AUTONOMY

AND

RESPONSIBILITY

AUTONOMY AND RESPONSIBILITY

Journal of Educational Sciences

Authors

Arató, Ferenc, Assistant Professor, Department of Educational Theory, University of Pécs, Hungary
Davidson, Neil, Professor Emeritus, University of Maryland, College Park, MD 20742, USA
Greene, Wallace, Principal, Yeshiva Keren HaTorah of Passaic-Clifton, USA
Jacobs, George M., Co-Vice President, Kampung Senang Charity and Education Foundation, Singapore
Romero, Gemma Riera, Universitat de Vic, Universitat Central de Catalunya, Spain
Rooney, Aidan, Executive Vice President for Mission, St. John's University, Newman 319A, 8000 Utopia Parkway Jamaica, NY 11439, USA
Sharan, Yael, Consulting Member, NICLEE; Formal Board Member, IASCE; Member of IAIE, Israel
Solomon, Richard D., Retired Clinical Professor, University of Maryland, College of Education, Department of Curriculum and Instruction, College Park, Maryland, USA
Stevahn, Laurie, Professor of Education, College of Education, Seattle University, USA
Topping, Keith, Professor of Education and Society, University of Dundee, Dundee DD1 4HN, Scotland
Vermette, Paul, Professor Emeritus, Niagara University, Niagara University, NY 14109, USA
Wen, Yi, Student, Department of Psychology at James Cook University Singapore
Wu, Yingrui, Student, Department of Psychology at James Cook University Singapore

Contents

Foreword

Articles

Workshop

Diary

Elaborated Peer Assessment of Academic Writing Between Postgraduate Students

Keith J. Topping

Professor of Education and Society, University of Dundee, Dundee DD1 4HN, Scotland
ORCID: 0000-0002-0589-6796

Peer assessment in higher education has grown enormously in the last decade but is more commonly used with undergraduates. In this study, reciprocal paired peer assessment of academic writing was undertaken by twelve postgraduate students of educational psychology, who gave elaborated formative feedback on each other's work, as did staff. Overall, staff and peer assessments showed a very similar balance between positive and negative statements, but this varied according to assessment criterion. However, only half of the content of detailed formative assessment statements made showed correspondence between staff and peers. Nevertheless, there was very little evidence of conflict between the views of staff and peers - rather, they focused on different details. Subjective feedback from students indicated that most found the process time consuming, intellectually challenging and socially uncomfortable, but effective in improving the quality of their own subsequent written work and developing other transferable skills. The reliability and validity of this type of peer assessment thus appeared adequate, and the partiality of overlap in detail between staff and peer assessments suggested that the triangulation peer assessment offers is likely to add value. However, caution is indicated regarding the generalisation of this finding. Implications for action are outlined.

Keywords: *peer assessment, writing, elaborated, formative, postgraduate*

Introduction

Much assessment in higher education has been purely summative. By contrast, formative assessment aims to improve learning while it is happening in order to maximise success, rather than aiming to determine success or failure only after the event. Thus, formative assessment seems likely to be most helpful if it yields rich and detailed qualitative feedback information about strengths and weaknesses, not merely a quantitative mark or grade.

Peer Assessment

Peer assessment can be defined as an arrangement for peers to consider the level, value, worth, quality or successfulness of the products or outcomes of learning of others of similar status. Early studies asked students to grade, score or mark the work of other students, but this was found to be variously reliable. More recently interest has grown in having students provide elaborated qualitative feedback, sometimes in addition to grades. A review of 145 studies of peer assessment between students in college and university indicated that such activities were very various in type (Topping, 1998). A typology derived from this literature offers a conceptual framework for the reader (elaborated in Topping, 2018) (see Table 1). Different types of peer assessment might generate positive effects through different mechanisms.

	VARIABLE	RANGE OF VARIATION
1	Curriculum Area/Subject	All
2	Objectives	Of staff and/or students Time saving or cognitive/affective gains
3	Focus	Quantitative/summative or Qualitative/formative or both
4	Product/Output	Tests/marks/grades or writing or oral presentations or other skilled behaviours
5	Relation to Staff Assessment	Substitutional or supplementary
6	Official Weight	Contributing to assessee final official grade or not
7	Directionality	One-way/reciprocal/mutual
8	Privacy	Anonymous/confidential/public
9	Contact	Distance or face to face
10	Year	Same or cross year of study
11	Ability	Same or cross ability
12	Constellation Assessors	Individuals or pairs or groups
13	Constellation Assessed	Individuals or pairs or groups
14	Place	In/out of class
15	Time	Class time/free time/informally
16	Requirement	Compulsory or voluntary for assessors/ees
17	Reward	Course credit or other incentives or reinforcement for participation?

Table 1: A Typology of Peer Assessment in Higher Education

Theoretical Underpinnings of Peer Assessment

Cognitively, peer assessment might create its effects by increasing a number of variables, for assessors, assessees, or both. Depending upon the type of peer assessment, how it is organised and in what contexts it operates, these variables could include levels of time on task, engagement, and practice, coupled with a greater sense of accountability and responsibility. Formative peer assessment is likely to involve questioning - intelligently

and adaptively, together with increased self-disclosure and thereby assessment of understanding. It could enable earlier diagnosis of misconception and earlier error identification and analysis. Both of these could lead to the identification of gaps and engineering their closure, through explaining, simplification, clarification, summarising, reorganisation, and cognitive restructuring (Topping & Ehly, 2001).

Increased levels of feedback (corrective, confirmatory, or suggestive) could be coupled with greater immediacy, timeliness, and individualisation of feedback. This might increase post hoc reflection and improve generalisation to new situations, promoting self-assessment and greater meta-cognitive self-awareness. Indeed, cognitive and meta-cognitive benefits might accrue before, during or after the peer assessment actually takes place. Also, there might be meta-cognitive benefits for staff as well as students. Peer assessment might initiate scrutiny and clarification of the objectives and purposes, criteria and marking scales of assessment, and indeed the objectives of the course itself.

Peer assessment might also have an impact on affect, increasing motivation through an enhanced sense of ownership and personal responsibility, greater variety and interest, activity and inter-activity, and also improving self-confidence, identification and bonding, and empathy with others - for assessors, assessees, or both. It has also been proposed that peer assessment might increase a range of social and communication skills, including negotiation skills and diplomacy, verbal communication skills, giving and accepting criticism, justifying one's position and assessing suggestions objectively.

Effects of Peer Assessment

Research in peer assessment is now voluminous. Summarising his review, Topping (1998) concluded that peer assessment of writing appeared capable of yielding outcomes as least as good as teacher assessment, and sometimes better. Formative feedback was variously oral, written, and both combined. Since then, Li et al. (2020) has meta-analyzed 58 studies on peer assessment, finding an effect size of 0.29. The most critical moderating factor was training. When students received rater training, the effect size of peer assessment was substantially larger than when students did not receive such training. Computer-mediated peer assessment was also associated with greater learning gains than paper-based peer assessment. A meta-analysis of 54 experimental and quasi-experimental studies by Double et al. (2020) found an overall small to medium effect of peer assessment on academic performance (effect size = 0.31), but again peer assessment was found more effective than teacher assessment (effect size = 0.28). The effectiveness of peer assessment was remarkably robust across a wide range of contexts. Peer assessment of writing is found in a wide range of subjects, for example: composition, technical and business writing, psychology, education, social science, engineering, geography and computing.

Reliability and Validity of Peer Assessment

Many studies of the reliability and validity of peer assessment utilise comparison of marks, grades or scores, rather than of more open-ended, qualitative, formative feedback. This doubtless reflects the greater ease of comparing quantitative indices. The majority of these studies suggest peer assessment is of adequate reliability and validity in a wide variety of applications (e.g., Topping, 1998), although this seems likely to vary with type and organisational differences. However, a substantial minority of studies question the reliability and validity of peer assessment as they operated it, which of course raises

questions about implementation integrity. Acceptability to students is various and does not seem to be a function of actual reliability. There is an evident need for more reliability and validity studies of purely qualitative peer assessment.

Aim, Type and Context of The Present Study

Aim

The present study sought to explore the reliability and validity of pairwise reciprocal elaborated formative peer assessment in the area of academic writing, using given assessment criteria and not coupled with peer marking. The participants in the present study were mature postgraduates with substantial experience of the "real world". However, they were a closely knit group and the peer assessment was one to one. None of them had experienced peer assessment before. It was expected that they would find the experience socially and emotionally as well as cognitively challenging. The acceptability of the procedure before and after involvement in it was to be explored, and subjective views regarding the formative impact of participation as both assessor and assessee gathered, together with information about practical disadvantages and cost-effectiveness.

Type of Peer Assessment

In terms of the typology of peer assessment (see Table 1), this project was an example of a: same year, purely formative and qualitative, out of class, compulsory, supplementary, paired, reciprocal, randomly matched within topic, distance and face to face, confidential peer assessment system in academic writing in postgraduate psychology, targeted on cognitive gains, not contributing to official grade and without extrinsic reinforcement.

Context of the Present Study

The study involved a cohort of 12 students undertaking a two-year Master's level postgraduate course of professional training leading to qualification as a chartered educational psychologist. Entrants already had a good first degree in psychology and at least the equivalent of two years' practical experience with children, parents, schools and/ or welfare agencies. In this cohort, 10 were female and two were male, and the average age was 31.

The aim of the course was the acquisition and development of information, strategies, skills, products and services relevant to co-operative work with children, parents, teachers and other carers and professionals, and particular emphasis was placed upon the prevention, assessment, management and resolution of learning and behaviour problems with clients of all ages. The importance of transferable interpersonal and professional skills was explicit, and they were specifically taught in a 40-contact-hour module as well as integrally developed and practised in many other course activities. There was also an emphasis on trainee self-assessment.

All assessment for the course was continuous, and amongst other assessed outputs were written "Academic Reports", one in each of the three ten-week terms per academic year, minimally of 5,000 words. Students chose their own specific topics, in any order, under the general headings of: Normal Child Development, A Case Study of an Individual Child, Organisational Analysis of a Psychological Service, Exceptional Child Development, Intervention Analysis, and In-service Project (with presentation materials).

Reports were to be based on a critical analysis of existing relevant research literature, new data gathered by the trainee where appropriate, and had to relate to professional practice, particularly as experienced during the practical placements which were continuous throughout the course. Students were advised that faults they should seek to avoid were: lack of structure, over-inclusion, irrelevance, repetition, shallow generality, regurgitation, unsupported claims, excess speculation, excess of personal experience, fragmentation, and lack of practical implications.

Course staff normally assessed the reports and graded them Pass or Fail, with double or triple marking for possible Fails and the usual moderation by external examiners. They also gave trainees detailed qualitative formative feedback in relation to the 14 assessment criteria developed by course staff, on a proforma designed for this purpose (see Appendix 1) and available electronically for ease of individual adaptation. This was sometimes supplemented with face-to-face discussion at the request of the member of staff or of the trainee. The course staff assessing the reports were well practised in the use of the assessment criteria. However, it should be noted that given the breadth of student choice of topic, staff often assessed reports on topics about which they themselves had little specialised knowledge.

Methodology

Procedure for Data Gathering

The peer assessment exercise was targeted on the second Academic Report required of the trainees, to be submitted at the end of the second term of the first year. It was thought that at this point the anxiety possibly connected with starting the course and passing the first academic report would have subsided, while much time remained for any formative impact of the procedure to have its effects. Trainees were advised of the upcoming exercise and its practical purposes toward the end of the experimental term, assured that staff marking would be conducted in parallel and be paramount, advised that participation was not optional, and given the opportunity to ask questions (in a class meeting - no subsequent individual enquiries were forthcoming). Trainees submitted their Academic Reports in the usual way at the end of the term, which were allocated for staff marking in the usual rotation. Staff completed the usual feedback sheets (see Appendix 1) but did not give these to the trainees at this point. At the start of the third term, the trainees were advised that all their reports had "passed".

Trainees were then allocated to pairings for the reciprocal peer assessment exercise. Seven trainees had chosen to do their "Case Study" that term, while five had chosen to do their "Organisational Analysis". It was decided to pair trainees undertaking different topic areas so far as possible (on the assumption that this might maximise formative impact, although in a less mature group perhaps risking facilitating plagiarism). Names were thus drawn randomly from the topic area groups of seven and five until only two (who had done the same topic) remained, and these were perforce paired together.

Participants were then asked to assess their partner's report and complete the same assessment feedback proforma used by the staff (see Appendix 1), within four weeks. Copies of the completed proformas were to be exchanged between partners and also given to the course director. Trainees were told that they might want to discuss with their partner the feedback they wished to give before and/or after handing them the proforma, but it was accepted that geographical and time constraints might prevent this. Trainees again had the opportunity to ask questions and voice concerns, and concern was expressed about their ability to assess the work of their peers with reference to the "Originality of Thought"

criterion, and to a lesser extent the "Critical Awareness" criterion. This seemed to stem from their awareness of their overall apprentice status and their assignation to cross-topic pairings, in which the assessor would usually be quite new to the topic. Trainees were reassured that they were not required to make a positive and/or negative comment under every category if they did not feel they could validly do so.

During the period allocated for completion of the peer assessment, the trainees also engaged in a two-hour session in the course Research and Evaluation module on "Critical Analysis of Research Reports", which included an exercise in criticising one of the course director's own peer reviewed journal publications. Twenty-eight defects were identified by the group.

When all the completed peer assessment proformas had been gathered in by the course director, each trainee was given the staff assessment feedback proforma on their own report. Trainees were then presented with the draft of a follow-up questionnaire designed to solicit their views on the process and outcomes of the exercise, and were asked to critically analyse it and suggest improvements (but not actually answer any of the questions). It was expected that this piloting of the questionnaire with respect to face validity would also serve to promote further thinking about the peer assessment exercise, while the concomitant passage of time brought the need to prepare for the next academic report nearer, and thereby possibly heightened the salience of the task. The follow-up questionnaire was revised in response to the suggestions of the trainees (see Appendix 2), who were then asked to complete the revised version immediately after handing in their academic report at the end of the third term. All 12 were subsequently returned.

Procedure for Data Analysis

Any analysis of the comparability of qualitative feedback from parallel assessors is bound to involve some subjectivity, and the establishment of inter-rater reliability is important in any such process. Analyses were therefore conducted in parallel by the course director (who had not been involved in assessing the reports, but knew the assessment procedure well) and a research assistant who had no familiarity with the course or its procedures.

Initial scrutiny of the peer feedback forms indicated that some statements had no flag (+, -, O; see Appendix 1) attached, while others had flags attached which appeared to be inappropriate (usually O where - was appropriate; suggesting a reluctance to be seen to be negative). Additionally, a few statements appeared to be located under inappropriate categories. Given differing response styles (terse and segregated versus verbose and integrated), there was also some difficulty in isolating what constituted a single statement or unit of meaning. Also problematic were statements made more than once (not necessarily in exactly the same words or in the same category on each occasion), since double counting would confound the analysis. It was decided to count each statement (in whatever equivalent form) only once. Examples given to support an evaluative comment could also prove a problem, since staff and peer assessors might make the same general point, but support it with different examples from the text. It was decided to disregard examples and analyse only general evaluative comments. As had been expected, peer feedback in the "Originality" (and to some extent "Criticality") categories was relatively sparse.

Given these initial observations, the two raters first independently reviewed the peer feedback forms, sectioning feedback into statements, adding flags where absent, changing flags where the original seemed inappropriate, re-categorising inappropriately located statements, and discarding examples and repetitions. Descriptive statistics from this process are given in Table 2.

RATER 1	Positive	Negative	Neutral	Total
Total	208 (68.8%)	72 (23.8%)	22 (7.3%)	302 (100%)
Signs added	84	33	14	131
Signs changed	1	9	0	10
Statements re-categorised	5	1	0	6
RATER 2				
Total	195 (69.6%)	69 (24.6%)	16 (5.7%)	280 (100%)
Signs added	79	34	10	123
Signs changed	1	8	0	9
Statements re-categorised	5	1	1	7

Table 2: *Comparison of Rater Restructuring of Responses*

A high degree of correspondence between the judgements of the two raters is indicated in Table 2, but of course simple quantitative correspondence could mask qualitative divergence. The differences between raters were largely attributable to one rater's tendency to identify more separate statements than the other, the majority of the "extra" statements being coded either positive or neutral. Considering each statement which was the subject of disagreement individually and qualitatively, the degree of inter-rater agreement is outlined in Table 3.

Positive		Negative		Neutral	
agree	disagree	agree	disagree	agree	disagree
193	17	61	8	15	11
(91.9%)		(88.4%)		(57.7%)	

Table 3: *Inter-rater Reliability*

This indicates an inter-rater reliability of 88.2% overall. However, neutral codings were of little significance (many were due to one rater coding "no opinion" as a neutral comment, while the other rater merely ignored such statements). Consequently, the inter-rater reliability of + and - combined is more important. This was 91.0% - satisfactorily high. In ensuing negotiation between the raters, it was agreed to retain nine of one rater's additional positives and drop six. Four of this rater's additional negatives were retained and three dropped, and six of this rater's additional neutrals retained and five dropped. A final master version of the coding was agreed for the next stage of the analysis. The assessment forms completed by the staff were similarly rationalised, where necessary.

Comparison of peer and staff feedback then proceeded, firstly by comparing the number of +, -, and O flags for each report from the two sources (Table 4 in the Results section below). The raters then independently rated the similarity of the semantic content of statements within categories for each report from the two sources, on a five-point scale in which 0 = no relationship to any statement made by the parallel assessor, 1 = virtually no

similarity, 2 = a little similarity, 3 = quite a lot of similarity, and 4 = almost identical (see Table 5 in Results section below). Statements coded 0 were divided into those made by peer assessor only and those made by staff assessor only. Finally, the follow-up process and outcomes questionnaires completed by the trainees were analysed.

