integrated or insufficiently academic, with little awareness of methodological quality or limitations.
5. Justice, policy and applied reasoning	15%	Critically evaluates the normative, justice and policy implications of inequality using clearly justified criteria, such as fairness, equity, capabilities or social justice. Recognises competing viewpoints and policy trade-offs.	Provides strong engagement with justice and policy considerations and offers well-reasoned evaluation of relevant interventions.	Makes appropriate connections to policy or justice considerations, although evaluation could be more developed.	Identifies some policy or fairness considerations but provides limited analysis or justification.	Shows little engagement with policy, justice or the wider implications of the issue examined.
6. Argument, synthesis and academic communication	15%	Presents a clear and highly coherent argument. Integrates theory and evidence throughout, addresses competing interpretations, reaches a well-justified conclusion and demonstrates excellent academic practice.	Presents a clear, well-structured and well-supported argument with effective integration of theory, evidence and academic sources.	Presents a clear overall argument with generally appropriate structure and evidence, although synthesis or consistency could be improved.	Presents an identifiable argument but with weaknesses in structure, synthesis, evidence or academic communication.	Argument is unclear, largely descriptive or poorly structured, with inadequate synthesis, evidence or academic practice.

Appendix

Table A.II. Student-Facing Assessment Rubric for the Economic Inequality Research Essay

Assessment criterion	Weight	70% and above: First / Excellent	60–69%: Upper Second / Very Good	50–59%: Lower Second / Good	40–49%: Third / Satisfactory	Below 40%: Fail / Limited

Notes: The rubric sets out the assessment criteria used for the 3,000-word economic inequality research essay. The six criteria translate the principles of the Pluralistic Framework of Economic Inequality into assessable dimensions of student work. The correspondence is not strictly one-to-one: some criteria primarily reflect a single principle, while others integrate multiple principles or assess cross-cutting skills, such as synthesis and academic communication. The weights indicate the contribution of each criterion to the overall essay mark and sum to 100%. The performance descriptors correspond to the undergraduate marking bands used for the course. Pluralistic reasoning does not require students to give equal weight to all theoretical perspectives; rather, students are expected to identify relevant alternative explanations, evaluate them critically using appropriate evidence and justify the interpretation advanced in their argument.

Appendix

Table A.III. Pluralistic Knowledge of Economic Inequality Scale: Means, Standard Deviations, Paired t-Statistics and Factor Loadings

