

Who Does Collaborative Learning Work For?
Student Experience, Mental Health, and the Politics of Inclusive Pedagogy in UK Higher Education

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Abstract

Collaborative learning is embedded across UK undergraduate curricula as a means of developing graduate attributes, promoting student wellbeing, and preparing students for professional life. Yet the assumption that its benefits are equally accessible to all students has received insufficient empirical scrutiny. This paper draws on a pre-arrival baseline survey of 263 incoming undergraduates at Durham University, a literature review of UK collaborative learning interventions, and a comparative international policy analysis to examine who experiences collaborative learning as enabling and who experiences it as a source of anxiety and disadvantage. International students in this sample arrived with significantly greater prior exposure to collaborative learning activities and higher overall comfort than their domestic peers (mean 3.90 vs. 3.52, $p < 0.001$). The most consequential equity finding concerns students with disabilities and long-term health conditions, who reported substantially lower overall comfort (3.43 vs. 3.66, $p = 0.017$) and higher anxiety in collaborative settings (3.69 vs. 3.37, $p = 0.048$) despite equivalent prior experience. The most agreed barrier across all groups was anticipated unequal contribution within groups (mean 3.81 out of 5), pointing to structural rather than individual explanations for disengagement. These findings are situated

within an analysis of the UK Equality Act 2010, comparative international education systems, and graduate employment gaps, with a supplementary discussion of how the findings relate to Sustainable Development Goal 4. The paper concludes that collaborative learning is not inherently equitable simply because it is collaborative, and develops specific institutional and policy recommendations grounded in this evidence.

Keywords: *collaborative learning, student wellbeing, disability in higher education, international students, inclusive pedagogy, UK higher education policy*

Introduction

In the autumn of 2023, a student arriving at a UK university for the first time would have encountered something that her secondary school may have prepared her for in only the most superficial ways: the expectation that she would learn collaboratively. Not merely in the sense of sitting beside others, but of negotiating ideas publicly, critiquing peers' work, presenting alongside people she had just met, and being assessed on how well she worked as part of a team. This is now standard across UK higher education, embedded in curricula by policy mandate and academic convention alike.

This paper questions the assumption that lies beneath that expectation. Not the value of collaborative learning itself, which is real and documented, but whether its benefits are distributed equitably across the student population. The question matters for a straightforward reason: if collaborative learning is how graduate attributes are developed, and if some students cannot access it on equal terms, then the gap between who benefits and who does not has consequences extending well beyond the classroom, into assessment outcomes, mental health, graduate employment, and the equality commitments UK universities are legally required to uphold.

The impetus for this research was partly empirical. Pre-arrival survey data from 263 incoming undergraduates at Durham University produced several findings that ran against the institutional grain. International students arrived with more prior experience of collaborative learning activities than their domestic peers, not less. The comfort gap between groups was largest not along the domestic-international axis but between students with and without a declared disability or mental health condition. And the barrier students agreed upon most strongly was not language, anxiety, or cultural unfamiliarity: it was the expectation that some group members would not pull their weight.

These findings do not make collaborative learning look like a failed intervention. They make it look like an intervention whose design has not kept pace with the diversity of the population it serves. The paper develops this argument across four moves: a synthesis of the literature on collaborative learning and equity; a detailed account of the methodology and statistical analysis; an empirical account of who collaborative learning currently works for; and a comparative analysis of international education policy and UK legal obligations, which closes with a brief discussion of how these findings connect to Sustainable Development Goal 4, before a final set of recommendations for institutions and policymakers.

The paper makes three specific contributions. First, it provides empirical evidence, from a pre-arrival baseline showing that the observed disability comfort and anxiety gap is not accompanied by a corresponding difference in reported prior experience, of a pattern that current institutional narratives do not anticipate. Second, it challenges the common assumption that international students arrive at UK collaborative learning less prepared than their domestic peers, showing the opposite pattern in this sample. Third, it proposes, in a deliberately cautious form, a way of translating classroom-level equity evidence of this kind into the language of SDG4 monitoring, as a supplementary illustration alongside the paper's central legal and empirical analysis of who collaborative learning currently works for.

Collaborative Learning and Its Discontents: A Literature Review

The theoretical case for collaborative learning is strong. Vygotsky's account of the zone of proximal development established the foundational insight that learners progress further alongside peers than in isolation, because the social interaction is itself cognitively generative.¹ Johnson and Johnson's meta-analysis of over 1,200 studies remains the most cited synthesis in the field: cooperative learning consistently outperformed both competitive and individualistic approaches on measures of achievement, reasoning, and social development.² Topping demonstrated that the benefits extend to the peer who teaches as much as to the one taught.³ In the UK context, Boud, Cohen and Sampson document that peer learning develops self-directed learning skills and metacognitive awareness that persist beyond the immediate encounter.⁴

At the policy level, the Office for Students has linked collaborative and active pedagogies to positive outcomes for widening participation students⁵ and the CBI consistently ranks teamwork and collaborative problem-solving among the attributes most sought by graduate recruiters.⁶ Kyndt et al., in a rigorous meta-analysis of cooperative learning conditions, add a qualification that is easily overlooked: positive effects are consistently associated with individual accountability, attention to

¹Vygotsky, L. S., *Mind in Society: The Development of Higher Psychological Processes* (Cambridge, MA: Harvard University Press, 1978), 84–91.