Results

Comparison of Flagging Between Peers and Staff

Peer and staff flagging was compared across assessees, between staff assessors, and across assessment criteria. For each assessee, the difference in overall positivity (number of positive statements minus number of negative statements) of staff and peer flagging was calculated. In every single assessment, by either staff or peer, positive statements outnumbered negative statements.

An overall positivity difference of more than 4 between the staff and the peer assessment was considered substantial enough to be worthy of note (somewhat arbitrarily, although there were indications that this point was a trough in a bimodal distribution). On this basis, peers were more positive than staff in three cases, staff more positive than peers in 1 case, and peer and staff positivity was approximately equal in eight cases. In total, staff made 191 positive statements (71.8%) and 75 negative (28.2%), while peers made slightly more positive statements (206 - 74.1%) and a very similar number of negative statements (72 - 25.9%). The summary statistics in Table 4 show that the variance in peer positive statements was greater than in staff positive statements, although this was not true of negative statements. This is unsurprising, given there were 12 peer assessors but only two staff assessors. Thus, there was evidence of a tendency, albeit not a strong one, for the peer assessments to be more positive than staff assessments.

	Positive Statements		Negative Statements		Positivity (+ve - -ve)	
	staff	peer	staff	peer	staff	peer
Total	191	206	75	72	116	134
Mean	15.92	17.17	6.25	6.00	9.67	11.20
Standard Deviation	1.93	3.31	2.24	2.04	3.04	4.08

Table 4: Comparison of Flagging in Peer and Staff Feedback

Considering the reports assessed by the two staff assessors separately, one staff assessor recorded 96 positive statements and the other 95 positive statements - almost identical. One staff assessor recorded 42 negative statements and the other 33 negative - a more substantial difference.

Considering the data by assessment criterion rather than assessee, peers were substantially more positive than staff on six criteria, staff more positive than peers on three criteria, and peer and staff positivity was approximately equal in five cases. Assessment criterion #7 was anomalous in that many peer assessors felt unable to comment competently on "originality of thought", whereas staff commented freely on this. Peer assessors were more positive (i.e. less critical) than staff in the areas of: structure (including headings and paragraph), critical awareness, and spelling/punctuation/syntax. Staff were more positive

(i.e. less critical) in the areas of: advance organisers (abstract and contents) and conclusion/synthesis. Peer and staff positivity was approximately equal in the areas of: conceptualisation of main ideas, literature review, new data, psychological content, precision of language, economy of language, action orientation, and references.

Inter-rater Reliability of Similarity of Semantic Content

Only four of the twelve peer assessors had felt able to comment at all on the criterion of "Originality". Of the four that did, a fair degree of agreement with staff assessors was evident (mean rating 2.6). However, given the incompleteness of the data, this criterion was disregarded in the ensuing analysis.

The question of what constituted a single statement for the purposes of comparison was even more problematic in this stage of the analysis, and considerable variation between the raters was evident in their segmenting of the material. Accordingly, rather than comparing the raw ratings of assessor agreement for each assignment and each criterion directly, mean ratings for these were compared.

Statements coded 0 (no relationship to any statement made by the parallel assessor) were divided into those made by peer assessor only and those made by staff assessor only. For these statements, inter-rater agreement ranged from high to low for different assessees and different criteria. The raters showed very similar total numbers of one to four ratings (some degree of similarity between peer and staff assessment) (166 and 159), and very similar total numbers of peer only zero ratings (97 and 103). However, total numbers of staff only zero ratings were considerably different between raters (57 and 93).

Considering "shared" statements coded 1 to 4, some disagreement between the independent raters was evident, even using mean rating per cell and summing the ratings across assignments or criteria (see Table 5). Of course, this simple counting does not consider any relative weighting of the comments, intended by the assessor or inferred by the assessee.

By Assignment			By Criterion		
Assignment	Rater A	Rater B	Criterion	Rater A	Rater B
A	2.88	2.67	1	3.56	3.60
B	3.00	2.47	2	2.67	2.54
C	3.38	2.38	3	2.88	2.36
D	3.08	2.64	4	2.67	2.60
E	3.15	2.43	5	3.00	2.13
F	3.13	3.07	6	2.27	2.33
G	2.93	2.07	7		
H	2.92	2.92	8	2.62	1.91
I	2.50	2.83	9	2.83	2.67
J	2.43	2.43	10	2.82	2.82
K	2.38	3.09	11	3.00	2.20
L	2.46	2.58	12	2.73	2.67
			13	3.15	3.00
			14	2.64	2.50

Table 5: Similarity of Shared Semantic Content in Peer and Staff Feedback: Mean Ratings by Independent Raters

There was evidence of an overall tendency for one rater to give higher ratings than the other. Considering the inter-rater agreement by assignment (A - L), a fairly high level of agreement is indicated for seven of the 12, but a lower level on the other five. Inter-rater agreement by assessment criterion appears higher overall. High agreement is indicated for criterion 1 (advance organisers), 2 (structure), 4 (literature review), 6 (critical awareness), 9 (precision of language), 10 (economy of language), 12 (conclusion, synthesis), 13 (spelling, punctuation, syntax), and 14 (references). A fair degree of agreement is indicated for criterion 3 (conceptualisation of main issues). Low agreement is indicated for criterion 5 (new data), 8 (psychology content) and 11 (action orientation). The ratings for these latter were not characterised by high within-rater variance. High inter-rater agreement appears more likely in relation to criteria which focus on structural features of the text, and less likely on criteria which focus on the quality of thought within the assignment.

Staff/Peer Similarity of Semantic Content

On average, 52% of statements were zero rated, and 48% rated as having some shared semantic content (1 to 4). However, very few major clashes of opinion between peer and staff assessors were evident - only three out of 156 possible (12 assignments x 13 criteria in the analysis). Thus, the modest proportion of shared content reflected staff and peers focusing on different specific aspects or exemplars of the assignment, rather than disagreement about aspects on which both had focused. The data on zero rated items were not readily amenable to further analysis and interpretation.

Caution is needed in concluding that the degree of correspondence between staff and peer assessment varied according to the assignment assessed (and peer assessor associated with it) and the assessment criterion addressed, since the variation in the data in Table 5 might be partially attributable to variation between raters. However, it is worth noting that the staff assessors did not differ from each other in overall degree of agreement with the peer assessment - both staff assessors showed a range from high to low agreement across their six assessed assignments (staff assessor A: mean = 2.65, s.d. = 0.24; staff assessor B: mean = 2.61, s.d. = 0.33).

Aggregating ratings from both raters on assessment statements with semantic content common to both staff and peer assessors, the overall mean rating of similarity lies between "a little similarity" and "quite a lot of similarity", tending to the latter. Perhaps it is unsurprising that this mean should lie more or less in the middle of the four-point scale of similarity used.

There was some evidence that on average, the peer assessors gave more feedback statements than did the staff assessors. Staff comments showed a relative tendency to be global, while peer comments could be more particular and detailed, mentioning more specific examples. Whether this could still be expected if the peer assessor had more than one assignment to assess, or if peer assessment was a more regular and routine commitment, is another question. Presumably staff comments are likely to set the assessed assignment in the context of the overall development of the student during the course and the standard all students are expected to eventually reach, while this would be less likely for peer assessors. Interestingly, peer assessors tended to be more critical of completeness and layout of references than staff assessors.

Follow-up Process and Outcomes Questionnaire

Given the small numbers, responses to the Peer Assessment Follow-up Questionnaire will be reported discursively rather than in tabular form. Proportionality should be self-evident. Frequencies are given in brackets. Some participants did not respond to every question, and this should be evident from the text and frequencies.

Process Behaviours

Assessors reported reading their partner's report between three and four times on average (mean 3.46, range 2-6). This was felt necessary to achieve adequate familiarity, several assessors reading once for overall impressions, a second time for more detailed scrutiny and a third or fourth time for conscious and consistent application of the assessment criteria. Two assessors also reported a final reading to check their draft written assessment.

Half of the assessors read their own report again as well, before the peer assessment to practise using the assessment criteria and to give a calibrated baseline (1), or after to check it against the peer assessment (2), to apply the criteria used on the peer report to their own work (1), or to compare their own work with that of the peer (1). Those who did not do this stated that their own report was of a different type and thus of doubtful relevance (2), that they did not think this necessary (2), that they could remember their own report (1), that they did not have the time (1), and that this was not possible as their peer assessor had the only copy (1). However, there is evidence here of peer assessment spontaneously stimulating self assessment.

All assessors reported reading their peer's report while looking at the assessment criteria, and the half who read their own report again as well all also did this while looking at the assessment criteria. All assessors reported discussing their peer's report face to face with them, mostly both before and after completing the written assessment form (7), or only before (4), but rarely only after (1). All assessors reported drafting their written assessment comments before finalising them, either before discussion with their partner (5), after (2) or both (4). Most of the trainees felt the time spent in the peer assessment exercise was "about right" (9), while three felt it was too much (although how "about right" was construed in this context is not certain).

Process Feelings

Five of the trainees reported finding the exercise unequivocally intellectually challenging, while four said they found it a little challenging and three not at all. However, all trainees reported a degree of socio-emotional discomfort, either unequivocally (5), or "a little" (7). The majority (9) reported feeling better after completion ("same" = 3), but the implication of "feeling better" is uncertain, and this might merely have reflected relief rather than adaptation.

Other reported feelings were that the content assessed was useful and interesting (2), that the exercise focused the assessor on their own next report (1), that it focused the assessor on searching for positives (1), that it was very constructive and actually brought people closer together (1), that it was useful to look closely at another's work (1), and that the discussion was enjoyed (1). Less positively, individuals said that a lot more time was needed to do it effectively (2), that the assessor felt pressured to accord the work value it deserved (1), that the assessor was busy and wanted to get it over with (1), and that the group had a positive ethos which made criticism difficult (1).

Comments about ways of reducing discomfort included several variants (4) of a request for graduated experience and/or training prior to such an exercise, perhaps involving anonymous reports initially, although it was acknowledged that might prevent face to face discussion which was of great value (1), and would take more time (1). Another assessor proposed focusing only on positive aspects. Although five trainees felt they would experience less discomfort carrying out peer assessment for a second time, another five felt it would be just as bad, perhaps improved by the prospect of having the same partner (1), but worsened if their own or their partner's report proved particularly poor (1).

Process Evaluation

Eight trainees did not think the pair matching could be done better, while two were uncertain. Two felt choosing your own partner might be better, (although the logistical difficulties of this were acknowledged). One trainee felt same topic area pairing would be better, while another felt cross topic area pairing would be better. Eight trainees reported using the +/-/0 flagging convention, while four did not, (three of these feeling it added nothing and one omitting to do so owing to failure to read the instructions properly). One trainee felt the flagging helped by forcing the assessor to be critical. In fact, the flagging had been introduced largely for research purposes, but one trainee noted that it was dangerous to assume the flags were of equal weight.

Difficulties with the layout of the assessment form were reported by three trainees, no difficulties by five. Some felt there was not enough space for general overall comments, although the form had been provided electronically and was spatially adaptable. Several difficulties with particular assessment criteria were reported, especially originality of thought (8), and to a lesser extent critical awareness (3), literature review (3), discrimination between precision and economy of language (3), psychology content (2), action orientation (1), and conclusion/synthesis (1). Suggestions for additional criteria were not requested, but in retrospect this might well have proved interesting.

The main factors considered potentially to have impaired the reliability and validity of the peer assessment were inexperience of the process (8) and lack of topic knowledge (7). Regarding the latter, one trainee accordingly proposed same topic area pair matching, but acknowledged that formative impact on that topic for the assessor would then be impossible. Three trainees mentioned the possibility of bias stemming from knowing the assessee personally, and three their lack of precision and clarity on terminology and criteria. In cross topic area pairs, knowing you were shortly to produce your own work on same topic could have a biasing effect (1), as could lack of time (1).

Outcomes

Ten trainees felt the exercise was an effective way of helping them reflect upon and improve their own upcoming academic report, while two did not. Ten trainees felt that acting as an assessor was an effective way of learning content which was new and important to them, while one did not. Nine felt that acting as an assessor had helped develop transferable skills which would generalise to their own future writing, while one did not and two were uncertain (one of the latter wisely commenting that this was an empirical question). Two trainees reported help in developing a more critical stance, and four different ideas about structure and organisation. Greater awareness of the reader's perspective and other writing styles were also mentioned (1 each). Nine trainees similarly felt they had gained from acting as an assessee, while one did not and two did not reply. In some cases, the opportunity

for more focused discussion & reflection (3) was said to have led to an increased understanding of strengths and weaknesses of their own report (1).

Few trainees (2) could think of other, perhaps less time-consuming or more comfortable, methods which would have had the same effect. Again, graduated training and/or experience was proposed, perhaps involving several steps (perhaps from peer assessment as a group exercise on a neutral report, to individual assessment of a neutral report, to reciprocal peer assessment in private by discussion only, to the present form). Group and individual discussion were considered valuable (2), as was practice on neutral reports of other origin (1), but more comfortable ways would be more time consuming (1).

Opinions were divided on the useful of conducting a similar peer assessment exercise again during the course, five saying no, six saying yes, and one saying yes but less formally. Early in the second year was the favoured time for a second similar peer assessment exercise. Peer assessment of writing could focus on academic reports (1), research dissertations (1), or psychological reports written in practical placements (1). Two trainees felt peer assessment would be much more useful when academic reports were in draft, although it was acknowledged that time constraints and meeting deadlines would then be a problem (1). The abandonment of the flagging convention (1) and keeping feedback private from staff tutors (1) were also suggested.

Six trainees expressed interest in trying peer assessment in other aspects of the course (e.g. presentation skills), while four did not. Video recording presentations to facilitate feedback was suggested (2), as was small group discussion (2), a stepwise introductory training experience (1), feedback in private (1), and the application of assessment procedures to visiting speakers (1). The questionnaire responses of the pair who wrote on the same topic were very little different from the responses of the other pairs who did not.

Discussion and Conclusions

This study explored the reliability and validity of pairwise and reciprocal qualitative elaborated formative peer assessment in the area of academic writing, using given assessment criteria. The subjective views of the students regarding the acceptability of the procedure and formative impact of participation as both assessor and assessee were also gathered.

Unsurprisingly, reliability and validity were found to depend somewhat on the level of analysis. Previous studies had found high agreement between peers and staff when simply awarding overall quantitative marks to written work. In this study, high inter-rater reliability was found in judging whether written qualitative feedback from peers or staff was positive, negative, or neutral.

Overall, staff and peer assessments showed a very similar balance between positive and negative statements. Although peer assessment feedback tended to be slightly more positive than that from staff, this varied on different assessment criteria. Peers were less likely to be critical of the critical awareness shown by the writer, textual structure, and spelling, punctuation and syntax, and tended to avoid commenting on originality. The two staff assessors showed a similar level of agreement with peer assessments, and made equal numbers of positive comments, but one made more negative comments than the other.

However, at the level of analysis of detailed semantic content, inter-rater reliability was relatively high for assessment criteria concerned with structural features of the text, but lower for others (such as "quality of new data", "psychological content", and "action orientation. Inter-rater reliability was adequate for comments made by both peers and staff and by peers alone, but not for those made by staff alone.

Only half of all formative assessment statements made showed some degree of correspondence between staff and peers. However, there was very little evidence of conflict between the statements made by staff only or peers only - rather, they focused on different details.

Subjective feedback from the students indicated that a substantial majority found the peer assessment process time consuming, intellectually challenging and socially uncomfortable, but effective in improving the quality of their own subsequent written work and developing other transferable skills. Gains accrued from acting as assessor and from acting as assessee, but given that the peer assessment was reciprocal and all participants operated in both roles, making this distinction was probably difficult. Peer assessment had spontaneously prompted self assessment in half of the trainees. This feedback suggested that the key mechanisms were increased time on task, engagement and practice, together with the inherent pressure to scrutinise, clarify and functionally apply the assessment criteria, coupled with the deployment of interpersonal communication and negotiation skills.

Although affected by the level of analysis, the reliability and validity of qualitative formative elaborated peer assessment in academic writing appeared adequate in this study. The partiality of overlap between the semantic detail of staff and peer assessments suggests that the triangulation peer assessment offers (together with staff and self-assessment) was likely to add value. However, extreme caution was indicated regarding the generalisation of this finding to other types of peer assessment and other types of student group and course.

Action Implications

The trainees themselves pointed out that replicability and generalisation of these findings were problematic, since they were a small and highly cohesive group confident that all had passed the Academic Report under assessment and would pass the whole course, virtually free of competition and sophisticated in positive interaction. They also noted the crudity of the quantitative aspects of the procedure for comparing assessments, in particular the subtractive measure of overall positivity. Many methodological flaws were evident, but identifying viable alternatives was difficult.

The difficulty of conducting the qualitative analysis of similarity of semantic content raises questions about what students are likely to read into written feedback, even when of relatively high quality, well structured, and substantial in quantity. The assessed student might be less likely to extract the sense intended by the writer than researchers striving for objectivity. In the course which was the basis for this study, students have the opportunity to discuss written feedback on academic assignments, but tend not to take it up very often.

However, the trainees felt that traditional quantitative marking would be greatly inferior, and in this context, some questioned the reliability, validity and usefulness of the quasi-quantitative flagging convention for onward practical purposes. Generally, the trainees felt that the peer assessment exercise was worthwhile, and led to a heightened awareness of the assessment criteria. They also remarked positively on the finding that the written peer assessment feedback tended to be more detailed than that from staff. Given the uncertain reliability and validity of a qualitative assessment process, triangulation was important, and peer assessment coupled with rotation of staff assessors could provide this.