	Before the economic inequality course	After the economic inequality course	Paired t-test	Factor loadings
Principle 1: Structural and relational ontology	4.13 (0.83)	5.53 (0.89)	12.32	
1. I can explain how economic inequality arises from structural conditions.	4.28 (1.28)	5.98 (1.30)	9.97	1.00
2. I can explain how economic inequality is produced through institutional processes.	4.29 (1.32)	5.90 (1.24)	9.52	0.98
3. I can analyse how economic inequality is maintained through cultural norms.	4.10 (1.27)	5.61 (1.25)	9.07	0.91
4. I can recognise how economic inequality and poverty occur when resources are unequally distributed.	4.06 (1.24)	5.62 (1.37)	9.04	0.96
5. I can recognise how economic inequality and exploitation occur when power is unequally distributed.	4.10 (1.24)	5.35 (1.33)	7.36	0.88
6. I can identify how relationships between social groups sustain economic inequality and discrimination.	4.08 (1.17)	5.23 (1.16)	7.47	0.78
7. I can explain how historical developments shape present-day economic inequality.	3.96 (1.23)	4.99 (1.23)	6.34	0.76
Principle 2: Epistemic pluralism and situated knowledge	4.03 (0.93)	5.20 (0.83)	10.06	
8. I can explain how economic inequality can be analysed using multiple theoretical traditions.	4.01 (1.22)	5.18 (1.24)	7.20	0.84
9. I can explain how sociological and political perspectives enrich economic explanations of economic inequality and poverty.	4.04 (1.35)	5.36 (1.29)	7.57	0.93
10. I can apply historical approaches to understand long-term dimensions of economic inequality.	3.98 (1.28)	5.29 (1.18)	8.06	0.89
11. I can recognise how lived experience provides important insights into how economic inequality and discrimination operate.	3.98 (1.28)	4.96 (1.29)	5.77	0.81
12. I can recognise how marginalised and local knowledge systems contribute to explaining economic inequality.	4.08 (1.30)	5.16 (1.27)	6.36	0.81
13. I can analyse how dominant economic theories exclude certain perspectives on economic inequality and exploitation.	3.97 (1.41)	5.35 (1.27)	7.79	0.96
14. I can identify how power relations shape which forms of knowledge about economic inequality are considered legitimate.	4.19 (1.32)	5.13 (1.32)	5.39	0.81
Principle 3: Intersectional and decolonial analysis	4.03 (0.88)	5.10 (0.87)	9.25	
15. I can explain how gender, race and class interact to produce economic inequality and discrimination.	3.94 (1.18)	4.89 (1.33)	5.73	0.75
16. I can analyse how intersecting inequalities produce different experiences of economic inequality and poverty.	4.00 (1.10)	5.34 (1.17)	8.93	0.88
17. I can compare intersectional experiences of economic inequality across countries or communities.	4.01 (1.23)	5.01 (1.38)	5.80	0.78
18. I can recognise how racism remains central to explaining economic inequality and discrimination.	4.13 (1.31)	5.42 (1.36)	7.31	0.89
19. I can identify how colonial legacies shape present-day global economic inequality and exploitation.	4.03 (1.25)	4.97 (1.48)	5.21	0.79
20. I can apply decolonial perspectives to analyse contemporary patterns of economic inequality.	4.07 (1.33)	4.93 (1.43)	4.72	0.77
21. I can explain how decolonial approaches challenge dominant ways of understanding economic inequality.	4.04 (1.37)	5.15 (1.47)	5.91	0.85
Principle 4: Normative commitment to justice, equity and transformation	4.06 (0.89)	5.04 (0.83)	8.62	
22. I can articulate why addressing economic inequality is a matter of fairness and justice.	4.10 (1.30)	5.04 (1.41)	5.25	0.76
23. I can explain how promoting human dignity requires action to reduce economic inequality and poverty.	4.00 (1.26)	4.79 (1.47)	4.38	0.72
24. I can apply equity frameworks to assess economic and social policies addressing economic inequality and discrimination.	4.05 (1.25)	5.02 (1.41)	5.52	0.74
25. I can evaluate whether contemporary policies reduce or reinforce economic inequality and exploitation.	4.03 (1.31)	4.98 (1.50)	5.12	0.82
26. I can assess whether institutional reforms address economic inequality effectively.	4.18 (1.35)	5.10 (1.54)	4.82	0.79
27. I can apply justice-based principles when designing or critiquing policies to reduce economic inequality.	3.96 (1.25)	4.78 (1.42)	4.65	0.72
28. I can explain how collective action can contribute to fairer distributions of resources and reductions in economic inequality.	4.11 (1.26)	5.54 (1.47)	7.93	0.90
Principle 5: Methodological diversity and grounded inquiry	4.07 (0.93)	5.17 (0.92)	9.00	
29. I can apply quantitative methods to measure economic inequality.	4.07 (1.28)	5.56 (1.39)	8.44	0.93
30. I can use qualitative approaches to reveal experiences of economic inequality and poverty.	4.02 (1.39)	5.53 (1.58)	7.69	0.96
31. I can apply historical analysis to examine how economic inequality has evolved over time.	4.06 (1.32)	5.15 (1.39)	6.09	0.85
32. I can apply participatory methods to study community-level aspects of economic inequality and discrimination.	4.03 (1.36)	5.03 (1.46)	5.37	0.83
33. I can interpret both statistical and narrative evidence to explain economic inequality.	4.08 (1.36)	5.05 (1.39)	5.34	0.82
34. I can evaluate ethical implications when collecting or analysing data on economic inequality.	4.11 (1.28)	4.93 (1.29)	4.83	0.74
35. I can recognise how the choice of research method shapes how economic inequality and exploitation are understood and addressed.	4.14 (1.40)	4.97 (1.37)	4.53	0.81
Principle 6: Engaged scholarship and evidence-informed policymaking	4.14 (0.97)	5.06 (0.93)	7.33	
36. I can recognise the importance of collaborative efforts among researchers, policymakers and communities in addressing economic inequality.	4.06 (1.37)	4.97 (1.31)	5.14	0.84
37. I can contribute to collaborative research and scholarship that informs efforts to create fairer and more equitable economic and social systems.	4.16 (1.40)	4.98 (1.38)	4.46	0.84
38. I can explain how academic research can contribute to reducing economic inequality and discrimination through evidence-informed decision-making.	4.19 (1.37)	5.17 (1.31)	5.53	0.84
39. I can evaluate the effectiveness of policies designed to reduce economic inequality and exploitation.	4.13 (1.38)	5.08 (1.37)	5.23	0.84
40. I can identify the limitations of policies intended to address economic inequality.	4.10 (1.38)	5.10 (1.45)	5.35	0.82
41. I can propose new or revised policies to reduce economic inequality and poverty.	4.11 (1.40)	5.07 (1.32)	5.34	0.83
42. I can communicate findings about economic inequality and poverty effectively to non-academic and policy audiences.	4.20 (1.30)	5.03 (1.29)	4.85	0.79