²Johnson, D. W. and Johnson, R. T., 'An Educational Psychology Success Story: Social Interdependence Theory and Cooperative Learning', *Educational Researcher*, 38/5 (2009), 365–379.

³Topping, K. J., 'Trends in Peer Learning', *Educational Psychology*, 25/6 (2005), 631–645.

⁴Boud, D., Cohen, R. and Sampson, J., *Peer Learning in Higher Education: Learning From and With Each Other* (London: Routledge, 2014), 1–17.

⁵Office for Students, *Access and Participation Guidance for Providers* (Bristol: OfS, 2023).

⁶Confederation of British Industry, *Educating for the Modern World: CBI/Pearson Education and Skills Survey* (London: CBI, 2021).

group dynamics, and clearly structured interdependence.⁷ Where these conditions are absent, the evidence for benefit weakens considerably. The research case is therefore a case for collaborative learning done well, not for collaborative learning as a generic category regardless of design — a distinction that matters directly for indicator-based accountability, since a headline commitment to 'collaborative learning' says nothing about whether the conditions associated with its benefits are actually present.

The evidence on who benefits is considerably less settled. Arkoudis et al., in a landmark study with direct relevance to the UK, found that international students reported more negative experiences of collaborative learning than domestic peers, attributing this to differences in communication norms, expectations around assertiveness, and unfamiliarity with peer feedback culture.⁸ Volet and Ang qualify this finding: when tasks were well-structured and scaffolded, group differences narrowed significantly, placing the problem in implementation rather than in the students themselves.⁹

The relationship between collaborative learning and student mental health is underexamined but increasingly urgent. The proportion of UK undergraduates disclosing a mental health condition rose from 6% in 2012 to over 20% by 2022.¹⁰ The Student Minds national survey identified group-based academic tasks among the top five sources of academic-related anxiety.¹¹ Hughes and Byrom found that poorly structured group tasks were significantly associated with increased anxiety, reduced self-efficacy, and withdrawal from academic participation, with effects concentrated among students with pre-existing mental health conditions.¹² Thorley named academic pressure in collaborative settings as a specific and under-resourced trigger for mental health deterioration in the first year of university.¹³ The NICE guidelines on social anxiety identify unpredictable social evaluation as a

⁷Kyndt, E., Raes, E., Lismont, B., Timmers, F., Cascallar, E. and Dochy, F., 'A Meta-Analysis of the Effects of Face-to-Face Cooperative Learning', *Educational Research Review*, 10 (2013), 133–149.

⁸Arkoudis, S., Yu, X., Baik, C., Borland, H., Chang, S., Lang, I., Lang, J., Pearce, A. and Watty, K., *Finding Common Ground: Enhancing Interaction Between Domestic and International Students* (Sydney: Australian Learning and Teaching Council, 2013).

⁹Volet, S. and Ang, G., 'Culturally Mixed Groups on International Campuses: An Opportunity for Intercultural Learning', *Higher Education Research and Development*, 31/1 (2012), 21–37.

¹⁰Universities UK, *Stepchange: Mentally Healthy Universities* (London: Universities UK, 2022), 8.

¹¹Student Minds, *University Mental Health: Understanding Student Experiences During Uncertain Times* (Oxford: Student Minds, 2022).

¹²Hughes, G. and Byrom, T., 'Managing Student Wellbeing: Tensions Between Autonomy and Care', *Higher Education*, 77/6 (2019), 1–14.

¹³Thorley, C., *Not by Degrees: Improving Student Mental Health in the UK's Universities* (London: IPPR, 2017), 12–18.

primary environmental trigger¹⁴ and Storrie, Ahern and Tuckett estimate social anxiety prevalence at 15 to 20% in UK student populations.¹⁵

In the disability and neurodivergence literature, Cooper and Cushing document how unstructured collaborative tasks disproportionately disadvantage students with social anxiety, autism spectrum conditions, and ADHD, not because of academic incapacity but because of the implicit social demands of group navigation.¹⁶ Clouder et al., in a narrative synthesis of neurodiversity in higher education, find that the mismatch between standard collaborative learning formats and the cognitive profiles of neurodivergent students is a consistent source of disadvantage and psychological distress.¹⁷ Hewett et al. confirm that while universities have developed relatively routine adjustments for individual written assessments, the adaptation of collaborative assessments has received far less institutional attention.¹⁸

Educational systems vary considerably in their approach to collaborative learning. Hofstede's cultural dimensions framework identifies power distance and individualism as axes relevant to collaborative learning norms.¹⁹ In high power-distance systems, teacher authority is largely unquestioned and peer-based critique may be perceived as inappropriate. Critically, however, national educational systems shape students' exposure to particular pedagogical practices but do not determine individual behaviour. Marginson cautions against treating cultural generalisation as individual prediction, a form of essentialism that both the literature and basic logic counsel against.²⁰ Ryan and Carroll and Hellsten and Prescott both document that when collaborative tasks were well-structured and when institutions explicitly prepared students for pedagogical differences, adjustment burdens reduced substantially.^{21,22}

¹⁴National Institute for Health and Care Excellence, Social Anxiety Disorder: Recognition, Assessment and Treatment, Clinical Guideline CG159 (London: NICE, 2022).