The trainees felt it was difficult to explore the acceptability of the exercise when it was presented as compulsory, which might have shaped the nature of trainee input. Preparation for "live" peer assessment by practising on anonymous academic reports from previous

cohorts of students could be useful desensitisation and training. This could yield early clarification of assessment criteria which were particularly unclear or problematic.

The staff contended that the peer assessment exercise also gave the trainees live practice of transferable interpersonal and professional skills in relation to the collaborative process, which is rarely without its difficulties. This could and should transfer into subsequent professional employment, and field supervisors of practical placements could also engage in this process. Briefing regarding academic report assessment criteria was built into the induction process at the start of the course for these trainees, but clearly continuing interactive discussion in relation to subsequent experience was also necessary. Staff also felt that peer assessment of written work could lead into peer assessment of other outputs, such as portfolios and presentations (both of which are also major components of the course under study).

The extent to which this compulsory exercise led to informal peer assessment of subsequent reports in draft form was not explored, but this would clearly be desirable - and less threatening than peer assessment of final drafts by peer assessors allocated at random by staff. The problem of finding time to undertake such developmental work in a crowded curriculum and busy timetable is of course a perennial one - the usual conflict between breadth and depth.

Nevertheless, a hierarchy of activities for peer assessment (PA) of academic writing might include:

- Induction briefing from staff reassessment criteria
- First written qualitative staff assessment feedback
- Compulsory one to one discussion with staff of this assessment
- Option to discuss all subsequent written feedback with staff
- Small group discussion of assessment criteria
- Group oral PA on anonymous written work of previous students
- Individual written PA on work of previous students
- Compulsory paired PA of current drafts by peers selected by staff
- Same-topic peer matching before cross-topic matching
- Focus on positives only, or positives and negatives
- PA feedback oral, written, or both, by student preference
- Compulsory paired PA of final versions by peers selected by staff
- Focus on positives and negatives compulsory
- PA feedback both oral and written compulsory
- Rotate staff and peer assessors
- Monitoring of reliability/validity of staff/peer assessments
- Feedback re monitoring to students
- Further discussion of monitoring feedback
- Consider substitutional PA only after supplementary PA proven
- Informal self-selected PA of drafts of subsequent reports
- Consider PA of other outputs, e.g. portfolios, presentations
- Discussion of generalisation of PA to professional employment.

Peer assessment in higher education is becoming a mainstream idea, but needs further development and evaluation, together with dissemination of results and methodologies widely to practitioners. For this latter, it is important that durable, cost-effective methods are identified requiring low innovation thresholds, which have the potential to be implemented on a large scale. However, the trainees in this study strongly suggested that small pilot projects be undertaken first, careful consideration be given to potential social

and time allocation difficulties, and that subsequently the effectiveness of organisational arrangements is carefully monitored.

References

Double, K. S., McGrane, J. A., & Hopfenbeck, T. N. (2020). The impact of peer assessment on academic performance: A meta-analysis of control group studies. *Educational Psychology Review, 32*, 481–509. https://doi.org/10.1007/s10648-019-09510-3

Li, H. L., Xiong, Y., Hunter, C. V., Guo, X. Y. & Tywoniw, R. (2020). Does peer assessment promote student learning? A meta-analysis. *Assessment & Evaluation in Higher Education, 45*(2), 193-211. doi: 10.1080/02602938.2019.1620679

Topping, K. J. (1998). Peer assessment between students in college and university. *Review of Educational Research, 68*(3), 249-267. https://doi.org/10.3102/0034654306800

Topping, K. J. & Ehly, S. W. (2001). Peer assisted learning: A framework for consultation. *Journal of Educational and Psychological Consultation, 12*(2), 113-132. https://doi.org/10.1207/S1532768XJEPC1202_03

Topping, K. J. (2018). Using peer assessment to inspire reflection and learning. MacMillan, J. H. (Ed.). *Student assessment for educators series.* Routledge. Retrieved from www.routledge.com/9780815367659 (also in translation in Chinese by Zhejiang University Press).

Appendix 1

ACADEMIC REPORT ASSESSMENT FORM

Author: Year: Term:

Date Received: Date Assessed: Assessed By:

Title:

CRITERIA:

(Make at least one qualitative comment under each criteria heading. Prefix comments with + (indicating comment on aspect adding value to the work), - (aspect detracting value from the work), 0 (neutral comment). Avoid soggy blandness stemming from trying to be nice - vacuous feedback bunched around the median helps no-one.)

1 Advance Organisers (Abstract, Contents)

2 Structure (Headings, Paragraphs)

3 Clear Conceptualisation of Main Issues

4 Literature Review

5 New Data (Type, Range, Quality)

6 Critical Awareness

7 Originality of Thought

8 Psychology Content

9 Precision of Language

10 Economy of Language

11 Action Orientation

12 Conclusion/Synthesis

13 Spelling, Punctuation, Syntax,

14 References

15 Conclusion & Pass/Fail

Signed: _____ (Assessor)

(Copy to Course Director)

Appendix 2

PEER ASSESSMENT OF ACADEMIC REPORT: FOLLOW-UP QUESTIONNAIRE

Your Name _____   Please add longer comments on another sheet

PROCESS BEHAVIOURS

1   How many times did you read your peer's report?   _____

1a Why this number? _____

2   Did you read your own again as well? Yes / No

2a Why/why not? _____

3 While looking at criteria on the Evaluation Form?   1 / 2 / Both

4   Did you discuss your peer's report face to face with them?   Y / N

4a Before or after completing the Evaluation Form?   B / A / Both / NA

5   Did you draft your written comments before finalising?   Y / N

5a Before or after discussing with your partner?   B / A / Both

6   Was the time you spent: Too much / too little / About right?

PROCESS FEELINGS

Did you find the PA exercise:

7   Intellectually challenging?   Y / N / A little

8   Socio-emotionally uncomfortable?   Y / N / A little

9   After completion, did you feel worse, better, same?   W / B / S

9a Any other feelings you had about it?

10 Can you think of any ways to reduce the discomfort?

11 Would you feel less discomfort doing it for a second time?   Y / N

PROCESS EVALUATION

12 Could the pair matching be done better?   Y / N

12a How? _____

13 Did you use the +/-/0 flagging convention?   Y / N

13a If not, why not? _____

14 Did you have any difficulties with the layout of the evaluation form?   Yes / No?

If Yes, please list them, and indicate how to improve the form:

a

b

c

15 Were there any assessment criteria with which you had particular difficulty? Please list them and note the nature of the difficulty:

a

b

c

16 What three main factors do you think might have impaired the reliability and validity of your assessment? Please list them:

a

b

c

OUTCOMES

17 As an assessor, was the PA exercise an effective way of learning content which was new and important to you?   Y / N

18 As an assessor, was the PA exercise an effective way of helping you reflect upon and improve your own upcoming academic report?   Y / N

19 As an assessor, do you think you have developed transferable skills from the PA exercise which will generalise to other future writing?   Y / N

19a If yes, what were they? _____

20 Did you gain from being an assessee?   Y / N

20a What? _____

21 Can you think of other, perhaps less time-consuming or more comfortable methods which would have had the same effect? Y / N

21a If Yes, please name them:

22 Would it be useful for you to do this again during the course?   Y / N

22a If yes, when?

   _____

22b on any particular topic(s)?

   _____

22c If yes, with any changes? Please specify them or refer above:

23 Would you wish to try PA in other aspects of the course, e.g. presentation skills?

Y / N

23a Please specify aspect/s:

   _____

24 Any other comments or suggestions, please:

Cooperative Learning and the Catholic Faith

Aidan R. Rooney

Executive Vice President for Mission, St. John's University, Newman 319A, 8000 Utopia Parkway Jamaica, NY 11439, USA
ORCID: 0009-0008-9774-8483

Paul Vermette

Professor Emeritus, Niagara University, Niagara University, NY 14109, USA
ORCID: 0009-0005-6411-4562

Neil Davidson

Professor Emeritus, University of Maryland, College Park, MD 20742, USA
ORCID: 0000-0001-7014-215X

Cooperative learning (CL) is an educational methodology developed in a secular milieu, yet has strong roots in Western, Catholic, Christian beliefs and affinity with Vincentian (after St. Vincent de Paul) beliefs and expectations about our relationships with the impoverished of all kinds. Recognizing this truth can create a sense of the familiar among CL practitioners and their larger communities. It also places emphasis on the moral and practical aspects of CL in perspective. What is more, culturally, we know that it "feels right" to work with diverse others respectfully and that we are all ultimately engaging in a common project. Using Cooperative Learning turns these beliefs and human intuitions into a daily reality. Cooperative learning research has shown distinct advantages in its application in secular education. These advantages can translate into the realm of Catholic education because the values and practices of cooperative learning are compatible with Catholic education.

Keywords: *Cooperative learning; Catholic Education; Collaboration; Catholic Social Teaching;*

Introduction

Cooperative learning is an educational methodology developed in the secular world. Its roots are in the fields of educational philosophy (Dewey, 1916), constructivism (Vygotsky, 1934, 2012), sociology (Cohen, 1986), and social psychology (with several authors given below). Cooperative learning research has shown distinct advantages in its application in secular education.

Might these advantages translate into the realm of Catholic education? Are the values and practices of cooperative learning compatible with Catholic education? Before addressing these questions, we provide a brief explanation of the nature of cooperative learning and its supporting research.

Cooperative learning

"*My humanity is bound up in yours, for we can only be human together.*" (Desmond Tutu)

Being human together is at the heart of cooperative learning (CL) as we recognize people need each other to achieve shared goals that no one person can accomplish alone. In cooperative learning, students work together in small groups in a cooperative, mutually supportive manner to learn academic content by accomplishing learning tasks or goals. While doing so, they develop skills in cooperation, teamwork, and conflict resolution.

A teacher using cooperative learning plays an active but not a dominant role. S/he introduces new material for group exploration. S/he circulates among the groups, providing academic or social assistance as needed. The teacher provides academic and social leadership more as a guide on the side than as a "sage on the stage."

The field of cooperative learning has been developed over the past fifty years. CL has been used successfully with all subject areas and all age groups from kindergarten through graduate school.

Empirical research on CL in education and other disciplines provides an abundance of evidence confirming the numerous ways that people benefit from participating in cooperative endeavors. Specifically, mutual group goals defined by *positive interdependence*—essentially, "*I need you and you need me*"—motivate interpersonal processes that consistently enhance CL outcomes in three broad areas, including (a) achievement and productivity, (b) positive relationships, and (c) psychological well-being. These areas of positive impact encompass a wide variety of benefits such as greater commitment and persistence to achieve, increased academic success and retention of learning, enhanced creativity and problem-solving, higher-order reasoning and critical thinking, more time on task and affirmative attitudes toward tasks, enhanced peer relations and liking of teammates, greater ability to engage in social perspective taking and cope with adversity, and enhanced psychosocial development and social-emotional competence that affect personal well-being (Johnson & Johnson, 2017).

Indeed, numerous positive effects of CL have been demonstrated in more than a thousand research studies around the world. Early extensive research reviews were conducted by Johnson and Johnson (1974, 1989), Sharan (1980, 1990), and Slavin (1980, 1990). Since then, research evidence on a wide variety of factors has continued to accumulate and additional (more recent) reviews on the effectiveness of CL have been published, such as those by Gillies (2014) and Kyndt, et al. (2013).

For a comprehensive view of the field of CL, see the volume entitled *Pioneering Perspectives in Cooperative Learning* edited by Davidson (2021). This volume contains chapters on and mostly by the early originators of CL, providing their unique perspectives. The book presents each of the original CL approaches along with their theoretical foundations, research bases, and classroom procedures. The historical development of CL emerges as the originators describe their approaches to CL, reflect on developments, reveal personal stories, and share anecdotes about their work. A second recent major book entitled "Contemporary Global Perspectives on Cooperative Learning" is edited by

Gillies, Millis, and Davidson (2023). It presents recent research on CL by authors in 16 different countries.

In 2020, the Network for Cooperative Learning Educators and Enthusiasts (NICLEE) was born, launching a new virtual forum devoted to CL, readily accessible around the world via its website (https://2020niclee.com/). **NICLEE — an acronym** pronounced "nicely" in English — is intended to evoke images of people everywhere gathering in this virtual space to enjoy friendly, inclusive, supportive, inquisitive interactions on issues, policies, practices, and resources relevant to CL. Simply expressed, the purpose of NICLEE is to connect, support, and sustain CL efforts and innovations worldwide. Further description of NICLEE can be found in an article by Arato, Davidson, Stevahn, and Sharan (2023). (A brief excerpt from the article is included in this Introduction.)

Project on religious and spiritual roots of CL

After fifty-plus years of secular engagement with cooperative learning, Neil finally realized that the key concepts and values of CL have underlying roots in spiritual and religious traditions around the world. To explore this notion, we are assembling a small team of authors who each have some enthusiasm for cooperative practices and personal knowledge of a particular religious or spiritual tradition. The goal is to write a series of articles on the spiritual/religious roots of CL (which might later comprise an edited volume). The traditions would include but not be limited to: Christianity (e.g. Catholicism, Society of Friends, United Church of Christ,); Unitarian/Universalism, Judaism, Buddhism, Hinduism, Johrei, Bahai, Islam, Native American.

To get started with this piece on the spiritual roots of CL, we can look for pertinent quotations including spiritual, ethical, or moral precepts in varied religious or spiritual traditions. We can search for quotes using keywords aligned with cooperation. Here is a starter list of pertinent words. Please feel free to add to it.

- Cooperation, Collaboration, Working together, Interdependence, Mutual support
- Social skills, Teamwork skills
- Equity, Diversity, Social justice
- Peace, Dialogue, Conflict resolution
- Caring, Compassion, Friendship or friendliness, Love

This current paper on cooperative learning and Catholicism is the first of a series on the spiritual/religious roots of CL. In what follows, Aidan and Paul examine Scripture and Catholic theological doctrine to develop their analysis of the connection between CL and the Catholic faith.

Paul and Aidan were longtime colleagues at Niagara University. Over the years they have taught together, learned together, analyzed societal problems together and now bring two perspectives to the question of connecting CL with Christian, Catholic & Vincentian thought. Rooney is a member of the Congregation of the Mission of St. Vincent de Paul (the "Vincentians"), a Roman Catholic priest and now the Executive Vice President for Mission at St. John's University in New York City. Vermette is a retired secondary teacher educator and CL scholar from Niagara, who has studied various aspects of CL such as its cognitive benefits, its connection to Social and Emotional Learning (SEL), and its impacts on issues of diversity, equity and inclusivity and now, its religious underpinnings. As part of their work on this offering, they spent hours discussing the issues the reader will find here, and

we are using Rooney's expertise to capture Western (largely Roman) Catholic Thought and Vermette's expertise to capture CL Theory.

We have found tremendous moral, theological and religious connections between CL and Catholic thought, and have tried to offer a set of them in the space below. In short, we assert that the practice of CL is consistent with the Christian heritage; its beliefs and structures are embedded in cultural patterns that are familiar, accepted and expected.

The Backdrop: an overview of the role of the Roman Catholic Church since CE 1

To reflect on Christian traditions and the societal milieu in which Western cultural patterns and philosophical beliefs have developed, and which still hold today, one must recognize the following:

a) the Catholic Church is the root of a 2000-year Christian tradition of reflection on the relationship between faith and reason, or, in more secular language, between religious principles and human-serving practices;

b) the Jewish scriptures (called the "Old Testament" by Christians) and the New Testament of the Christian Bible provide the theological foundation of Christian belief, and was shaped in its current form in a particular Catholic culture and gave rise to a tradition of moral and ethical reflection during the first four centuries of the common era (C.E.) That pattern of influence has progressed through time and situations and finally emerged as a coherent system of the understanding of justice, and particularly social justice, called Catholic Social Teaching[1]. In the authors' shared experience, this system of reflection prompts concrete action in a manner conceptualized by St. Vincent de Paul, a 17th century priest-reformer, and offers a vision of enacting Christianity that is shared by millions world-wide.

c) Catholic practice, Catholic thought, and Catholic beliefs remain at the center of the thinking that emerged from Western European and American theory and reflective practice, along with the co-development of those traditions in the Orthodox Catholic church, an interaction with the philosophical reflection of medieval Jewish and Islamic thought, reactions to the developments of the Protestant Reformation 500 years ago, and finally, the powerful influence of the European Enlightenment.

d) well-known assertions drawn from the Bible and shared by Christians of all traditions have passed into common expressions of the English-speaking world as seen in examples such as "thy brother's keeper" (Genesis 4:9), "bear one another's burdens" (Galatians 6:2), and "do unto other as you would have them do unto you (Luke 6:31), and similar thoughts found in such stories as the Good Samaritan (Luke 10:25-37) and the criteria for judgment found in the twenty-fifth chapter of the Gospel of Matthew.

A clear, observable trajectory of moral thought about the nature of the human person and what is their "due" becomes clear. Following this trajectory of development seen in the above examples, from its roots in the dictates of the Jewish scriptures, through St. Paul's Letter to the Galatians and then in the Gospels of Luke and Matthew, something startling emerges for those who profess Christian faith. A moral code in which our individualities

---

1   For the most complete and authoritative treatment, see The Compendium of the Social Doctrine of the Church (2004), found at https://www.vatican.va/roman_curia/pontifical_councils/just-peace/documents/rc_pc_justpeace_doc_20060526_compendio-dott-soc_en.html

are measured by our actions toward our neighbors, becomes complemented by what the third story of the Matthean triptych (Matthew 25: 31-46) teaches: our responsibility to our neighbor is not simply a moral and ethical concern. It is an encounter with Christ. Catholicism, and by extension cultures with European roots and ties, has been built on messages of collaboration, community and equity, as well as the following of the moral dictates of what is seen by believers as God's word. But more so, it is imbued with a sense of reverence for the truest nature of the other.