Notes: The sample includes course waves from 2016–2019 and 2022–2025. Descriptive statistics are based on 229 students observed before and after the course, yielding 458 student-period observations. Paired t-statistics compare pre-course and post-course scores using 229 matched student pairs. Unstandardised factor loadings are reported. The loading of the first item was fixed at 1.00 for model identification. Standard deviations are reported in parentheses. At the aggregate level, all six principles increased significantly at the 1% level.

Appendix

Table A.IV. Scale Validation: Pluralistic Knowledge of Economic Inequality, Critical Thinking, Epistemic Curiosity, Civic Engagement, Self-Efficacy and Social Justice

	Panel I Pluralistic Knowledge of Economic Inequality Scale	**Panel II Critical Thinking Scale**	**Panel III Epistemic Curiosity Scale**	**Panel IV Civic Engagement Scale**	**Panel V Self-Efficacy Scale**	**Panel VI Social Justice Scale**
Chi-Square/Degrees of Freedom (chi2/df)	1.5	1.5	2.3	3.4	1.9	2.7
Root Mean Square Error of Approximation (RMSEA)	0.034	0.033	0.053	0.073	0.045	0.061
Standardised Root Mean Square Residual (SRMR)	0.030	0.024	0.032	0.035	0.018	0.019
Normed Fit Index (NFI)	0.885	0.970	0.944	0.928	0.965	0.947
Relative Noncentrality Index (RNI)	0.956	0.990	0.968	0.948	0.983	0.966
Comparative Fit Index (CFI)	0.956	0.990	0.968	0.948	0.983	0.966
Incremental Fit Index (IFI)	0.957	0.990	0.968	0.948	0.983	0.966

Notes: The sample includes course waves from 2016–2019 and 2022–2025, comprising 458 student-period observations from 229 students.

Appendix

Table A.V. Descriptive statistics

	Mean / Percentage
Male students (%)	51.52 (0.50)
Native English speakers (%)	42.79 (0.49)
Students studying in the United States (%)	82.53 (0.38)
Students studying in Asia (%)	13.97 (0.34)
Students studying in Europe (%)	3.49 (0.18)
Students who achieved a distinction in their studies (%)	36.68 (0.48)
Students' year of study (c.)	2.60 (0.87)
Students with an internship experience (%)	33.18 (0.47)
Students studying Social Sciences, Humanities and the Arts (%)	37.99 (0.48)
Students studying Business, Economics, Management and Law (%)	42.79 (0.49)
Students studying Natural Sciences, Mathematics and Computing (%)	4.36 (0.20)
Students studying Engineering, Manufacturing and Construction (%)	2.18 (0.14)
Students studying Health and Life Sciences (%)	2.62 (0.15)
Students studying Education (%)	3.93 (0.19)
Students studying Agriculture and Environmental Sciences (%)	3.05 (0.17)
Students studying Services and Applied Professions (%)	3.05 (0.17)
Economic inequality course grade (c.)	66.20 (8.64)
Course delivery year: 2016 (%)	12.22 (0.32)
Course delivery year: 2017 (%)	13.10 (0.33)
Course delivery year: 2018 (%)	12.22 (0.32)
Course delivery year: 2019 (%)	12.22 (0.32)
Course delivery year: 2022 (%)	12.66 (0.33)
Course delivery year: 2023 (%)	13.10 (0.33)
Course delivery year: 2024 (%)	11.79 (0.32)
Course delivery year: 2025 (%)	12.66 (0.33)

Notes: The analytical sample comprises 229 students enrolled in course waves from 2016–2019 and 2022–2025. Percentages are reported for categorical variables. Means are reported for continuous variables. Standard deviations are reported in parentheses.