¹⁵Storrie, K., Ahern, K. and Tuckett, A., 'A Systematic Review: Students with Mental Health Problems', *Nurse Education Today*, 30/2 (2010), 128–136.

¹⁶Cooper, M. and Cushing, I., 'Collaborative Learning and Disability in UK Higher Education: Access, Adjustment, and Anxiety', *Disability and Society*, 37/4 (2022), 611–629.

¹⁷Clouder, L., Karakus, M., Cinotti, A., Ferreira, M., Gomes, J. and Ajayi, O., 'Neurodiversity in Higher Education: A Narrative Synthesis', *Higher Education*, 80/4 (2020), 757–778.

¹⁸Hewett, R., Douglas, G., McLinden, M. and Keil, S., 'Developing an Inclusive Learning Environment for Students with Visual Impairment in Higher Education', *European Journal of Special Needs Education*, 32/1 (2017), 1–16.

¹⁹Hofstede, G., 'Dimensionalizing Cultures: The Hofstede Model in Context', *Online Readings in Psychology and Culture*, 2/1 (2011).

²⁰Marginson, S., 'Globalisation, Higher Education and the Pursuit of National Advantage', *Oxford Review of Education*, 48/4 (2022), 420–439.

²¹Ryan, J. and Carroll, J., 'Canaries in the Coalmine: International Students in Western Universities', in J. Carroll and J. Ryan (eds.), *Teaching International Students: Improving Learning for All* (London: Routledge, 2005), 3–10.

²²Hellsten, M. and Prescott, A., 'Learning at University: The International Student Experience', *International Education Journal*, 5/3 (2004), 344–351.

Methodology: Survey Design, Data Collection, and Statistical Analysis

This paper draws on two completed research strands and an original indicator mapping exercise. The first empirical strand is a literature review of UK-based collaborative learning interventions in higher education, conducted using the PRISMA framework across ERIC, PsycINFO, and the British Education Index. Eighteen papers met the full inclusion criteria and were reviewed in full, a further three were identified through citation tracking.

The second strand is a pre-arrival baseline survey mapping exercise administered to incoming undergraduate students at Durham University before they began their first year. The survey captured prior frequency of engagement with twelve collaborative learning activity types, anticipated comfort with those same activities, and agreement with eleven potential barriers. Each domain used a five-point ordinal scale. For prior frequency: 1 = Never through 5 = Every lesson. For comfort: 1 = Very uncomfortable through 5 = Very comfortable. For barriers: 1 = Strongly disagree through 5 = Strongly agree. Students who declared a disability or long-term health condition were asked a follow-up item allowing them to specify the nature of that condition from a fixed list including mental health condition, specific learning difference, sensory or mobility impairment, and other long-term health condition; this sub-classification is the basis for the mental-health-specific figures reported later in this section, which are therefore drawn from a named subgroup within the wider disability-declared category rather than inferred from disability status alone. The survey was administered online before students arrived; 263 complete responses were retained after removing submissions with less than 80% item completion.

Survey data were analysed in SPSS Version 28. Between-group differences were tested using Welch's independent samples t-tests, which do not assume equality of variance and are appropriate for groups of unequal size.²³ Effect sizes were calculated as Cohen's d: 0.2 is small, 0.5 medium, and 0.8 large.²⁴ No Bonferroni correction was applied, given the exploratory character of the study. All significance findings should be read as indicative.

Several limitations warrant explicit acknowledgement. First, the design is cross-sectional and pre-arrival: it establishes association, not causation, and none of the group comparisons reported in this paper should be read as a causal test. Second, the international student subsample (n=50) is predominantly European (France, Switzerland, Romania, Germany, the Netherlands). This

²³Field, A., *Discovering Statistics Using IBM SPSS Statistics*, 5th edn. (London: SAGE, 2018), 295–302.