Contemporary CL: Tenets of Cooperative Learning

Given that brief historical and sociological glimpse at Western culture & history since CE 1, let us briefly reflect on the basic tenets of Cooperative Learning, understanding that most readers have long digested these underlying structures and will find these tenets at least somewhat redundant. (see Davidson, 2022, for further elaboration on the common features of various manifestations of CL theory in operation).

It is our intent to use the rest of our article to more closely examine some of these tenets in light of Catholic beliefs.

1. Students function interdependently, generally in groups of size 2-4. They are not solitary individuals situated in a collective but are teams of interactive and responsive individuals.
2. Social interactions within the whole class and within the small groups are designed to follow those patterns of the mainstream expectations of the organization (school) and society (cultural norms). These expectations are consistent with commonly expected interpersonal and moral norms of the Euro-derived cultures, for example: showing respect to teachers and peers, cooperating with others, listening with attention, etc.
3. The norms mentioned in #2 above are expected, culturally relevant, and are taught and assessed in practice. They are aligned with the normalized cultural expectations of society and have a heavy "moral" basis, (as do societal laws).
4. A sense of community within the classroom is intentionally built and reinforced and reveals a structure in which each human being matters, and the dignity of personhood is inviable.
5. Leadership is found in these situations at both the level of student interaction, which is largely locally controlled, and at the adult responsibility level. In the latter, teachers own their responsibilities to instruct, inform, and assess actions. In the former, at the student level, leadership is situationally brought by students working in the teamed structure. Student leadership is a necessary factor in group success and generally follows an expectation of a "servant leadership" model (Greenleaf, 1979).

How does Cooperative Learning align with Catholic/Vincentian morality?

Question #1: How is the nature of the CL classroom reflective of Catholic traditions and beliefs?

1. The classroom is not simply made up of a large group of unconnected learners but is best seen as a small interdependent community, a series of potential networks of learners. The Church recognizes that the universe of souls conducts its daily business in much smaller communities, ones in which responsibilities to others is central.

Families, neighborhoods, cities, as well as organizations, friendships, and "clubs" all accept and attempt to follow what can be seen as a Christian pattern of fellowship, mutuality, and interpersonal interaction.

2. As such an entity, each student in the group has been recognized as worthy of respect AND seen as an important cog in the overall operation of the society. Human dignity is a major feature of Christian thought and its manifestations in both the classroom and the culture is recognized, valued and reinforced.

3. Learning activities in a CL class are often conducted in groups of size 2-4, where each must contribute and be supportive of others. For each one to be successful, all must be successful. Opportunities for face-to-face interaction must be plentiful, follow powerful protocols supporting respect, inclusivity and equity; and the affective and cognitive outcomes are perceived as belonging to the effort of all to help all. Once again, the notion of a bonded community offered by the Church is reflected in daily activities.

Question #2: Why should an individual (student) treat others with respect, care about them and work with them in a productive fashion?

1. The Catholic Church proclaims that there is an inalienable human dignity in every one of us and that we are morally obligated to treat others respectfully and to assist them. The contemporary educational commitment to diversity, equity and inclusion should take place at the level of a respectful and inclusive interaction within a group of students in a CL classroom.

2. We are in solidarity with others -- we cannot avoid this truth -- and therefore we "ought" to help them. This is a moral, rather than a civic, "ought": it is not simply a transactional practice, but an obligation derived from a consequent sense of duty that is consistent with Christian morality.

3. As a moral being, one has responsibilities to others and the promotion of the common good (which is the overriding principle of Catholic Social Teaching). One's actions are not simply his or her own, but part of a network of connected actions. The bumper sticker slogan reading "We are all in This Together" is literally, socially, emotionally, physically, and morally an inescapable TRUTH of what it means to be a human being in community at any level from local to global.

4. Others in one's group (students) may be "impoverished" in some way (lack of knowledge, lack of material goods, lack of social support, lack of drive or ability, lack of a sense of belonging and/or of self-respect). Associates (fellow students) are in a position to help rectify that situation. That is why the work of equity and inclusion is native to Catholic thought and NOT an importation from secular thought.

5. When directly asked, Fr. Rooney was blunt and clear: "Educational practices that are "moral" in the Catholic and Vincentian sense, are ones that (a) say YES to the dignity of the individual all the time (b) encourage collaborative and participatory action in contributing to the common good of the community and (c) which foster the rights and responsibilities of each person." These are consistent components of Cooperative Learning philosophy and theory and are deeply rooted in Christian morality.

Question #3: Why must learners work in groups?

1. While the (peer) community clearly affects individuals, the reverse is true as well: individuals affect society. A collaborative philosophy produces more positive outcomes than does either a competitive one or an individual approach. (A mountain

of research from Johnson & Johnson shows this: see, for example, Johnson & Johnson, (2009) for a comprehensive overview.) Moreover, these positive outcomes are both cognitive and affective in nature: CL makes smarter people who are also "better" people (Vermette & Kline, 2017).

2. Catholic Social Teaching insists on the principle of subsidiarity: that social decisions should be made (a) at the simplest level at which they have an effect (b) by those in association with each other and (c) that those decisions should be made by those who are impacted by the decisions. CL relies on both leadership and authority functioning at the group level in all that pertains to it as group.

3. Clearly, the global community is "heterogeneous" in nature, yet there is a Common Good that permeates aspects of each life on earth: we really are all in this together! The commonality of being human, makes us all equal: the Church says that we all equal in the eyes of God. (The USA as a political entity suggests that we are equal under the law and have inalienable rights given by the "Creator". This sense, drawn from Christian theology, is an enormously important cultural standard.) Thus, heterogeneity within a small team (of 4 students) is a way to turn human similarities into strengths while still allowing the many diversities amongst the learners to also become strengths and enrich the opportunities of each member to grow, to learn, to flourish and to embrace new relationships.

4. While it may seem obvious, we think one more point should be reinforced in this section. A command of Jesus is "love thy neighbor" and historically, reflecting on the parable of the Good Samaritan, the Church posits the widest answer to the question raised in the parable, "But who is my neighbor?" Cooperative Learning theory suggests that every classmate in a 3rd or 11th grade class is one's "neighbor"; we ask youngsters to work respectfully and care about these others not necessarily by choice but by duty. One cannot easily show love to a neighbor that s/he hasn't met, hasn't worked with in face-to-face interaction, and who only knows from a distance. Teachers should construct these groups purposefully, help students develop the skills to work effectively in pluralist structures, and expect that these in-class life experiences will produce positive benefits for each one involved. Imagine if our classroom activity was informed by the story of Cain and Abel (Genesis 4). The true answer to Abel's question "Am I my brother's keeper?" which, remember, is a question provoked by shame and results in Abel hiding from the very source of his life, is "Of course I am!" and an adequate CL response would be formed by a desire to love thy teammates, cherish thy teammates, appreciate thy teammates, or care for thy teammates, depending on what degree of caring students can accept. The goal in this scenario is to help a student overcome shame, or whatever is holding them back from full participation.

Question #4: Why should there be both individual and group accountability?

1. The Catholic faith revolves around an understanding that one is responsible and accountable for one's own behavior, decisions and intentions. Traditional schooling certainly aligns its standard accountability measures (i.e., grading practices) with that aspect of Christianity. Yet, the promise of this faith and the promise of Cooperative Learning Theory is that non-competitive collaboration is also a key part of the assessment of an individual. The good of the community requires contributions from its members: there is rarely (if ever) a chance to assess one's actions without reference to the good of the group. In competitive athletics, the entire team wins or loses together, while individual contributions are also noted.

2. "What you do for the least of these, you do to me (Matthew 25)" was a call by the Gospels for measuring an individual's "worth" as a person. The key concept here is the facilitation of contribution: while both the capitalist spirit and the narcissistic trends felt in modern society suggest otherwise, the cultural reality today is that one does have obligations to the larger community, and participation by all is the responsibility of those in power (in the classroom, this is the teacher).

3. Many students today are already members of "groups" built within schooling: sports teams, drama clubs, student governments, Honor Societies, Tech clubs, Future Teachers club, Junior Achievement groups etc. Parents, families and friends want students to be "in these groups" (not "on them") suggesting that they see growth opportunities and possibilities sparked by efforts within such organizations that would not otherwise appear. Moreover, in many ways these collective associations are rightly seen as promoting the common good. We ask, "if groups are seen as strengths with school, why not within classrooms?" Our answer is to use Cooperative Learning teams within the classroom for the same reasons we advocate for what are often called "extra-curricular activities.

4. Group accountability already exists in societal structures: students should learn that doing for others is also doing for self and develop their ability to see the inclusive nature of a sense of community. These lessons, moral in nature and promoted by Christian beliefs, are best learned in cooperative group work.

Question #5: What does leadership look like in the CL classroom?

We conceptualize leadership as "a set of moral actions taken by a person to involve others (1) in the completion of a desirable task or project, (2) in the meeting of a commonly held goal, (3) in the development of others' skills and/or knowledge or (4) in the promotion of the common good. Seen this way, we support a "servant leadership" approach, often associated with the scholarly work of John Greenleaf. Interestingly, Greenleaf himself saw Jesus as the epitome of a leader and his theory was developed using Jesus' pronouncements and behaviors as the framework for his adaptations to secular structures found in Business, Politics, and other organizations.

Servant leadership is found in the actions of both teachers and students in the CL classroom. Teachers have authority and responsibilities yet must work through the efforts of each student to reach their goals and to experience successes. Likewise, if students are persuaded to accept the notion that for "one to succeed all must succeed" -- as suggested by CL Theory -- then leadership is needed at the most local level, where the learning interactions take place. It will be eminently facilitative until collaboration and true partnership emerge as partnership. Leadership, as a contextual function inheres in each contributor. It is not rooted in individual personhood, a title or a social status but on the needs of a group at each particular juncture. Leadership is thus fluid, changes hands by the situation, and divided as needed. It is also self-critical. It asks constantly, "How well are we working together, and how well are we achieving our learning goals?" We cannot help but note that this can be seen as reflected in the earliest of Christian scriptures (see especially the First Letter to the Corinthians, Chapter 12. More on that below.): it is not limited to a few. This philosophical perspective is now intuitively pervasive in Euro-derived culture, has biblical roots, and is consistent with the importance of the individual's self-worth and human dignity and his or her duties to the rest of society.

In closing this section on which concentrates on leadership, we feel compelled to extend our discussion to understanding the active relationships that can be observed in CL situations. What emerges, in practice, a form of community. It manifests as partnership,

hence our earlier emphasis on collaboration and subsidiarity. While leadership, as activity, still functions in an ongoing group, some members may be perceived to be more influential/powerful than others. One's influence can vary depending on the task, how it is structured, the soundness of the ideas, and the clarity with which members express their ideas. Membership in a student team has a given expectation of equality that manifests itself across a variety of problems, task completions, and opportunities. Once again, the principle of subsidiarity applies: those closest to the situation (or solution) have both the opportunity to contribute and the responsibility to share ownership of the final product. When working in cooperative learning teams, power and obligations are diffused across all members. To summarize, leadership is no longer a personal trait, it is a function that may be exercised by a member, by exercising power (influence), and is facilitative rather than dominant.

Connecting Christianity to CL in a few selected words

While we admit that we may have tried to reduce Christian, Catholic, and Vincentian perspective to a few pages, we hope to have opened up an avenue for reflection and further inquiry in the reader. This perspective is the shared culture of the authors, and because of that, we affirm the same for many other religious traditions, and most certainly, the Abrahamic religions with whom our culture shares so much.

Educators know that much of effective schooling is (1) built on culturally relevant beliefs, (2) relies on moral norms for its operation, and (3) seeks both individual growth (affective and cognitive) and the promotion of the common good in its outcomes. We also know that formal use of Cooperative Learning is directly tied to these three factors. We also recognize that these factors are "baked into" the Western Christian heritage (the Eastern Christian tradition is another matter).

Instead of summarizing the path our brief journey and integrative examination has taken, we wish to consolidate a few of these ideas by offering some famous and well-known biblical passages that are aligned with effective CL practice.

The necessary contribution of all members of the community

For just as the body is one and has many members and all the members of the body, though many, are one body, so it with Christ. For one in Spirit, we are all baptized into body - Jews or Greeks, slaves or free - and all were made to drink of one Spirit. For the body does not consist of one member but of many. If the foot should say "Because I am not a hand, I do not belong to the body, that would not make me any less a part of the body. And if the ear should say, "Because I am not an eye, I do not belong to the body that would not make it any less a part of the body" (1 Corinthians 12: 12-27.)[2] Leadership is shared and requires full and intentional participation.

The sacredness of those we are teaching

He will separate people from one another as a shepherd separates the sheep from the goats. And he will place the sheep on his right, but the goats on the left. Then the King will say to those on his right, "Come, you who are blessed by my Father, inherit the Kingdom

---

2   All scripture citations are taken from the ESV® Study Bible (The Holy Bible, English Standard Version®), Copyright © 2008 by Crossway, a publishing ministry of Good News Publishers. Used by permission. All rights reserved.

prepared for you from the foundation of the world. For I was hungry and you gave me food. I was thirsty and you gave me drink. I was a stranger and you welcomed me. I was naked and you clothed me. I was sick and you visited me. I was in prison and you came to me." Then the righteous will answer him, saying, "Lord, when did we see you hungry and feed you or thirsty and give you a drink? And when did we see you sick or in prison and visit you? And the King will answer them, Truly, I say to you, as you did it to one of the least of these my brothers or sisters, you did it to me" (Matthew 25: 32a-40). Translated to a Cooperative Learning classroom, these encounters take on new, concrete meanings. I was thirsty for knowledge, and you gave me ideas. I was a stranger and you welcomed me. I was hopelessly stuck and you gave me a clue to get started. I was lost in confusion and you gave me a clear explanation. I was going in a wrong direction and you helped to correct my course and get me back on track.

The universality of human dignity

> *"Which of these three do you think was a neighbor to the man who fell into the hands of robbers?" The expert in the law replied, "The one who had mercy on him." Jesus told him, "Go and do likewise." (Luke 10: 36-37)"*

As we consider these principles through the prism of student-to-student interaction in a Cl classroom, we can easily recognize their applicability. Each of them reflects the "sacredness" of each learner. When we directly assist others, we are promoting Jesus's message and recognizing the divine in each other. So, then, what does it mean, as in the story of the Good Samaritan, to be someone who "showed mercy"? Truly, in the cooperative classroom where this awareness has developed and is in play, "Mercy and truth have met together;" (Psalms 85:10a) we have recognized the sacredness of the other and given them what reverence demands: the permission to become their best selves and to contribute that to a common effort, each student and teacher freeing the gifts of the other. As simple as it seems, from the Cooperative Learning perspective, showing "mercy" to a teammate could take many forms, including these specific (hypothetical) ones:

- 5th grader Rosalyn tells teammate Francis that it is ok that he messed up his part of the project and that everyone on the team will help him do better next time;
- 11th grader Jasmine offers to help an overloaded teammate, Harris, complete his section of the project. She tells him, "We are in this together. You are not alone here. Let me help now as I can and maybe you can help others in the future."
- First grader Seth kneels next to a crying partner, Ahmed, and tells him: "I feel sorry for you about your dog." Seth then begins crying as well and Ahmed offers him a Kleenex.
- 8th grader Margo is hugging her teammate, Linda. Margo whispers, "we all make mistakes…and you did apologize. I will walk with you to next period."

Cooperation for success

> "*As long as Moses held up his hands, the Israelites were winning, but whenever he lowered his hands, the Amalekites were winning. When Moses' hands grew tired, they took a stone and put it under him and he sat on it. Aaron and Hur held his hands up — one on one side, one on the other — so that his hands remained steady till sunset.*"
> (Exodus 17: 11-12)

From the Cooperative Learning perspective, "holding up one's teammates" is similar to the "showing mercy" items offered above. But this image answers the question, what do I do when my teammates are experiencing various types of exclusion that could be overcome by generosity of spirit, so that the whole team can keep "winning. Here we offer two additional, simple examples:

- 12th graders Jackson, Monroe and Neil *literally* step back to allow the fourth member of their team, Jacinta, to be in front of them where she receives the accolades from the school principal for their effort in designing a service project for the community.
- With the rest of the three student teams spread around the room, 3rd graders Lance and Audrey help their teammate Kendall leave his wheelchair and lift him on their shoulders so he can join in the signing of the song they created about the story they read.

In this next brief consideration, we have chosen several quotations from the contemporary servant of the impoverished, Saint (Mother) Teresa of Kolkata, to bring Catholic thinking into the late 20th century.