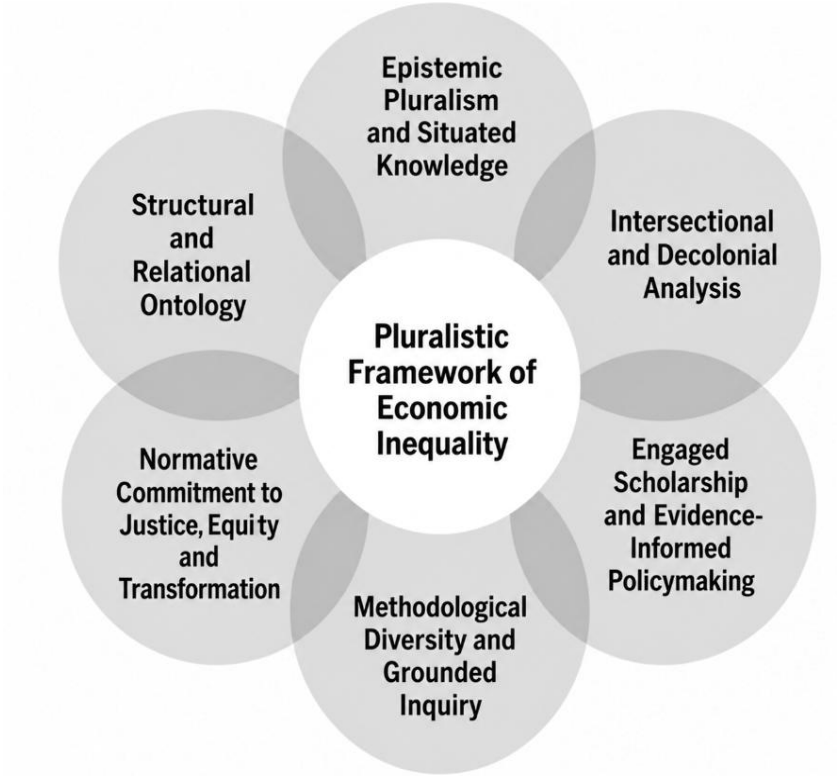
Appendix

Table A.VI. Pluralistic Knowledge of Economic Inequality Scale by Course Wave

Year	Student-period observations	Pluralistic Knowledge of Economic Inequality Scale
2016	56	4.77 (0.97)
2017	60	4.68 (0.95)
2018	56	4.61 (1.03)
2019	56	4.75 (0.89)
2022	58	4.58 (0.95)
2023	60	4.53 (0.95)
2024	54	4.55 (1.01)
2025	58	4.56 (1.04)