²⁴Cohen, J., *Statistical Power Analysis for the Behavioral Sciences*, 2nd edn. (Hillsdale, NJ: Lawrence Erlbaum Associates, 1988), 24–27.

substantially limits the generalisability of international versus domestic comparisons to students from South Asian, East Asian, or West African educational systems, for whom the literature suggests the adjustment to UK collaborative norms may be considerably larger.²⁵ Claims about those groups are grounded in the comparative education literature, not in this dataset. Third, the pre-arrival timing means comfort and barrier measures capture anticipated experience rather than actual university experience, and anticipated comfort may over- or under-state comfort once students have gone through their first year. Fourth, self-declaration of disability is known to underestimate prevalence, given documented rates of non-disclosure in student populations.²⁶ Fifth, all findings rely on self-report measures, which are susceptible to social desirability and recall effects. Sixth, no correction for multiple comparisons (e.g. Bonferroni) was applied given the exploratory character of the study, which means the reported p-values should be read as indicative rather than confirmatory, particularly for the barrier comparisons closest to the .05 threshold. Seventh, the sample is drawn from a single, highly selective institution, which limits generalisability to the wider UK higher education sector. Finally, the survey did not capture first-generation student status, a further equity dimension increasingly highlighted in UK policy debate²⁷ and one that plausibly interacts with the disability and international findings reported here; this is a limitation of scope rather than of method, and a natural extension for future work.

Findings: Who Collaborative Learning Works For

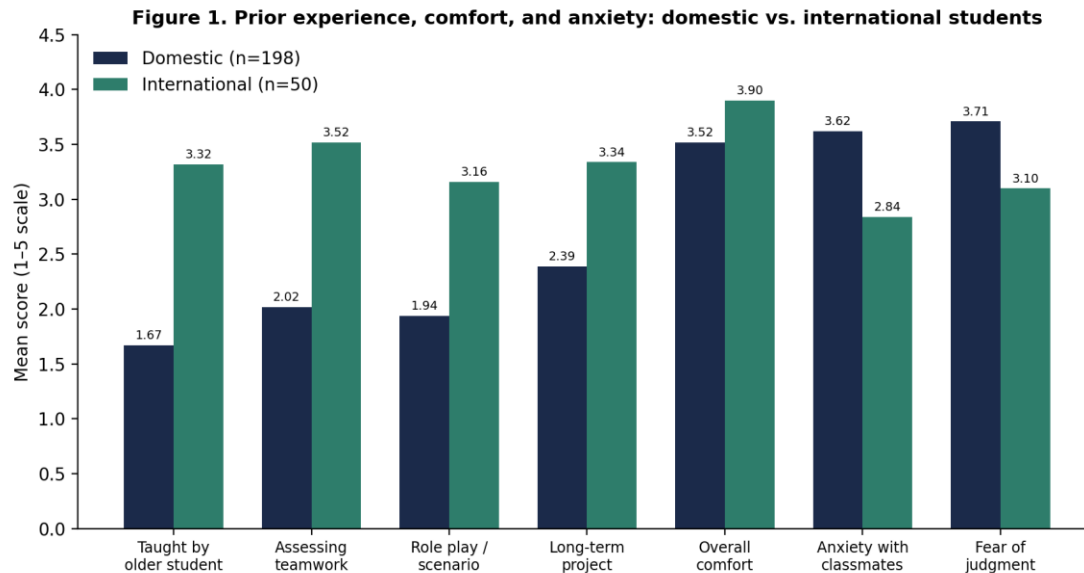
The headline finding from the prior experience analysis challenges the most common institutional assumption: international students in this sample reported significantly greater prior exposure to collaborative learning activities than their domestic peers across nine of the twelve activity types tested. Table 1 presents the key t-test results with effect sizes and confidence intervals; Figure 1 presents the same comparison graphically.

Table 1. Prior experience and comfort: international (n=50) vs. domestic (n=198) students

Variable	Domestic M (SD)	International M (SD)	Difference	t	p	d
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²⁵Higher Education Statistics Agency, Higher Education Student Statistics: UK 2022/23 (Cheltenham: HESA, 2024).
²⁶Hewett, R., Douglas, G., McLinden, M. and Keil, S., 'Developing an Inclusive Learning Environment for Students with Visual Impairment in Higher Education', European Journal of Special Needs Education, 32/1 (2017), 1–16.
²⁷Higher Education Policy Institute, A Degree of Fairness? A Report on First Generation Students in UK Higher Education (Oxford: HEPI, 2022).

Taught by older student	1.67 (1.05)	3.32 (1.41)	+1.65	7.68	<.001	1.36
Assessing classmate's teamwork	2.02 (1.14)	3.52 (1.22)	+1.50	7.37	<.001	1.26
Role play or scenario	1.94 (1.12)	3.16 (1.29)	+1.22	5.83	<.001	0.99
Long-term project	2.39 (1.25)	3.34 (1.31)	+0.95	4.38	<.001	0.74
Overall comfort index	3.52 (0.71)	3.90 (0.62)	+0.38	3.55	<.001	0.56
Anxiety with classmates	3.62 (1.10)	2.84 (1.12)	-0.78	4.19	<.001	0.70
Fear of judgment	3.71 (1.07)	3.10 (1.13)	-0.61	3.26	.001	0.55