1. "The most terrible poverty is loneliness and the feeling of being unloved". We include this assertion for its timeliness. Today, childhood is a dangerous place for children. Gun violence is the leading cause of death among children in the US. Prescription and illegal drugs are staples of many communities (and schools). There are enormous amounts of anxiety, depression, entitlement, anomie, and fear. (Yes, Covid and remote learning have drastically changed childhood culture). Feeling isolated and alone and afraid is a terrible state of being when children of all ages need positive peer experiences, face-to-face interaction, and an emotionally safe space. Cooperative Learning classrooms offer hope against this type of poverty of the spirit. Building and sustaining positive relationships are both a process and a product of CL.
2. "I can do things you cannot; you can do things I cannot. Together, we can do great things". We see this quotation as obviously supportive of collaboration and teamwork. The very act of working together utilizes individual strengths to promote the common good and improve the quality of the product created. Teamwork calls for integrating diverse sets of skills owned by different contributors and makes a positive impact. All of us are smarter than any one of us.
3. "A life not lived for others is not a life." While egocentrism, narcissism, and selfishness seem to be increasingly common 21st-century American traits, youngsters need to experience and understand the importance of others and their obligations toward them. Freedom, a widely shared American value, is not license; it is embodied in the right to decide for oneself. However, that right is always tempered by limitations and by the common good, embedded in the lives of classmates and their

realities. No single student does their schooling independently of others, and "doing for others" and "living for others" enriches the individual experience and strengthens the social network. Children need to consider their actions in light of those of others and grant that interdependence is the real nature of the community.

Take a moment and examine the distinction between living *for* others and *with* others in the context of the Cooperative Classroom. The traditional classroom expects students to tolerate and handle the actions of others; those that they are *with*. The CL classroom expects students to promote, respect, assist and contribute to the well-being of the rest of the class community (and the team): this suggests that their actions are *for* the common good, *for* the others in their school lives. This certainly appears to the authors to be a substantial difference.

In a final consideration we wish the reader to hear several thoughts from Saint Vincent de Paul, the patron of Niagara University, his collaborator, Saint Louise de Marillac (both ecclesial reformers of 17th century France) and their "spiritual son", Antoine Frederic Ozanam, who founded the Society of St. Vincent de Paul as a twenty-year-old university student. They are our principal "Vincentian" link to Catholic, Christian beliefs. As noted above, we find direct connections between their words and the philosophical context that undergirds Cooperative Learning theory.

On Collaboration

If God were pleased to give his support and adaptation to each individual, what great union and advantages would this procure for the entire body because we would regard the interest of others as our own (Vincent De Paul).

On respecting the dignity of persons

All must be done with gentleness of heart and humility, as we consider the interests of those with whom we are working rather than our own (Louise de Marillac)

On the necessity of peaceful, loving means to all ends

The question which is agitating the world today is a social one. It is a struggle between those who have nothing and those who have too much. It is a violent clash of opulence and poverty which is shaking the ground under our feet. Our duty as Christians is to throw ourselves between these two camps in order to accomplish by love, what justice alone cannot do. (Antoine Frederic Ozanam).

Summary

In summary, as the reader now knows, the authors' collaborative journey has been going on for over a decade, but its highlight may be found in a March 2023 conversation between Vermette and Rooney in which Rooney summed up what the Vincentian conception of an ideal educational practice would look like by saying that such a practice would revolve around 3 factors:

1. the practice continuously says YES to the dignity of every person in the community;
2. in operation, the practice would encourage collaboration and participation amongst the learners;
3. the practice would consistently emphasize a mix of individual rights and responsibilities.

Clearly, modern Cooperative Learning Theory has strong roots in Catholic, Christian beliefs and affinity with Vincentian beliefs and expectations about our relationships with the impoverished of all kinds. Recognizing this truth creates a sense of the familiar amongst CL practitioners and their larger communities. It also places the emphasis on the "moral" AND "practical" aspects of CL in perspective: culturally, we know that it "feels right" to work with diverse others respectfully and that "we are all in this together". Using Cooperative Learning turns these cultural/biblical sayings into a daily reality. The theory and practice of Cooperative Learning are fully compatible with the Catholic faith.

References

Arató, F., Davidson, N., Stevahn, L., & Sharan, Y. (2023). Network of International Cooperative Learning Educators and Enthusiasts (NICLEE): Cultivating Global Connections. *Autonomy and Responsibility Journal of Educational Sciences*, *8*(1), 83–89. https://doi.org/10.15170/AR.2023.8.1.6.

Davidson, N. (Ed.) (2021). Pioneering perspectives in cooperative learning: Theory, research, and classroom practice for diverse approaches to CL. Routledge.

Dewey, J. (1916). Democracy and Education. Macmillan. (Republished by Collier, 1966).

Gillies, R. M. (2014). Developments in cooperative learning: Review of research. *Anales de Psicología, 30*(3). 792–801.

Gillies, R. M., Millis, B. & Davidson, N. (Eds.) (2023). *Contemporary Global Perspectives on Cooperative Learning. Applications Across Educational Contexts.* Routledge.

Greenleaf, R. (1979). *Teacher as Servant: A Parable.* Paulist Press.

Greenleaf, R. (1994). *The power of servant leadership.* Berrett-Koehler Publishers.

Johnson, D. W. & Johnson, F. P. (2017). Joining together: *Group theory and group skills (12th ed.).* Pearson.

Johnson, D. W. & Johnson, R. T. (1974). Instructional goal structure: Cooperative, competitive, or individualistic. *Review of Educational Research, 44*(2). 213–240.

Johnson, D. W. & Johnson, R. T. (1989). *Cooperation and competition: Theory and research.* Interaction Book Company.

Johnson, D.W. & Johnson, R.T. (2009). An educational psychology success story: Social Interdependence Theory and Cooperative Learning. *Educational Researcher, 38*(5). 365-379.

Kyndt, E., Raes, E., Lismont, B., Timmers, F., Cascallar, E. & Dochy, F. (2013). A meta-analysis of the effects of face-to-face cooperative learning. Do recent studies falsify or verify earlier findings? *Educational Research Review 10.* 133–149.

Sharan, S. (1980). Cooperative learning in small groups: Recent methods and effects on achievement, attitudes, and ethnic relations. *Review of Educational Research, 50*(2). 241–271.

Sharan, S. (1990). *Cooperative learning: Theory and research.* Praeger.

Slavin, R. E. (1980). Cooperative learning. *Review of Educational Research, 50*(2). 315–342.

Slavin, R. E. (1990). *Cooperative learning: Theory, research, and practice.* Prentice-Hall.

Vermette, P.J. & Kline, C.L. (2017). *Group work that works: Student collaboration for 21st century success.* Routledge.

Vygotsky, L. (1934, 2012). *Thought and language, (Revised ed.).* The MIT Press.

Analysis of the Degree of Cooperativity of a Primary Education Classroom Group in Catalonia (Spain)

Gemma Riera Romero

Universitat de Vic, Universitat Central de Catalunya, Spain
ORCID: 0000-0001-9332-4984

Integration is one of the key challenges facing educational systems as they strive to offer quality education that not only promotes academic progress but also fosters coexistence in an increasingly plural and diverse society. From this perspective, one of the most significant changes that must be made involves shifting the traditional role of the teacher as a mere transmitter of information and granting a leading role to students in their own teaching and learning process. In this context, the importance of cooperative learning methodology is highlighted. However, it is important to note that not all teamwork is truly cooperative. To determine the quality of cooperation, it is crucial to measure the degree of cooperativeness of teams. This degree refers to the effectiveness of teamwork, where the higher this degree, the more effective both the team and the work they carry out will be. Essentially, the degree of cooperativeness is evaluated considering two aspects: the frequency of teamwork and the quality of teamwork. The present research focuses on explaining the procedure for calculating the degree of cooperativeness, as well as presenting the instrument designed for this purpose. Additionally, the results of its application are presented, which were carried out with a group of male and female students in third and fourth year of primary education. This instrument is the result of various projects developed in the Research Group on Attention to Diversity (GRAD) at the University of Vic-Central University of Catalonia (Spain). The objective of this article is to present the analysis of the degree of cooperativeness of a primary education class group over two consecutive courses using an instrument (endorsed in subsequent studies, Pujolàs, 2009) with the purpose of identifying to what extent the students' work has the quality of being cooperative.

Keywords: *cooperative learning, degree of cooperativeness, inclusion*

Introduction

Reports issued by certain international entities, such as the United Nations (UN), in their publication entitled "The Convention on the Rights of Persons with Disabilities (CRPD) of 2019", have consistently highlighted the urgent need to improve two fundamental indicators concerning the quality of our national education system. These indicators focus on the effective inclusion of the most vulnerable and at-risk students, as well as the persistent issue of educational failure, which is clearly manifested through early dropout rates in educational and training pathways.

The urgency to improve inclusive policies has led to the development of reports by experts in the field, such as the work carried out by Echeita et al. (2019). These reports have underscored the pressing need to intensify inclusion policies in order to approach the inclusion standards adopted by nations in our environment, while also addressing certain educational practices that have proven to be less inclusive within our education system.

Thus, the educational institution, as one of the agents responsible for fostering and developing competencies in students, has been immersed in a process of reconfiguration to adapt to emerging challenges in contemporary society. One paradigmatic aspect of this transformation is the incorporation of active methodologies, which conceive the learning process as an active and dynamic experience, wherein the student assumes a central role as its protagonist, such as cooperative learning methodology (Juárez et al., 2019).

In contrast to modalities characterized by an individualistic and competitive orientation, the cooperative approach presents notable advantages (Pujolàs, 2008). This strategy promotes inclusion in terms of presence, participation, and progress, as evidenced by findings supported by previous research (Gaudet et al., 2010; Johnson et al., 2014; Poort et al., 2023).

Cooperative learning is an important tool for eliminating or minimizing barriers that limit the learning and participation of all students. Many students experience difficulties because their differences in teaching and learning processes are not taken into account. Various social groups, ethnicities, and cultures have different norms, values, beliefs, and behaviors, which are generally not part of the school culture, thus limiting their learning and participation possibilities, or leading to exclusion and discrimination (Ainscow and Booth, 2000).

Current research on cooperative learning also demonstrates advantages in improving problem-solving skills and challenges, while facilitating students' personal initiative and giving them greater control over their learning processes. Ultimately, this cooperative strategy promotes the development of metacognitive skills related to autonomous management of the learning process, allowing the transition from a conception of learning as an individual process to a model of situated and distributed learning (Cañabate i Colomer et al., 2020; Shpeizer, 2019).

This article aims to evaluate the degree of cooperativeness of a class team from a primary school in Catalonia when working in cooperative teams based on an educational program to incorporate cooperative learning in the classroom called "Programa CA/AC ("Cooperar per aprendre/Aprendre a cooperar")", developed by the GRAD (Research Group on Attention to Diversity) of the University of Vic-Central University of Catalonia.

The article is structured into different sections. In the first section, we revisit some conceptual aspects of cooperative learning and the degree of cooperativeness, as well as the main factors that, in our opinion and based on previous research results, identify a cooperative learning team that determines the degree of cooperativeness. In the second section, we present the research objectives, methodology used, as well as the procedure

and instrument for calculating the degree of cooperativeness of a team and/or class group. Finally, we present the results and discussion.

The theoretical Framework

The importance of cooperative learning in the teaching and learning process

Currently, we live in an increasingly pluralistic society, both socio-culturally and ethnically. Cooperative learning and teamwork are essential tools for addressing current educational and social challenges (Gillies, 2014), as they enable interaction based on differences towards better situations and respond to the diverse individual needs of different people and groups, along with other actions (Thurstone, et al., 2017). Cooperative learning is necessary in the classroom because there still exists a traditional school system based on teacher-centred learning, which directs students by establishing one-way communication with them. In this approach, knowledge comes solely from a single authoritative source on the subject being taught, without considering how students should assist each other in the teaching and learning process. Teachers require extensive training (Buchs & Butera, 2015) to create interactions among students so they can assist each other.

Cooperative Learning (CL), in particular, represents an active methodology in which students collaborate in small groups to enhance their knowledge acquisition process, while fostering the development of their social skills, promoting the inclusion of all participants, and contributing to reducing bullying situations (Abellán, 2019). However, although students participate in various teamwork activities during their education, these experiences alone do not guarantee the development of the necessary skills to effectively collaborate in group settings (Rodriguez-Sandovalet et al., 2010). Competence in teamwork is acquired through a process involving the acquisition of various skills, which is challenging to address if not planned systematically and transversely throughout the different courses that comprise an academic program. Additionally, it is essential for students to receive well-founded feedback on their performance in teamwork throughout this period (Martínez-Gómez & Marin-García, 2009).

Contributions from various authors demonstrate that cooperative learning is a methodology that positively impacts motivation to learn, intergroup relations, critical and creative thinking, and problem-solving, among other good practices (Balonche & Brody, 2017). Cooperative learning is a form of social organization of teaching and learning situations in which individuals establish positive interdependence and achieve their goals only if their peers do too (Onrubia & Mayordomo, 2015). People work together to maximise their own and each other's learning (Johnson et al., 1999). In this sense, cooperative learning is based on learning together as a team (Dillenbourg, 1999; Slavin, 2014). Cooperative work expands students' field of experience and improves their communication skills by training them to recognise others' viewpoints, enhancing teamwork skills, either to defend their own arguments or to change their minds if necessary.

Positive interdependence, where the achievement of group goals depends on the coordinated work that group members are capable of, is crucial. It involves designing tasks so that each group member is responsible for the learning of others, as no one possesses all the necessary information. According to Johnson et al., (1999), this interdependence is crucial as true cooperation cannot exist without it. To achieve this, Pujolàs (2009) suggests designing activities that allow everyone to contribute to the group's success and promote strong interdependence in roles, tasks, objectives, and outcomes.

Equitable and rotating role distribution is essential for everyone to practise and learn different functions, with each member's responsibility being key to the team's smooth functioning. Task interdependence involves dividing the material among members, requiring each to master their part and explain it to the group. This structure significantly enhances intrinsic motivation, as everyone feels useful, regardless of their level of knowledge. Positive interdependence is considered the core of cooperative learning (Johnson et al., 1999). Face-to-face interaction is deemed a more relevant factor than positive interdependence for achieving good results in cooperative learning. According to Gillies (2003a, 2003b), this type of interaction gives students the opportunity to engage in discussions in small groups, enabling them to learn to interpret non-verbal language, respond to social cues, and participate in the task more effectively.

Individual responsibility in cooperative learning is of utmost importance to avoid the risk of some students taking advantage of others. To mitigate this risk, it is essential to design tasks so that all group members share responsibility for the final outcome and improve their achievements (Alghamdi & Gillies, 2013).

Students must also learn social and interpersonal skills for proper leadership development, decision-making, fostering a climate of trust, communication, and conflict resolution, although it is also true that these skills are learned through cooperation (Gillies 2003a, 2003b, 2004, 2006, 2007). Group and individual self-assessment are essential for individual and group reflection and decision-making for improvement (Buchs et al., 2017). Equitable participation and equal opportunities for success are important for advancing their learning and contributing to their ultimate success (Kagan, 1992).

It is worth noting the heterogeneity in group formation, in terms of gender diversity, skills, and cultural background, among others. This is based on the heterogeneity of society, as each individual will bring different experiences and perspectives to the group. These elements and their characteristics can be a starting point for obtaining criteria to analyse and measure the degree of cooperation.

The quality of teamwork

The degree of cooperation of a collective (team or class group) indicates to what extent this collective possesses the quality (the attribute) of being cooperative and to what extent it achieves or accomplishes what is expected of it by virtue of being cooperative. It allows us to determine, in relation to other collectives, whether the work it performs is of higher quality or not, depending on whether it exceeds or falls below the average degree of cooperation of a set of different collectives. The degree of cooperation, therefore, refers to the effectiveness of teamwork: the higher the degree of cooperation, the more effective the team and the work it performs, and the greater the benefits obtained from teamwork due to having the quality of being cooperative (Pujolàs, 2008).

The quality index, in turn, numerically indicates to what extent a team possesses the quality of being cooperative, whether the factors that make it truly cooperative are present to a greater or lesser degree. However, for teamwork to be truly cooperative, the time during which students work cooperatively is also important.

Therefore, if we are interested in analyzing teamwork within a class group to relate this teamwork to the potential benefits of cooperative learning, we must consider two levels of analysis: a quantitative level (the amount of time dedicated to teamwork) and a qualitative level (the quality of the teamwork performed).

The degree of cooperation of a team or class group, therefore, depends on the amount of time they have been working as a team and the quality index of the teamwork they perform.

Key Factors of a Cooperative Team

Based on the contributions of Johnson and Johnson (1997) and Johnson, Johnson, and Holubec (2013), as well as Kagan (2009), we have identified the factors that characterize a cooperative learning team, also described by Pujolàs (2008). These are:

- Positive interdependence: Positive interdependence of goals, positive interdependence of tasks, positive interdependence of resources, positive interdependence of roles.
- Equal opportunities.
- Simultaneous face-to-face interaction.
- Individual responsibility.
- Self-assessment and goal setting for improvement.

If we ensure the development of these factors, the results of cooperative learning can be classified into three different categories. The first category refers to the development of effort to achieve a common good. This category includes superior performance by all students and greater productivity, leading to higher intrinsic motivation, better long-term memory, motivation to achieve high performance, more time devoted to tasks, a higher level of reasoning, and critical thinking. The second category includes the development of social skills for teamwork and positive appreciation of diversity, as well as greater team cohesion. The third and final category refers to improvement in increased team spirit, strong and committed relationships, personal and school support, positive evaluation of diversity, and cohesion.

Each of these factors is associated with a counterfactor, whose presence, instead of increasing quality and, therefore, the effectiveness of teamwork, reduces it, and as a result, its effectiveness as well.

Therefore, the degree of cooperation of a team indicates to what extent a team possesses the quality (the attribute) of being cooperative and to what extent it achieves what is expected of it as a result of being cooperative. It allows us to know in relation to other teams whether the work they perform is of higher quality or not, depending on whether it exceeds or does not exceed the average degree of cooperation of a set of different teams. The degree of cooperation refers to the effectiveness of teamwork: the higher the degree of cooperation, the more effective the team and the work it performs, and the greater the benefits obtained from teamwork due to having the quality of being cooperative (Pujolàs, 2008).