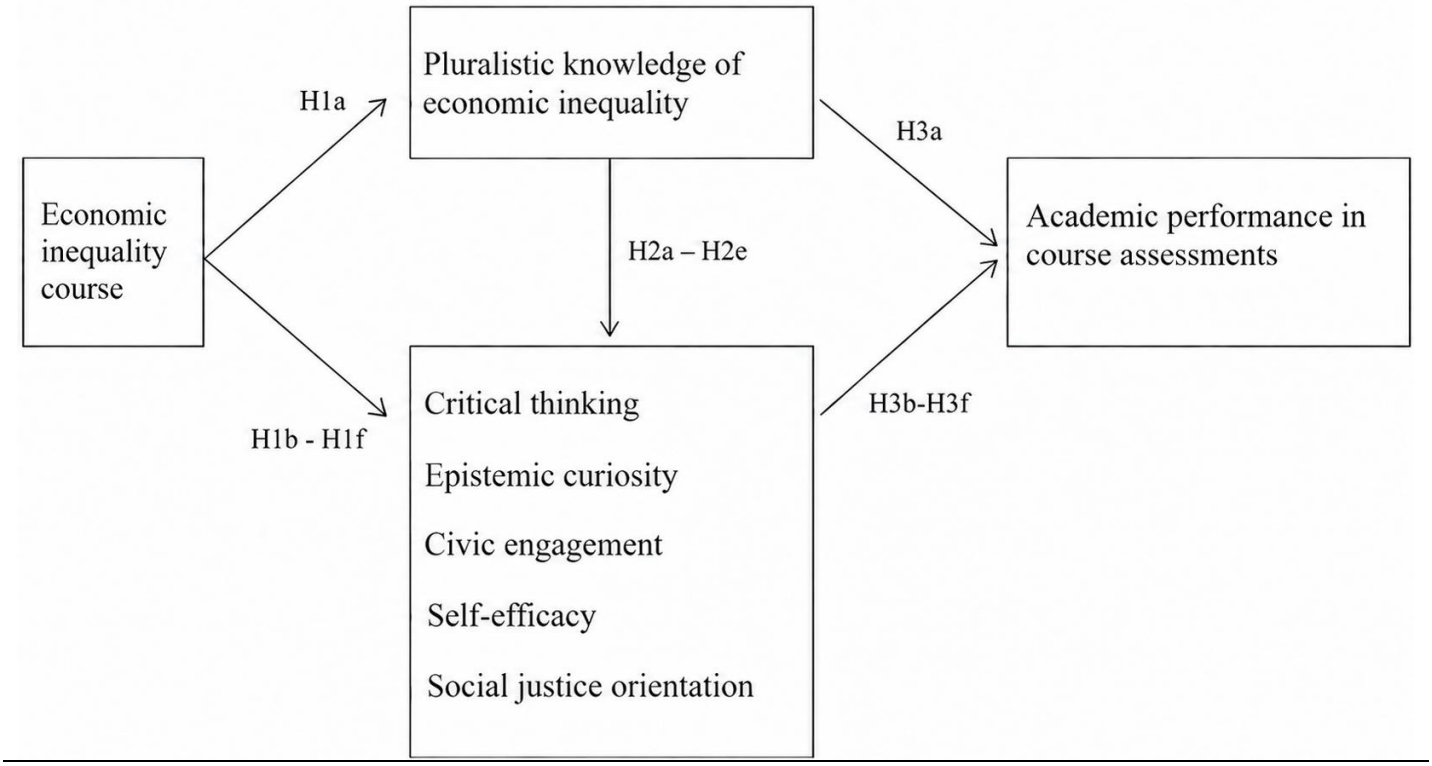
Notes: Standard deviations are reported in parentheses. Observations refer to student-period observations combining pre-course and post-course measurements within each course wave. Differences in the number of observations across waves reflect exclusions arising from data-quality checks.

Figure 1. The Pluralistic Framework of Economic Inequality



Notes: The Pluralistic Framework of Economic Inequality is adapted from Drydakis's (2026a) Pluralistic Framework for the Study of Socioeconomic Phenomena. The figure presents a non-hierarchical, overlapping schematic with economic inequality positioned at the centre. Surrounding this core are six interrelated principles, represented as overlapping nodes to illustrate their interdependence and co-constitution. The overlapping structure indicates that these principles are not discrete analytical domains but intersecting dimensions that jointly shape the analysis of economic inequality.

Figure 2. Pluralistic Learning–Knowledge–Performance Model of Economic Inequality



Notes: The figure presents the Pluralistic Learning–Knowledge–Performance Model of Economic Inequality, grounded in the Pluralistic Framework of Economic Inequality. The model illustrates how participation in the economic inequality course is associated with students' pluralistic knowledge of economic inequality, learning dispositions and academic performance in course assessments. Participation in the course is expected to be associated with greater pluralistic knowledge of economic inequality (H1a) and stronger critical thinking, epistemic curiosity, civic engagement, self-efficacy and social justice orientation (H1b–H1f). Greater pluralistic knowledge of economic inequality is expected to be associated with stronger learning dispositions (H2a–H2e) and with better academic performance in course assessments (H3a). Stronger learning dispositions are also expected to be associated with better academic performance in course assessments (H3b–H3f).