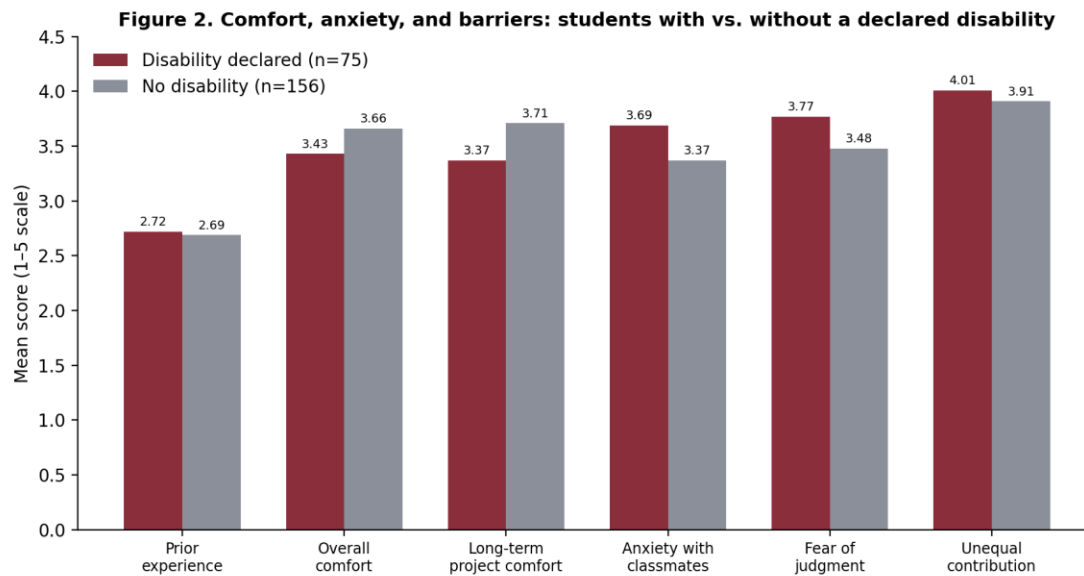
The largest experience gaps appear for being taught by an older student (+1.65, $d=1.36$), assessing classmate teamwork (+1.50, $d=1.26$), and role play (+1.22, $d=0.99$). These are large effects. They suggest not that some international students have done these activities before, but that they did them routinely in their prior education. International students simultaneously report higher overall anticipated comfort (3.90 vs. 3.52, $d=0.56$) and lower anxiety with classmates (2.84 vs. 3.62). The one domain where international students score higher on barriers is English language confidence (2.40 vs. 1.83), confirming that the instrument captured meaningful differences rather than noise.

The direction of the domestic anxiety finding is striking. The students for whom collaborative learning is presumably most familiar, those educated in UK secondary schools, arrive at university more anxious about it than their European peers. This pattern is consistent with the possibility that prior exposure does not necessarily translate into positive experiences of collaborative learning, and may instead reflect previous encounters with poorly structured or stressful group work, though the survey cannot confirm the nature or quality of that prior exposure directly.

The disability findings are the most consequential in the dataset. Table 2 and Figure 2 present the key comparisons.

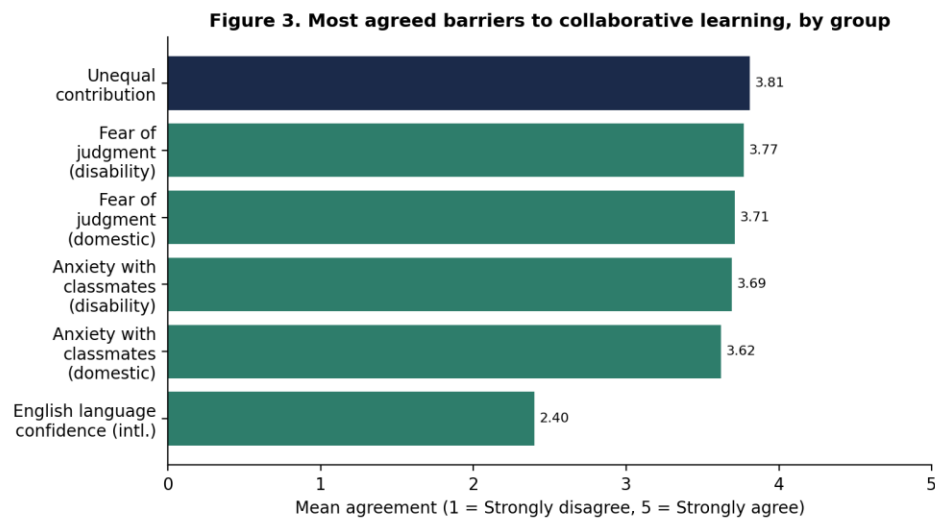
Table 2. Comfort and anxiety: disability declared (n=75) vs. no disability (n=156)