On the other hand, the quality index numerically indicates to what extent a team has the quality of being cooperative. It will be more or less cooperative if the factors that give it this quality are present in it to a greater or lesser degree, which means that it is a more or less cooperative team. In other words, it depends on the factors that make it more or less effective in achieving what is expected of it as a result of having the quality of being cooperative. The quality index refers to the quality of the team itself: a high-quality index means that a team has a higher degree of cooperation. However, if the work produced by this team is effective (which is equivalent to saying that this team has a high degree of cooperation) also depends, as we will see later, on the time dedicated to teamwork, not just on the quality of the team itself (that is, it does not depend solely on having a high-quality index).

To calculate this quality index, we have focused on the following cooperation factors (or factors of quality of a cooperative learning team), which will be described in more detail later:

- Positive interdependence of goals.
- Positive interdependence of roles.
- Positive interdependence of tasks.
- Stimulating face-to-face interaction.
- Social skills for group work.
- Team self-assessment and goal setting for improvement.

Each of these factors can have an associated counterfactor, whose presence, instead of increasing quality, decreases it, and therefore reduces its effectiveness. It is one thing for a team to be more or less organized (it will be if there is positive interdependence of roles and tasks among its members), and another thing for it to be "disorganized." It is one thing for the students of a team to make an effort to achieve the team's goals because their team "succeeds" (in this case, there is positive interdependence of goals among them), or for someone to make an effort to ensure that their team "fails."

In the next section, each of the six quality factors of a cooperative learning team that we have just mentioned (which, being a cooperative learning team, can also be called cooperation factors) and their corresponding counterfactors, which will be taken into account when calculating the quality index of a cooperative team. With the joint and continuous consideration of a factor and its corresponding counterfactor, a succession of situations can be established, ranging from minimum quality (rated as 0) to maximum quality (rated as 6). In this succession, the intermediate situation (rated as 3) indicates a fairly neutral situation in which the counterfactor is not present, but the factor is not fully present either, or is present to a very incipient degree, which would make the quality of the team begin to be significant.

The quality index is obtained as the arithmetic mean of the assessment given to each of the cooperation factors, and their corresponding counterfactors, which have been considered for a team at a given time: Quality Index Level Score (average) Low 0-2, Medium 2-4, High 4-6.

Factors and Counterfactors of Quality

The quality factors to be taken into account to calculate the quality index along with their corresponding counterfactors are as follows:

1. Positive interdependence of goals: Team members help each other learn. Counterfactor: Some sabotage team progress.
2. Positive interdependence of roles: Roles are rotated for balance. Counterfactor: Imposed or static roles.
3. Positive interdependence of tasks: Agreed-upon tasks for joint learning. Counterfactor: One does everything while others watch.
4. Stimulating face-to-face interaction: Learning from others' ideas and suggestions. Counterfactor: Negative discussions and lack of collaboration.
5. Social skills for group work: Effective communication and conflict resolution. Counterfactor: Lack of social skills, or misuse.
6. Team self-assessment and goal setting: Regular assessment and improvement goals. Counterfactor: Negative self-assessment or counterproductive goals.

The degree of cooperation, therefore, depends on two main factors: the percentage of cooperative AA segments, on one hand, and the quality index of teamwork, on the other. The higher these two elements are, the greater the degree of cooperation of a specific team.

On the other hand, if only one of these two elements equals 0 (0% teamwork or a quality index = 0), the degree of cooperation will also be 0. If the quality index of teamwork is acceptable, but in practice there is no teamwork (0%), it is evident that we cannot attribute the label "cooperative" to the team in question, as they will not achieve what is expected of them precisely because they are not cooperative. Similarly, if some time is dedicated to teamwork, but the quality index of teamwork is 0, the team cannot be considered "cooperative" either, and we cannot expect them to achieve what is normally expected from cooperative work. In reality, there has been no effective teamwork (only four individuals working individually or not, side by side...).

However, the two elements considered in the above formula do not have the same specific weight. We believe that the most significant factor is the quality of teamwork, expressed by the quality index of teamwork, rather than the amount of time dedicated to teamwork during a Didactic Unit, expressed by the percentage of cooperative AA segments. In other words, we consider it more important to ensure the quality of teamwork (so that the team has the attribute of cooperation to the maximum) than the amount of time dedicated to teamwork. Working "poorly" as a team for a long time is less effective than working "well" as a team for a shorter period. A team cannot have the same degree of cooperation in the first case (working "poorly" for a longer time) as in the second case (working "well" for a shorter time).

Therefore, although the degree of cooperation could be expressed, as mentioned earlier, as a percentage of the quality index of a specific team, this formula would give excessive importance to the quantitative aspect (the amount of time, the percentage they work as a team) at the expense of the qualitative aspect (the quality of teamwork determined by its quality index). To avoid this bias, we have decided to apply a correction factor to the initially considered formula, so that the percentage used to calculate the degree of cooperation is not applied to the entire quality index, but only to a part. The higher this correction factor, the more importance will be given to the quality index when calculating the degree of cooperation.

Methodology

The research is based on qualitative methodology. Specifically, it is a descriptive study focused on Case Study (Stake, 1995), in order to verify to what extent, the proposed strategies have led to an increase in the cooperativeness degree of the teams.

Study Context

The participants in the study are the same group of students when they were in second and then third grade. The objective was to monitor them to see if the degree of cooperativeness of their teams improved while the CA/AC Program (Cooperate to Learn/Learn to Cooperate) was implemented, based on a series of actions to implement cooperative learning in the classroom.

Before the implementation of the program, the educational response provided by the teacher, for student attention in general, was based on a clearly individualistic option typical of a traditional approach. In this sense, the teacher found it difficult to attend, at certain times, to students who face barriers to participation and learning, as well as to students who have more deficiencies and difficulties, since she does not have sufficient resources or time to adjust the educational response to all students in the class group. Due to these limitations, this type of students could not perform or participate in the same

activities as the rest of the students. The teacher perceived this as a problem, and it is perhaps for this reason that she sees the need to know and use other methodologies to better address diversity, one of which is the methodology of cooperative learning. This individualistic approach also conditions the type of relationships among students. From this perspective, the classroom teacher tells us that students always tend to be part of a group, either to work with them or to maintain their relationship outside the school. Regarding those students who have more difficulties –especially newcomers– they also form a group among themselves, so there is no overall class group cohesion.

But if we analyze the relationships of the students within the subgroups, we will see that they are not too favorable either. The teacher explained to us that there are problems in the functioning of these groups if any of the members does not finish the work, or if there is a student who imposes on others by assuming a leadership role. This results in students choosing their peers when it comes to working, prioritizing the academic potential they have rather than other more personal and individual aspects that have nothing to do with academic results.

The classroom climate and predisposition to work are often determined by these types of relationships, as the teacher suggests. Therefore, these elements are only determined by how students perform their work, probably due to the individualistic structure-based approach used.

The school, for the practical evaluation of students, gives more importance to academic performance. That is, it prioritizes the results obtained from the achievement of content, and not so much attitudes and social skills, which are also necessary for the proper personal and individual development of students. The prioritization in the achievement of more academic content is markedly determined by the teaching and learning structure carried out in the classroom. That is why the teacher pays more attention to the individual progress made by the student in relation to academic content, and not so much the progress or what he learns when interacting with his peer group. Before introducing cooperative learning in the classroom, the classroom teacher received training on the CA/AC program. The research question and the objectives of our research are as follows:

> Do interventions of a didactic program based on a cooperative structure that we have called CA/AC Program ("Cooperate to Learn/Learn to Cooperate") – consisting of a set of actions available to primary education teachers to teach their students to learn as a team, cooperatively, have the quality of being cooperative?

The objectives derived from the general hypothesis are:

1. Analyze the degree of cooperativeness of the teams and the class group in which cooperative work has been carried out using the CA/AC Program (Cooperate to Learn/Learn to Cooperate).
2. Verify if there have been changes in the degree of cooperativeness during these two courses, comparing the results.
3. Identify factors to be improved and determine improvements.

Data Collection and Analysis Instruments

As we mentioned in the previous sections, to calculate the degree of cooperativeness, we need to know the frequency of teamwork (the % of time students have worked in teams during a specific period) and the quality index achieved by a team at the end of a specific period of time.

To calculate the frequency, we used an observation guideline with the aim of recording the total minutes of each class session in which students worked in teams. We calculated this frequency ourselves, throughout the sessions in which the cooperative units were developed, and for both academic years, attending each of the scheduled sessions.

As for the quality index of teamwork, we developed an observation table for each of the quality factors (and for each of the corresponding counterfactors) defined earlier, with the description of seven successive situations ranging from a maximum presence of the corresponding counterfactor (and therefore, minimal quality), scored with a 0, if the degree of cooperativeness is = or > 4, to a maximum presence of the factor (and therefore, maximum quality), scored with a 6. In this succession, the intermediate situation, scored with a 3, indicates that the counterfactor is not present, but neither is the quality factor properly present or, in any case, only present in a very incipient way. Through these tables, each of the teams in a class group is analyzed, determining, for each of the 6 considered quality factors, in such a way that:

- A score =3 indicates the absence of the quality factor, or a very incipient presence of this factor.
- A score >3 indicates the presence of the factor with progressively higher frequency and quality.
- And a score <3 corresponds to the presence of a counterfactor with progressively higher frequency and (negative) quality.

The score awarded to each team for each of the 6 quality factors considered is recorded on an appropriate sheet.

The quality index achieved by each team at a given time is equivalent to the arithmetic mean of the scores awarded by the observer to this team in each of the 6 factors considered. The Research Team has developed a spreadsheet where only the quantity of time worked in teams in each class session needs to be entered on one side, and on the other side, the scores awarded to each team for each of the 6 quality factors. The spreadsheet automatically calculates the % of teamwork, the quality index of each team, the degree of cooperativeness of each team, and the degree of cooperativeness of the class group. It should be noted that before testing it with the group focused on in our research, we wanted to make an initial application of the calculation to understand its operation well and detect possible inconveniences. This application, with the correction factor adjustment, was positive.

As for our experience, when the observer (in our case, the tutor of the group of students in which the CA/AC Program has been applied) analyzes each of the teams through these tables, they do not evaluate each team to see if they "pass" or "fail", and with what "grade", the "teamwork" content, but they try to make a "diagnosis", a "radiography" of the level of quality of the team's work, in each of the factors, not at the moment of the evaluation, but of the level achieved up to that moment, regardless of whether that day they work better or worse as a team.

Results

Regarding the 2nd year of Primary Education, corresponding to the academic year, we analyzed 60 sessions of program implementation in the language arts area. The total percentage of teamwork time is 46.04%.

As for the analysis of the quality index of the teams, we administered the questionnaire for factor analysis twice. The first was before the implementation of the programming unit. The other was after applying the program. As for the third year of primary education with

the same group, we analyzed 50 sessions of cooperative work. The area in which it was applied was mathematics. The results obtained are as follows (Table 1 and Table 2):

AC Segments (% cumulative)	34,7%	46,0%
	Period	Period
	5-feb	28-may
Quality factors		
A: Goals	1,83	3,17
B: Roles	3,00	3,67
C: Tasks	3,33	4,67
D: face to face interaction	2,67	4,83
E: Social skills	1,83	4,50
F: self-assessement	3,00	4,33
Quality index	2,61	4,19
Degree of Cooperativeness	1,59	2,84
	Low	Acceptable

Table 1: Qualitative analysis and degree of cooperation of the class group. Results of the 2nd year of primary education

AC Segments (% cumulative)	39,1%	55,1%
	Period 1	Period 2
	22-feb	18-abr
Quality factors		
A: Goals	3,57	4,29
B: Roles	3,71	4,29
C: Tasks	3,71	4,71
D: face to face interaction	3,71	4,57
E: Social skills	4,00	4,29
F: self-assessement	3,86	4,29
Quality index	3,76	4,40
Degreeof cooperativeness	2,39	3,22
	Acceptable	High

Table 2: Qualitative analysis and degree of cooperativeness. Results of the 3rd year of primary education

If we compare the results obtained in the two courses, we will see that there have been significant improvements in certain factors and not in others. Overall, we have observed that the group has been acquiring greater positive interdependence, meaning that it has been achieving a learning situation in which it relies on the actions of each team member. Thus, each boy and girl has become aware that their learning depends on the learning of the other team members, and at the same time, that the learning of the rest of the classmates

depends on their own learning. To see this improvement, I will analyze the results derived from the interdependence of goals, roles, and tasks.

Regarding the interdependence of goals, which refers to the ability of students to learn what is taught to them and also contribute to teaching the rest of their classmates, there has been a considerable improvement: at the end of the third year, the average index of quality for all teams was 4.29, while in the second year it was 3.17. This difference can be directly related to the fact that practice has accustomed students to be clear about the objectives proposed from the beginning at both an individual and group level. In this sense, the team has progressed in a dual responsibility: learning what the teacher has taught them to the best of their ability and ensuring that the rest of their classmates also learn. Thus, it is evident, as we discussed in the theoretical framework, that cooperative learning is not only a method but also a content to be learned.

In terms of the interdependence of roles, there has also been a clear improvement. While in the second-year course, the average index of quality for all teams in this factor was 3.67, during the third year it increased to 4.29. In this aspect, students have a clear understanding of the roles that team members must perform, likely because they have internalized the structure of teamwork. In this sense, working with team notebooks has somehow obliged them to fulfill their roles and adhere to work norms, some of which referred to fulfilling their roles. However, it would be necessary to see to what extent each member individually fulfilled their role; which roles presented more difficulties and why (what were the causes), etc. Nevertheless, as we know, this is not the purpose of the thesis but rather to see the progress or lack thereof in all factors. However, in general, the role or position assigned to each team member also conditions the team's achievement of the dual purpose (learning content and learning to work as a team), and this has improved over the two years.

These roles have influenced the improvement of team functioning. This also means that, in general, the teacher has been able to operationalize them, that is, to explain and adjust them for all students.

As for the factor of task interdependence, understood as the coordination of the different tasks to be carried out by each member and the better they do it, there has also been an improvement. In this sense, the individual task or learning that each member has carried out has benefited the others, while each individual has learned thanks to the individual contribution of the other members. In this factor, there has been an increase from 4.67 to 4.71 in the average index of quality for all teams.

In summary, this learning, perhaps more individual but conditioning group work and group functioning, that is, the development of interdependence of goals, roles, and tasks, are the factors in which the score has improved the most.

The remaining factors (face-to-face interaction, development of social skills, and self-assessment) have experienced a slight setback during the third year, but nothing significant, as we have seen.

Regarding face-to-face interaction, understood as a communication phase that promotes relationships among classmates and fosters learning, the change has been only a few tenths. It is important to note that the starting score for this factor in the previous course was already high (4.83), and in this course, it has decreased to 4.53, with a very small difference.

This factor, on the other hand, was generated from the beginning based on the various group dynamics that the teacher applied in the classroom. What has been more difficult to advance, as we mentioned earlier, are the factors that refer to the functioning and organization of teams.

As we know, interactions between students and teachers are mainly promoted. It is not so common for interactions among students themselves to be explicitly promoted in the classroom. It often happens quite the opposite. Only on rare occasions do students work

together, and learning is basically considered an individual function. However, it has been demonstrated that when a student interacts with another to explain what they have learned, in addition to developing communication skills, they are forced to organize their ideas, refine their knowledge, and perceive their mistakes and gaps.

These cognitive processes undoubtedly favor their learning. Although the development of this skill has not been considerable, unlike others, the final score obtained is very good (4.57).

There has been no improvement in the self-assessment factor either. It has decreased from 4.33 to 4.29. But this final score is quite good. The group assessment gives cohesion to the group. This self-assessment has been twofold:

- Group assessment by the teaching staff.
- Group self-assessment: to what extent are they achieving the objectives and maintaining a good relationship among themselves.

But these results indicate that initially, during the second year, the score for this factor was already high, specifically 4.33. This is a good result because it shows that the group has had from the beginning the capacity to reflect on its own functioning as a team. That is, it has been able to distinguish those aspects that needed to be changed and has made improvement decisions and personal and group commitments.

At the same time, we believe that one of the elements that has most marked the development of this factor from the outset is the Team Notebook tool. That is, the work performed has been recorded on paper, and whether the objectives have been achieved or not, individually and as a group.

However, the task of a cooperative work team implies, among other things, collaboration in the group, decision-making, individual responsibility, respecting the speaking turn of classmates, communication, resolving conflicts that may arise while performing these tasks. That is, the development of social skills (some related to feelings, others to the ability to cooperate, debate, or plan) is essential. In fact, social skills are behaviors that allow a person to act with basic respect if teamwork and cooperation are desired. Comfortably expressing their feelings, arguments, and opinions, exercising personal rights without denying the rights of others. Throughout the execution of the different tasks proposed in the cooperative units, situations arose in which students had to overcome and express their insecurity, ask for help, etc. Therefore, the results obtained demonstrate that in the third year, these skills were developed at a general level and by all teams, achieving a score of 4.50 (high), and in the second year, it was 4.29 (also high). What is quite evident is that no one is born with social skills, but rather they are learned. In addition, social skills are important to favor the rest of the factors, not only the factors but also for improving academic performance. But we will talk about this later in the section on final results.

In conclusion, it is evident that cooperative work has favored the development of social skills, face-to-face interaction, and self-assessment. The factors that have progressed the most in relation to the fourth year are the interdependence of goals, roles, and tasks.

According to the standard that would have been set in the analysis of the Degree of Cooperativeness, the results obtained, as we have just seen, demonstrate that in the learning structure introduced in the classroom with the application of the CA/AC Program (some more evident than others) can be attributed to having introduced a cooperative learning structure in the classroom. Although we cannot say that the final degree of cooperativeness achieved is >4, very high, as explicitly stated in the standard set, we can affirm that it has been high, since at the end of the experience, it was 3.22. There has also been an improvement compared to the first experience where it was 2.82, which was acceptable.

During the first year, the group's tutor expressed:

"Despite using cooperative learning, students usually interact with the same classmates, both for completing tasks and for in-class work."

When asked if there are students who have never worked together, she commented:

"Yes, because the groups are formed by themselves, as sometimes they also have to work on assignments outside of school, and it works better for them to organize themselves."

She was also asked about situations where conflicts may arise within these teams, and she said:

"Problems arise if someone doesn't finish their work, or if one person dominates the others..."

Regarding the roles of students with difficulties, she expressed:

"Sometimes they feel excluded because only their performance is taken into account, and since most of them are newcomers, they end up forming their own group."

Regarding the planning of students with barriers to their presence, participation, and progress, she explained that she primarily relies on the support of the specialist who enters the classroom:

"The tutor, but if there is a student with special needs, the specialist also helps. Sometimes we lack time to coordinate everything."

The conclusions drawn from these findings suggest that for the development of the CA/AC program in the second year, some aspects of the program, such as heterogeneous groups chosen by the tutor, improving the cohesion of all students, and clarifying and assessing roles and responsibilities, should be adjusted. After these adjustments were made in the second year, the tutor was interviewed again and expressed the following:

"They ask for help from each other."

"The implementation of cooperative learning corrects negative attitudes, and therefore, the classroom climate is more pleasant."

"Roles and responsibilities have allowed for more motivation in the classroom because students worked in a different way than usual, they could have dialogue and express their own opinions. Furthermore, the result of the activity was individual and not collective, which meant that the opinions and contributions of students were valued more."

"Students have been more receptive, and there have been relationships of camaraderie and friendship."

"Students are capable of describing improvement goals for themselves, although they tend to rate themselves very well."

According to the tutor, students have learned cooperative learning as both a resource and content; they have learned to wait, help each other, and explain tasks:

"There is more participation from students who were initially hesitant about teamwork."

"Students with special educational needs have improved in terms of their autonomy in work. They are also more aware of the processes involved in their own learning because they have to reflect on their attitudes, and this makes their learning more meaningful."

"They perceive the experience as the application of a dynamic model through communication and interaction processes. They believe it has allowed students to learn from their peers, listen to different viewpoints, and distribute roles... They have observed that group organization is based on mutual effort and joint problem-solving."

"They have noticed that students reach agreements quickly. They organize themselves in some groups with their own working methods to assess the level of effort of each team member."

"Students work cooperatively within their group and also with others. They share materials and pass on information".

Discussion

The discussion we have based on the results is as follows:

- We have observed that the factor of time should not be given too much consideration when carrying out an activity, as the team is composed of members with various learning styles and rhythms, and from a cooperative learning structure, the participation and execution time of all students must be respected, whether they are faster or slower. Therefore, we are interested in the quality of learning rather than quantity. In an individual learning structure, the teacher who wants all students to progress also needs more time than would be necessary if they adjusted to the pace of those who learn more quickly.
- Cooperative learning is a key and fundamental methodology for group awareness. Without group cohesion, there is no good classroom climate or positive interaction (Johnson et al., 1999), and student participation is very limited, thus denying learning opportunities, which affects academic performance.
- This methodology, if developed in an appropriate way—if all the factors that make teamwork of quality are present—improves students' motivation towards learning (Cañabate & Colomer, 2020; Shpeizer, 2019).
- The cooperative learning structure prioritizes peer support as a basic pillar in the teaching and learning process.

- The cooperative learning structure can be applied to any area and teaching unit. Depending on the objective and purpose pursued, it may be more appropriate to use one structure or technique over another, but this does not mean that learning cannot be structured cooperatively.
- This method represents a change for teachers. Therefore, we believe that it will be successful if the teacher is willing to do so; if they are receptive to this new way of understanding the students' learning process. It implies a shift towards an inclusive vision of school, in which the student, whatever their personal characteristics, constructs their own learning based on their contributions and those of the rest of their classmates (Gaudet et al., 2010; Johnson et al., 2014; Poort et al., 2023).
- Some important cognitive and interpersonal activities can only occur when the student promotes the learning of the other group members, explaining orally how to solve a problem, analyzing the concepts they are studying, which means explaining what each one knows about a certain issue and connecting present learning with the past. Communication between students, this exchange of ideas, fosters discussion and contrasting opinions and can lead to the emergence of cognitive conflicts that can lead the student to a conceptual change, correcting their previous misconceptions (Gillies 2003a, 2003b, 2004, 2006, 2007).
- Students participating in a cooperative group cannot be put together and told, "work cooperatively!" Cooperative learning requires students to also learn interpersonal and group skills necessary to function as part of a team (Juárez et al., 2019). They will have to make decisions, resolve conflicts, negotiate... Teachers will have to teach them these group and interpersonal skills. Cooperation is not innate; it is learned. And the elements of Domain C of the CA/AC Program are an effective tool for teaching these skills.
- Group members (and teachers) must assess to what extent they have achieved their goals, which actions of group members are positive or negative, and make the corresponding decisions to improve cooperative group work. For the learning process to improve, reflection by group members is necessary to analyze how they are working together and how they can increase the group's effectiveness. In this sense, the tools developed to check the degree of cooperativeness are also a good tool for this reflection (Marin-García et al., 2008; Martínez-Gómez & Marín-García, 2009).

In our opinion, the main contribution of this research has been the definition of the Degree of Cooperativeness of a team and a class group, as well as the development of the necessary tools to determine it (questionnaires and calculation sheet to determine the Quality Index of teamwork and the degree of cooperativeness). The application of these tools for the first time in this research has allowed us to verify their usefulness and effectiveness in discriminating between different teams and groups in terms of cooperativeness.

References

Abellán, C. (2019). Aprendizaje cooperativo y formación del profesorado: de la teoría a la práctica escolar. *Revista De educación, 42,* 243-261.

Ainscow, M. & Booth, T. (2000). Índice de Inclusión. Desarrollando el aprendizaje y la participación en escuelas. Centro de Estudios en Educación Inclusiva.

Alghamdi, R. & Gillies, R. (2013). The impact of cooperative learning in comparison to traditional learning (small groups) on EFL learners' outcomes when learning English as a foreign language. *Asian Social Science*, *9*(13), 19.

Baloche, L. & Brody, C. (2017) Cooperative learning: exploring challenges, crafting innovations, *Journal of Education for Teaching*, *43*(3), 274-283, DOI: 10.1080/02607476.2017.1319513

Buchs, C. & Butera, F. (2015). Cooperative learning and social skills development. In R. Gillies (Eds.). *Collaborative Learning: Developments in research and practice.* (pp. 201-238). Nova Science Publishers.

Colomer, J., Serra, T., Cañabate, D. & Bubnys, R. (2020). Reflective learning in higher education: Active methodologies for transformative practices. *Sustainability*, *12*(9), 3827.

Dillenboug, P. (1999). What do you mean by 'collaborative learning'? In Dillenbourg, P. (Ed.). *Collaborative Learning: Cognitive and Computational Approaches*. Enseñando administración de empresas con docencia basada en el trabajo en equipo de los estudiantes: ventajas, inconvenientes y propuestas de actuación. *Intangible Capital*, *4*(2), 143-165.

Gaudet, A. D., Ramer, L. M., Nakonechny, J., Cragg, J. J., & Ramer, M. S. (2010). Small-group learning in an upper-level university biology class enhances academic performance and student attitudes toward group work. *PLoS One, 5*(12), 1–10. https://doi.org/10.1371/journal. pone.0015821

Gillies, R. M. (2003a). The behaviors, interactions, and perceptions of junior high school students during small-group learning. *Journal of Educational Psychology*, *95*, 137-147.

Gillies, R. M. (2003b). Structuring cooperative group work in classrooms. *International Journal of Educational Research, 39,* 35-49.

Gillies, R. M. (2004). The effects of cooperative learning on junior high school students during small group learning. *Learning and Instruction, 14,* 197-213.

Gillies, R. M. (2006). Teachers' and students' verbal behaviours during cooperative and smallgroup learning. *British Journal of Educational Psychology*, 76, 271-287.

Gillies, R. M. (2007). *Cooperative learning: Integrating theory and practice.* Sage.

Gillies, R. M. (2014). Developments in cooperative learning: review of research. *Anales de Psicología, 30*(3), 792-801. https://dx.doi.org/10.6018/analesps.30.3.201191

Johnson, D. W. & Johnson, R. T. (1997). Social skills for successful group work. *MAA notes*, 201-204.

Johnson, D. W., Johnson, R. T. & Smith, K. A. (2014). Cooperative learning: Improving university instruction by basing practice on validated theory. *Journal on Excellence in University Teaching*, *25*(4), 1-26.

Johnson, D. W., Johnson, R. y Holubec, E. (2013). *Cooperation in the Classroom* (9 ed.). Book Company.

Johnson, D., Johnson, R. & Holubec, E. (1999). *Los nuevos círculos de aprendizaje. La cooperación en el aula y la escuela*. Aique.

Juárez, M., Rasskin, I. & Mendo, S. (2019). El aprendizaje cooperativo, una metodología activa para la educación del siglo XXI: Una revisión bibliográfica. *Revista Prisma Social*(26), 200-210. Retrieved from https://dialnet.unirioja.es/descarga/articulo/7016662.pdf

Kagan, S. (1992). *Cooperative Learning*. Kagan Cooperative Learning.

Marin-Garcia, J. A., Miralles-Insa, C., Garcia-Sabater, J. J. & Vidal-Carreras, P. I. (2008). Teaching management based on students' teamwork: Advantages, drawbacks and proposals for action. *Intanguble Capital, 4*(2). 143-165. Retrieved from https://www.intangiblecapital.org/index.php/ic/article/view/64/76

Martínez-Gómez, M. & Marin-Garcia, J.A. (2009). Como medir y guiar el cambio hacia entornos educativos universitarios más motivadores para los alumnos. *Formación Universitaria, 2*, 3-14.

Onrubia, J. & Mayordomo, R. M. (2015). El aprendizaje cooperativo: elementos conceptuales. En, Onrubia J. y Mayordomo R.M. (Coords.), *El aprendizaje cooperativo,* 17-48. UOC.

Poort, I., Jansen, E. & Hofman, A. (2023). Cultural intelligence and openness to experiences pave the way for cognitive engagement in intercultural group work. *Journal of Studies in International Education*, *27*(2), 277-297.

Pujolàs, P. (2008). *Nueve ideas clave*. El aprendizaje cooperativo. Graó.

Pujolás, P. (2009). La calidad en los equipos de aprendizaje cooperativo: algunas consideraciones para el cálculo del grado de cooperatividad, *Revista de Educación*, 349, 225-239.

Rodríguez-Sandoval, E., Vargas-Solano E. & Luna-Cortés, J. (2010). Evaluación de la estrategia "aprendizaje basado en proyectos". *Educación y Educadores*, *13*(1), 13-25.

Shpeizer, R. (2019). Towards a successful integration of project-based learning in higher education: Challenges, technologies and methods of implementation. *Universal Journal of Educational Research*, *7*(8), 1765-1771.

Slavin, R. (2014). Cooperative Learning and Academic Achievement: Why does group-work work?, *Anales de Psicología, 30*(3), 785-791.

Stake, R. E. (1995). *The Art of Case Study Research.* SAGE Publications.

Thurston, A., Topping, K, Tolmie, A., Christie, D., Karagiannidou, E. & Murray, P. (2010). Cooperative Learning in Science: Follow-up from primary to high school. *International Journal of Science Education*. *32*. DOI: 10.1080/0950069090272167

Cooperative Debate Can Provoke Multiperspectivity

George M. Jacobs

Co-Vice President, Kampung Senang Charity and Education Foundation, Singapore
ORCID: 0000-0002-7640-1842

Yingrui Wu

Student, Department of Psychology at James Cook University Singapore
ORCID: 0009-0009-5776-6262

Yi Wen

Student, Department of Psychology at James Cook University Singapore
ORCID: 0009-0005-1916-2469

This article recommends the Cooperative Debate technique as a means of encouraging students and others to view the world from a multitude of perspectives. Most debates are competitive. Cooperative debates contrast with traditional competitive debates as cooperative debates emphasize fostering understanding rather than winning a debate contest. This article discusses a flexible, eight-step procedure for the Cooperative Debate technique. In this procedure, each person presents two or three different perspectives on the topic being discussed. Cooperative Debate also includes consideration of how debaters and their audience might seek to implement their views. In this article, Social Interdependence Theory and Piagetian Theory provide insights into the workings of Cooperative Debate.

Keywords: *competition, cooperation, cooperative learning, debate, multiperspectivity, Piagetian Theory, Social Interdependence Theory*

Introduction

When considering the development and airing of more than one perspective, debates are one type of activity that comes to mind. For example, many schools have debate teams, and politicians sometimes hold debates to display their perspectives for citizens to better choose for whom to vote. Debates can arouse interest and spark thinking among both debaters and audiences, as people often find the conflict of ideas to be engaging and mentally stimulating.

The debates mentioned above are competitive debates in which the school teams or political parties/candidates attempt to defeat the people on the other side of the debates. One side wins and the other loses. Furthermore, each side in the competition presents only one perspective. For political parties, that perspective may be long- and deeply-held, whereas in school debates, students may be assigned – rather than being able to choose - the perspective they are to argue for during the competition. Either way, neither side publicly changes their perspective during the debate, even if, in reality, they find their opponents' perspective to be persuasive.

The purpose of the current article is to explain a cooperative, rather than a competitive, mode of debate, one that encourages each participant to develop and present a case for at least two, and perhaps three, perspectives on the same issue.

Previous scholars have referred to this cooperative mode of debate as Academic Controversy (Johnson et al., 1996), Creative Controversy (Johnson & Johnson, 1995), Structured Controversy (D'Eon & Proctor, 2001), and Cooperative Debate (Lim et al., 2023). The present article uses the term Cooperative Debate, as it seems to be the most transparent name. This article explains the steps in Cooperative Debate, along with possible variations. Afterward, subsequent sections of the article explain theories underlying the use of Cooperative Debate and multiperspectivity are explored.

How To Perform Cooperative Debate

Cooperative Debate is a cooperative learning technique normally consisting of eight steps. However, practitioners (e.g., teachers and workshop organizers, as well as participants, e.g., students and workshop members) can make variations of these eight steps based on varied contexts and the ideas – both planned and spontaneous – of the debate facilitators.

Step 1 – Forming Groups

Approximately four participants form one group, which then divides into pairs. Debate facilitators should consider heterogeneity within these groups of two and four, such that each group's membership is a microcosm of the mix of characteristics present among the larger body of people who form the class or the workshop. These characteristics might, for example, include age, social class, gender identity, ethnicity, level of prior knowledge on the topic to be debated, and level of debating skills (such as skills with language or presentation software).

Step 2 - Preparing to Present

Chance decides which position on the topic each pair within each foursome will initially support, rather than group members selecting their position themselves. For instance, perhaps the debate topic is whether, to reduce humans' carbon footprint, the government should tax meat in order to reduce consumption of food from animals raised for human food. One pair in each foursome will argue in favor of such a tax, while the other pair must argue against the tax. Debate participants can have a role in choosing the overall topic, but not their initial side on that topic.

To think deeply on the debate topic and to present well, participants need time and resources. Debate facilitators can play a key role here. Also, pairs who initially take the same perspective can meet to share resources and ideas. Preparation should include deciding each pair member presenting which points, with the objective of each person

having roughly equal talking time in Step 3. Furthermore, graphic organizers, such as mind maps, and notes, as well as rehearsal time, can improve the flow of the presentations in Step 3.

Step 3 – Initial Presentations

Each of the four group members has the same fixed amount of time to present their pair's assigned perspective. The other pair can be timekeepers as well as taking notes in preparation for the rebuttals that take place in Step 4. After everyone does their Step 3 initial presentations, each pair meets to develop rebuttal points and to allocate them among the members of the pair.

Step 4 – Rebuttal

Each member of the foursome has a turn to rebut points raised by the other pair during Step 3. After everyone takes their turn, open discussion takes place, where participants utilize the cooperative skill of disagreeing politely. Use of the skill depends on language and culture; however, some ideas include:

a. asking questions to better understand what others said
b. paraphrasing what the other pair said and checking that the other pair finds the paraphrase to be accurate, before disagreeing
c. finding points of agreement among the two perspectives
d. using phrases such as, "you may be right, but please consider a different perspective."

Step 5, 6, & 7 – Reverse Perspectives; Repeat Steps 2, 3, & 4

The pairs in each foursome swap perspectives. For instance, the pair who initially argued for a tax on meat in order to reduce greenhouse gas emissions now argue against such a tax and vice-versa. Of course, any debate topic can generate many more than two perspectives, as will be discussed in Step 8.

Debate participants may worry that when the two pairs switch sides, it will be boring to debate the same topic with the same people. In response, D'Eon and Proctor (2001) proposed that pairs could switch foursomes and debate with another twosome who had not heard the earlier arguments in their foursome.

Step 8 – Each Person Chooses Their Own Perspective

In the earlier steps of Cooperative Debate, participants randomly selected their positions. However, in Step 8, each participant works alone to formulate their own view on the topic. This individual view can be one of the two assigned perspectives, but it can also be a third view. For instance, on the topic of a meat tax, possible third perspectives include banning or rationing meat, subsidizing alternative protein foods, such as fish fingers made from soybeans, eliminating government financial support for the meat industry, or developing education programs to encourage people to, at least partially, move away from meat.