Variable	Disability M (SD)	No disability M (SD)	Difference	t	p	d
Prior experience index	2.72 (0.81)	2.69 (0.77)	+0.03	0.27	.790	0.04
Overall comfort index	3.43 (0.74)	3.66 (0.68)	−0.23	2.41	.017	0.32
Long-term project comfort	3.37 (1.11)	3.71 (1.07)	−0.34	2.46	.015	0.31
Anxiety with classmates	3.69 (1.08)	3.37 (1.09)	+0.32	2.07	.048	0.29
Fear of judgment	3.77 (1.04)	3.48 (1.10)	+0.29	1.97	.050	0.27
Unequal contribution	4.01 (0.96)	3.91 (1.02)	+0.10	0.72	.470	0.10



The prior experience index does not differ between groups ($p=.790$, $d=0.04$). Students with disabilities have done collaborative learning before at broadly the same frequency as everyone else. What differs is how they experience the prospect of doing it again. Students with mental health conditions show the lowest comfort scores of any sub-group in the dataset: overall comfort 3.31, long-term project comfort 3.05, and anxiety barrier 3.92. The gap on long-term projects between students with mental health conditions and those with no declared condition (3.05 vs. 3.71) is the largest single gap in the entire analysis. This matters because long-term collaborative projects are precisely the format that universities rely upon most heavily for summative group-based assessment.

The most agreed barrier across the entire sample is anticipated unequal contribution within groups (overall mean 3.81). This pattern is more consistent with an anticipation grounded in prior group-work experience than with a general reluctance to collaborate, although the cross-sectional, pre-arrival design means this interpretation cannot be tested directly against students' actual histories. Students with disabilities agree most strongly with this barrier (4.01), which is consistent with, though not direct evidence for, the possibility that some have previously experienced situations in which managing their condition limited their contribution in ways beyond their control, affecting both their grade and their sense of belonging in the group. Figure 3 ranks the most agreed barriers across sub-groups.



Legal Obligations, Policy Frameworks, and International Comparison

The collaborative learning equity gap has legal dimensions that UK universities are not currently required to address explicitly but which sit uncomfortably close to obligations they are required to meet. The Equality Act 2010 places a duty on universities to make reasonable adjustments for disabled students under Section 20, and a Public Sector Equality Duty under Section 149 requiring due regard to eliminating discrimination, advancing equality of opportunity, and fostering good relations across nine protected characteristics. The EHRC technical guidance confirms that these duties extend to all aspects of the educational experience, including assessment formats.²⁸

The survey data provide empirical evidence that collaborative learning as currently designed at Durham is associated with a significantly different experience for disabled students than for non-disabled peers, specifically lower comfort ($p=0.017$) and higher anxiety ($p=0.048$), a pattern the equivalent prior-experience finding makes harder to attribute to differences in the students themselves. If these differences are attributed to design rather than to characteristics intrinsic to disabled students, an interpretation the pattern of results makes more plausible than the alternative but which the survey design cannot conclusively establish, the Equality Act analysis follows more directly: a provision that systematically disadvantages disabled students without adequate adjustment may constitute a failure to comply with Section 20. The Stevenson and Farmer Thriving at Work

²⁸Equality and Human Rights Commission, Equality Act 2010: Technical Guidance on Further and Higher Education (London: EHRC, 2014), 43–58.

review²⁹ and the NHS Long Term Plan³⁰ both call for institutions to move from threshold-based mental health support towards universal design: creating environments in which all students can participate regardless of health status. The National Suicide Prevention Strategy identifies universities as key settings for preventative intervention.³¹

The legal and policy framework has a specific gap on the mental health dimension. The Equality Act protects students whose mental health condition meets the threshold of disability: a physical or mental impairment with a substantial and long-term adverse effect on normal activities. Sub-threshold anxiety falls outside this protection. Yet the survey data show that anxiety in collaborative settings is widespread across the student population, including among students with no declared condition. Domestic students' anxiety with classmates (3.62) and fear of judgment (3.71) sit substantially above the midpoint of the five-point scale. This suggests that the legal and policy framework has not yet caught up with the population-level character of the problem.

The international comparison situates these findings within a broader structural context. Table 3 presents the five countries with the largest international student populations nationally, with their educational traditions and implications for collaborative learning at UK universities.

Table 3. Comparative education systems and collaborative learning norms: the five largest UK international student source countries

Country	Students in UK HE	Collaborative learning tradition	Key transition implication
China	~149,000	Group-based but consensus-oriented; public dissent uncommon	Extensive group experience but unfamiliar UK norms of individual attribution and public critique
India	~173,000	Limited in secondary; teacher authority strong	Peer critique and open debate as genuinely new norms

²⁹Stevenson, D. and Farmer, P., *Thriving at Work: The Stevenson and Farmer Review of Mental Health and Employers* (London: HM Government, 2017).
³⁰NHS, *NHS Long Term Plan* (London: NHS England, 2019), 65–68.
³¹HM Government, *Suicide Prevention in England: 5 Year Cross Sector Strategy* (London: DHSC, 2023).

Nigeria	~44,000	Oral and community traditions; limited formal peer assessment	Strong communicative tradition but limited assessed peer feedback culture
Pakistan	~36,000	Predominantly teacher-centred; rote learning common	Largest structural distance from UK norms of critical peer dialogue
United States	~23,000	Participatory and group-based learning standard from secondary level	Closest structural alignment to UK expectations

Sources: HESA (2024); Hofstede Insights (2023); Ryan and Carroll (2005).

This table describes system-level patterns. Individual students may have had experiences that differ substantially from the national pattern. The risk of applying cultural generalisation to individual prediction is real and should be resisted in institutional practice.

Four of the five largest source countries have educational traditions that differ substantially from the UK norm of critical, participatory, peer-based collaborative learning. Yet institutional induction at most UK universities, including Durham, is not systematically differentiated by prior educational experience. Students from Pakistan and students from the United States receive, in general, the same collaborative learning preparation. The OfS Access and Participation framework³² requires registered providers to demonstrate measurable progress on closing attainment gaps; collaborative learning practice is a plausible but underexamined factor in those gaps. Graduate Outcomes Survey data show that international graduates are 7.2 percentage points less likely to be in professional or managerial employment 15 months after graduation than domestic peers,³³ disabled graduates face an employment rate 9.6 percentage points below non-disabled graduates,³⁴ and Black graduates face an employment penalty estimated at 12 to 15 percentage points.³⁵ If collaborative learning is how graduate attributes are developed, and certain students cannot access it equitably, then differential collaborative learning outcomes are a plausible partial contributor to these gaps.

³²Office for Students, Access and Participation Guidance for Providers (Bristol: OfS, 2023).

³³Higher Education Statistics Agency, Graduate Outcomes Survey 2021/22 (Cheltenham: HESA, 2023).

³⁴Office for National Statistics, Labour Market Overview UK: Disability (Newport: ONS, 2023).

³⁵Chartered Institute of Personnel and Development, Addressing the Ethnicity Pay Gap (London: CIPD, 2022).

Internationally, the UNESCO Recommendation on Higher Education³⁶ calls on member states to ensure that higher education is inclusive and equitable, and the UN Sustainable Development Goal 4 requires effective learning environments for all students by 2030. Collaborative learning that is designed to work for all students is, on this framing, not merely good pedagogy but a dimension of international educational rights.

A note on Sustainable Development Goal 4

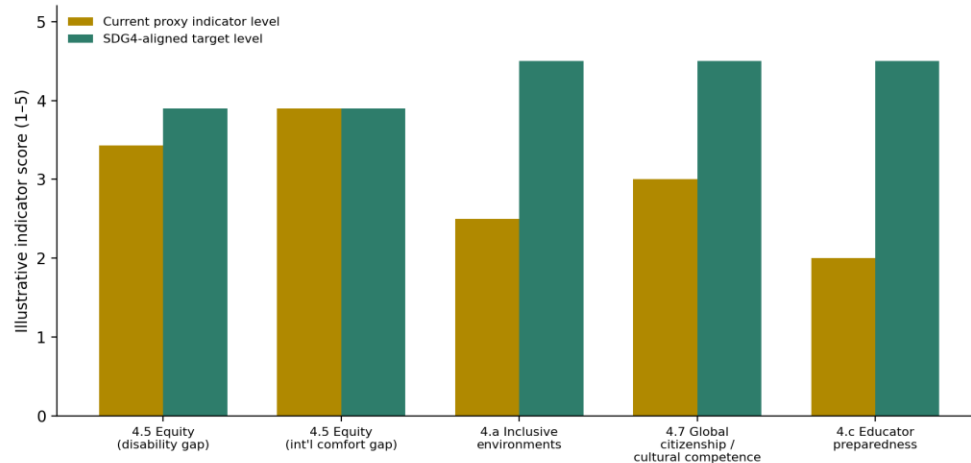
As a brief extension of the comparative and legal analysis above, it is worth noting how these findings could be read alongside SDG4, which commits states to 'inclusive and equitable quality education' and, under Target 4.5, to eliminating disparities in access for vulnerable groups, including persons with disabilities.³⁷ What follows is offered as a conceptual and analytical mapping, not an attempt to calculate an official SDG4 indicator or to apply UIS methodology to data it was not designed for; the figures below are simple descriptive ratios and scores drawn from this paper's own survey, intended only to illustrate how classroom-level findings could, in principle, be organised in indicator-style form. UK institutions typically cite SDG4 at the level of general strategic commitment rather than at the level of specific pedagogical practice, and the data in this paper illustrate why that gap matters. The disability comfort gap identified in Table 2 (3.43 vs. 3.66, a simple ratio of 0.94) is not explained by differential prior exposure ($p=.790$), which is more consistent with a design-related explanation than a population-related one, and is precisely the kind of practice-level disparity that Target 4.5 monitoring is intended to surface but that most UK access and participation reporting does not currently disaggregate down to. Figure 4 offers an illustrative, non-official proxy of where current practice at Durham sits relative to an SDG4-aligned target level across four relevant dimensions: disability and international comfort parity (Target 4.5), inclusive task design (Target 4.a), pedagogical adaptation to cultural diversity (Target 4.7), and staff preparedness for anxiety-aware facilitation (Target 4.c). These proxy scores are illustrative approximations built from a single-institution dataset, not calibrated national statistics, and should not be read as official SDG4 reporting.³⁸

³⁶UNESCO, Recommendation on Higher Education and Research (Paris: UNESCO, 2021).

³⁷United Nations General Assembly, Transforming Our World: The 2030 Agenda for Sustainable Development, A/RES/70/1 (New York: UN, 2015).

³⁸UNESCO Institute for Statistics, SDG4 Data Digest: Sustainable Development Goal 4 Indicator Framework (Montreal: UIS, 2023).

**Figure 4. Collaborative learning practice mapped against SDG4 target dimensions
(illustrative, based on Durham survey findings)**



The point of this comparison is modest: it is offered as a supplementary illustration of how the paper's core findings on collaborative learning could, in principle, be read against an international equity framework, not as a claim that this paper has produced calibrated SDG4 indicators or that SDG4 alignment is the primary question this paper is designed to answer. The central empirical and analytical contribution of the paper remains the question posed at the outset: who collaborative learning currently works for, and why.

Recommendations

The analysis supports seven institutional recommendations for Durham University and five for policymakers. Institutionally: first, the one-hour collaborative learning induction workshop should be evaluated for effectiveness, refined on the basis of student feedback, and offered to all incoming students as a standard element of university induction rather than an optional extra. Second, Durham should develop, in consultation with DECAS and the Disability Support Service, a practical reasonable adjustment framework for collaborative assessments specifically, addressing flexible participation formats, role allocation, and assessment criteria that distinguish academic contribution from performance style. Third, Universal Design for Learning principles should be adopted for collaborative task design, embedding multiple means of participation from the outset rather than relying on individual adjustment after disclosure. Fourth, the structural barrier of unequal contribution should be addressed directly: all collaborative assessments should include explicit role frameworks, individual accountability mechanisms, and assessment of process as well as product. Fifth, brief anonymous welfare check-ins should be embedded within modules involving assessed collaborative work, enabling early identification of students in difficulty before the point of crisis. Sixth, academic staff should receive structured training in anxiety-aware collaborative learning

design. Seventh, collaborative learning practice should be formally included within Durham's Access and Participation Plan monitoring.

For policymakers, the OfS should require providers to include collaborative learning design within equality impact assessments submitted under Access and Participation Plans. The Equality and Human Rights Commission should update its technical guidance on further and higher education to address collaborative assessments explicitly. The UK government's mental health strategy for universities should identify collaborative learning design as a site for preventative intervention, drawing on the NICE guidelines on social anxiety and the Stevenson-Farmer framework. UK bilateral higher education agreements should incorporate a shared commitment to pedagogical transparency, with both sending and receiving institutions taking responsibility for preparing students for different collaborative norms. Finally, institutions and sector bodies that already report against SDG4 in strategy or sustainability documentation should consider disaggregating at least one collaborative-learning comfort measure by disability status, so that broad international commitments are backed by practice-level evidence rather than remaining a matter of general strategic reference.

Conclusion

This paper set out to ask who collaborative learning works for. The answer it has arrived at is not a simple one. Collaborative learning works, in the sense that the evidence for its benefits under the right conditions is genuine and substantial. The question is not whether it works but whether those conditions are equitably distributed.

The baseline survey from 263 incoming Durham undergraduates disrupts the most common institutional narrative. International students did not arrive less familiar with collaborative learning; they arrived more familiar and more comfortable. The finding that challenges most urgently concerns disability: students with disabilities and mental health conditions reported significantly lower comfort and higher anxiety despite equivalent prior experience. Because prior exposure does not differ between groups, the pattern is more consistent with an explanation rooted in the design of the environment than with one rooted in the characteristics of the students, although the cross-sectional design means this remains an inference rather than a demonstrated causal claim. And the most agreed barrier across all groups is structural in character: a widely shared anticipation of unfairness within groups.

The policy and legal analysis situates these findings within obligations that universities are already required to meet. The Equality Act duty to make reasonable adjustments applies to collaborative

learning. The Public Sector Equality Duty requires attention to differential effects on protected groups. The OfS Access and Participation agenda demands measurable progress on closing outcome gaps, and, as the brief comparison with SDG4 suggests, the same practice-level evidence that speaks to domestic legal duties also speaks, more informally, to the international equity commitments UK universities increasingly cite.

Collaborative learning is not inherently equitable simply because it is collaborative. Whether it becomes so depends on choices that institutions, policymakers, and individual educators make. Those choices have consequences that extend beyond the classroom into graduate outcomes, employment gaps, and the kind of higher education system that a society committed to equality is obligated to build.

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