The foursomes discuss each other's individual views on the topic and attempt to reach a consensus, but the dialog that takes place is the key, regardless of whether the group reaches a consensus. Additionally, groups can generate ideas for what can be done to actually implement their perspectives. In other words, Cooperative Debate need not be confined to *talking* about topics; debaters can subsequently move on to *doing* something

about the topic. An example of doing related to the topic of whether to tax meat could be for people opposed to taxing meat to instead take action to combat climate change by switching from private transport to public transport. After the groups of four have discussed their individual views, whether or not they reach consensus, a group member may be chosen at random to share their group's discussion, either with another group or with the entire class, all the workshop participants, etc.

Theoretical Underpinnings of Cooperative Debate

Social Interdependence Theory

Cooperative Debate was developed based on Social Interdependence Theory (Deutsch, 1949; Johnson & Johnson, 2009; Lewin, 1948). Two of the principles that Johnson and Johnson (2009) derived from that theory are positive interdependence and individual accountability. Positive interdependence represents a feeling among a small or large group of people that their outcomes are positively correlated. In other words, what benefits one group member benefits all group members, and anything detrimental to one group member hinders all. While positive interdependence focuses on mutually beneficial group outcomes, individual accountability concentrates on each member doing their fair share to achieve such beneficial outcomes for the group.

Traditional competitive debates promote positive interdependence among the members of each group, but negative interdependence – the feeling that the outcomes of others are negatively correlated with our own outcomes - likely develops between groups, with each group trying to beat the other. Therefore, the likelihood of sharing between groups decreases. Furthermore, the purpose of traditional debates lies in winning, not in deepening one's own and others' understanding of the topic or in using that deepened understanding to work together post-debate on solutions developed during the debate. In contrast, Step 8 of Cooperative Debate highlights that the class, workshop, etc. constitutes a group of groups who use debate as a tool to "put their heads together" to learn about the world and then perhaps attempt to make the world a better place. Lim et al. (2023) called this the principle of cooperation as a value and discussed it in terms of how cooperative learning could empower students and others to work toward the United Nations' Sustainable Development Goals (Jacobs et al., 2023).

Individual accountability is the other principle mentioned earlier that was derived from Social Interdependence Theory. As stated above, individual accountability encourages every group member to feel an obligation to do what they can to help the group obtain its goals; goals might include better understanding of a topic, improved language skills, enhanced group interaction abilities, and solutions for the problems embodied in the debate topic. Cooperative Debate facilitates individual accountability by building in times in which each person should share ideas with groupmates. For instance, in Steps 3 and 6, each person has a designated time to present their pair's designated perspective on the topic under discussion. Also, in Step 8, everyone has a turn to contribute their own personal perspective on the topic. Hopefully, they will also consider taking action to implement their perspective, even if their group of four or the entire assemblage does not share the same perspective.

Piagetian Insights on Perspective Taking

Piaget developed a theory of cognitive development (Byrnes, 2008; Piaget, 1976). [As a side

note, in addition to his theoretical contributions to education, Piaget also led an institution dedicated to fostering global peace and harmony through education (Marchand, 2012).] The current section of the present article highlights possible Piagetian insights into the development of perspective taking and seeks to relate these insights to the use of Cooperative Debate. It should be noted that controversy exists among educators as to at what age children have the cognitive capacity to see other perspectives and whether educational practices can impact children's cognitive development. This controversy lies beyond the scope of the present article. Instead, the article's treatment of the work of Piagetians is restricted to how perspective-taking ability might be built, focusing on two concepts: decentration and disequilibration.

Decentration

In decentration, children's points of view in a situation go through a process, where they no longer center their thinking on one characteristic or viewpoint of a situation. Rather, they are able to attend to multiple characteristics (Mounoud, 1996). Below are two famous studies of decentration: the Conservation of Liquids Task and the Three Mountains Task.

The Conservation of Liquids Task. The Conservation of Liquids Task is a tool that Piaget (1965) used to measure children's ability to decenter. This task, as illustrated in Figure 1, involves the following steps (Elkind, 1961; Orpet et al., 1976). First, researchers present children with a glass of colored water alongside an empty glass of similar shape and size. The children then fill the empty glass with water until both glasses contain roughly the same amount of liquid. As they do the task, most children compare the height of the liquid's surface in the two glasses to attempt to attain equality. After confirming with the children that the liquid in both glasses is in the same quantity, the researchers replace the original glass with a taller, thinner one and transfer the water. Children who cannot decenter focus only on the height of the water and think that the tall, thin glass contains more water. In contrast, children who have developed decentration do not focus only on the height of the liquid in the glass; they appreciate that other factors also can be important. These children consider both the height and base area size of the glasses, recognizing that the amount of water remains unchanged. Moreover, rather than only focusing on the current view of the surface level, children who can decenter consider potential actions that could alter the amount of water.
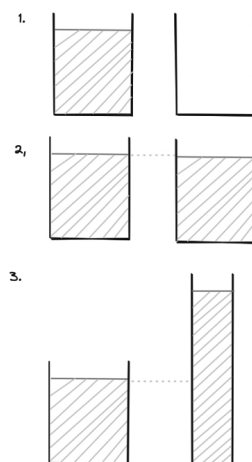
Figure 1: The Conservation of Liquids Task (own editing)

Three Mountains Task. Another famous Piagetian task to measure decentration is the Three Mountains Task, as illustrated in Figure 2. The Three Mountains Task is designed to test children's ability to move away from centering only on themselves and their own current perspective. Instead, children who decenter are able to incorporate others' perspectives into their thinking (Piaget & Inhelder, 1956). When children decenter, they understand that others may have different thoughts and perceptions from theirs (Feldman, 1992).
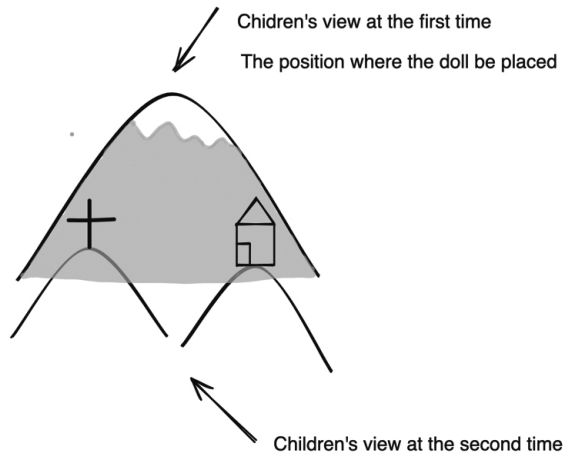

Figure 2: The Three Mountains Task (own editing)

In a simplified version of the Three Mountains Task, research participants view a model showing three mountains. They have the opportunity to walk around and view the model from different perspectives. Then, the researchers introduce a doll, and participants say what the doll sees from where the doll sits. If children do not decenter, they cannot put themselves in the place of the doll. In contrast, people who can decenter describe the scenery from the doll's perspective, thereby demonstrating an understanding of multiple perspectives.

Disequilibration

Schemas are mental frameworks that people use to understand their environment and to process new information and perspectives (Widmayer, 2004). Disequilibration can occur when individuals encounter new information or perspectives that do not fit into their existing schemas (Bormanaki & Khoshhal, 2017). Assimilation involves integrating new information into existing schemas (Hanfstingl et al., 2021). For instance, if people's schema defines birds as any flying creature, encountering bats (mammals who can fly) may lead them to classify the bats as birds. On the other hand, accommodation requires people adjusting their schema to incorporate new understandings and perspectives (Yang, 2010). Returning to the bat example, after learning that what they were seeing were bats, mammals who can fly, people need to accommodate, i.e., to change their schema to include that not all flying creatures are birds, thereby better matching their schema to external reality.
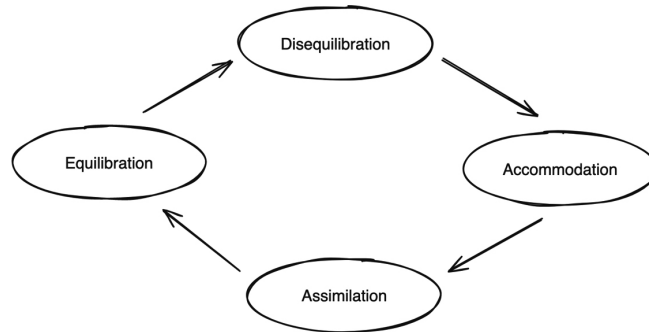
Figure 3: *The Process of Equilibration (own editing)*

Figure 3 provides a visual representation of the equilibration process. Assuming the debate topic is whether the government should impose taxes on meat due to its exacerbation of global warming, if people view cheap meat as more important than climate change, they are likely to oppose a tax on meat, even in the face of information about the meat / climate change link. In other words, disequilibrium will not take place, and they will not accommodate, i.e., they will continue to oppose taxes on meat.

While disequilibrium may cause uncomfortable feelings, it motivates people to search for solutions, for equilibrium, thereby promoting thinking and interaction with other people and other information sources (Woolfolk, 2016). Participants are more likely to encounter disequilibrium during cooperative debates, rather than during traditional debates, because whereas in traditional debates, each person holds only one perspective, in cooperative debates, each person represents at least two different perspectives.

Conclusion

The current article recommends the cooperative learning technique sometimes called Cooperative Debate as a means of encouraging people to develop, consider, and perhaps take action on behalf of a variety of perspectives on a topic. Cooperative Debate also seeks to provide a safe space for the exploration of perspectives, because, as discussed in regard to the cooperative skills named in Step 4, Cooperative Debate promotes an atmosphere in which people feel comfortable expressing their views, even if those views are not those of the majority of fellow participants. In contrast, in traditional debates, debaters sometimes use sarcasm and other forms of negative input (Jerome & Algarra, 2005).

Cooperative Debate also fits well with well-known taxonomies of educational objectives. For example, the taxonomy developed in the 1950s by Bloom and colleagues and slightly revised in this century (Krathwohl, 2002) involves six types of cognition, all of which are essential: knowing, understanding, applying, analyzing, synthesizing, and evaluating. Where Cooperative Debates shine can be seen as they encourage types of higher order thinking: application, analysis, evaluation, and creation. Similarly, SOLO (Structure of the Observed Learning Outcome) (Biggs & Collis, 2014) synchs with Cooperative Debate in that both urge learners to progress beyond surface understanding to relational understanding (seeing phenomena as integrated wholes) and extended abstract understanding (being able to take newfound comprehension and apply it to different contexts).

Although formal use of all the eight steps in Cooperative Debate, as the technique is done in school and workshop settings, may not be appropriate in many non-academic

settings due to time and other constraints, tactics from the technique can be applied in a wide range of circumstances. For instance, if family members cannot agree on whether to volunteer with Charity A or Charity B, they can take turns advocating for each of the charities, or an advocate for Charity A can attempt to paraphrase the arguments that another family member has made in support of Charity B. Alternatively, family members can raise the possibility of volunteering for yet another charity, neither A or B.

Overall, this article provides practical guidance on how to implement multiple-perspective learning using the Cooperative Debate. Additionally, the article explores the theoretical foundations of cooperative debate, drawing on two influential theories to illustrate how this approach can encourage an active exchange of diverse viewpoints among participants. By understanding Cooperative Debate these theoretical frameworks, educators and workshop facilitators will enhance their ability to foster deeper engagement and multiperspective thinking ability, as well as increasing the likelihood that debates will lead participants to act on their learning.

References

Biggs, J. B., & Collis, K. F. (2014). *Evaluating the quality of learning: The SOLO taxonomy (Structure of the Observed Learning Outcome)*. Academic Press.

Bormanaki, H. B., & Khoshhal, Y. (2017). The role of equilibration in Piaget's theory of cognitive development and its implication for receptive skills: A theoretical study. *Journal of Language Teaching & Research, 8*(5). https://doi.org/10.17507/jltr.0805.22

Byrnes, J. P. (2008). Piaget's cognitive-developmental theory. *Encyclopedia of Infant and Early Childhood Development, 87,* 543-552.

Cook, J. L., & Cook, G. (2005). *Child development: Principles and perspectives.* Pearson Education New Zealand.

Deutsch, M. (1949). A theory of cooperation and competition. *Human Relations, 2*, 129–152.

D'Eon, M., & Proctor, P. (2001). An innovative modification to Structured Controversy. *Innovations in Education and Teaching International, 38*(3), 251-256. https://doi.org/10.1080/14703290110051398

Elkind, D. (1961). The development of quantitative thinking: A systematic replication of Piaget's studies. *The Journal of Genetic Psychology, 98*(1), 37-46.

Feldman, C. F. (1992). The new theory of Theory of Mind. *Human Development, 35*(2), 107–117. https://doi.org/10.1159/000277138

Hanfstingl, B., Arzenšek, A., Apschner, J., & Gölly, K. I. (2022). Assimilation and accommodation: A systematic review of the last two decades. *European Psychologist, 27*(4), 320–337. https://doi.org/10.1027/1016-9040/a000463

Jacobs, G. M., Zhu, C., Chau, M. H., Guo, Q., & Roe, J. (2023). Using cooperative learning to teach the Sustainable Development Goals. *Autonomy and Responsibility: Journal of Educational Sciences, 8*(1), 39-52. https://doi.org/10.15170/AR.2023.8.1.3

Jerome, L., & Algarra, B. (2005). Debating debating: A reflection on the place of debate within secondary schools. *The Curriculum Journal, 16*(4), 493-508. https://doi.org/10.1080/09585170500384610

Johnson, D. W., & Johnson, R. T. (1995). *Creative Controversy: Intellectual challenge in the classroom* (3rd ed.). Interaction Book Company.

Johnson, D. W., & Johnson, R. T. (2009). An educational psychology success story: Social interdependence theory and cooperative learning. *Educational Researcher, 38*(5), 365-379. https://doi.org/10.3102/0013189X09339057

Johnson, D. W., Johnson, R. T., & Smith, K. A. (1996). Academic Controversy: Enriching college instruction through intellectual conflict. *The George Washington University, Graduate School of Education, ASHE-ERIC Higher Education Report, 25*(3).

Krathwohl, D. R. (2002). A revision of Bloom's taxonomy: An overview. *Theory into Practice*, *41*(4), 212-218. https://doi.org/10.1207/s15430421tip4104_2

Lewin, K. (1948). *Resolving social conflicts.* Harper.

Lim, S., Reidak, J., Chau, M. H., Zhu, C. H., Guo, Q., Brooks, T. A., Roe, J. & Jacobs, G. M. (2023). Cooperative learning and the SDGs. *Peachey Publications.* https://payhip.com/b/obOwr

Marchand, H. (2012). Contributions of Piagetian and post-Piagetian theories to education. *Educational Research Review, 7*(3), 165-176. https://doi.org/10.1016/j.edurev.2012.04.002

Mounoud, P. (1996). Perspective taking and belief attribution: From Piaget's theory to children's theory of mind. *Swiss Journal of Psychology, 55*, 93-103.

Orpet, R. E., Yoshida, R. K., & Meyers, C. E. (1976). The psychometric nature of Piaget's conservation of liquid for ages six and seven. *The Journal of Genetic Psychology, 129*(1), 151-160.

Pascual-Leone, J., Goodman, D., Ammon, P., & Subelman, I. (1978). Piagetian theory and neo-Piagetian analysis as psychological guides in education. *Knowledge and Development 2*, 243-289.

Piaget, J. (1965). *The child's conception of the world.* Kegan Paul.

Piaget, J. (1976). Piaget's theory. In B. Inhelder, H. H. Chipman, & Bärbel Inhelder & Harold H. Chipman & C. Zwingmann (Eds.), *Piaget and his school* (pp. 11–23). Springer. https://doi.org/10.1007/978-3-642-46323-5_2

Piaget, J., & Inhelder, B. (1956). *The child's conception of space.* Norton.

Widmayer, S. A. (2004). *Schema theory: An introduction*. https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=47b15487db915f62aec7a1f57c6f64c0c1c5234f

Woolfolk, A. (2016). *Educational psychology.* Pearson.

Yang, Y. F. (2010). Cognitive conflicts and resolutions in online text revisions: Three profiles. *Journal of Educational Technology & Society, 13*(4), 202-214.

How Jewish Values and The Chavruta, Student Learning Groups, Support Cooperative Learning

Richard D Solomon

Retired Clinical Professor, University of Maryland, College of Education,
Department of Curriculum and Instruction, College Park, Maryland, USA
ORCID: 0009-0007-5158-9037

Wallace Greene

Principal, Yeshiva Keren HaTorah of Passaic-Clifton, USA
ORCID: 0000-0001-6389-0889

Neil Davidson

Professor Emeritus of Teaching and Learning at the University of Maryland, USA
ORCID: 0000-0001-7014-215X

While cooperation in education may seem to be a twentieth-century development, it has long-standing origins in many societies. For example, an ancient Jewish tradition of having a learning partner (Chavruta) *with whom to study the Talmud is referenced as early as the Babylonian Talmud (Shabbat 63a). Cooperative learning is a specific type of active learning in which students work together on academic tasks in small teams to help themselves and their teammates learn together. The research on cooperative learning is extensive and compelling. When compared with other instructional approaches, such as individualized instruction and the lecture method, cooperative learning is positively correlated with a number of significant learning variables. Cooperative learning is supported by the Jewish* middot *(values or virtues) including* derech eretz *(thoughtful behavior and common decency),* areyvut *(mutual responsibility and accountability),* kavod *(honor and respect) and the inclusion of all students in both religious and public life.*

Keywords: *cooperative learning, chavruta (learning partner), middot (Jewish values or virtues)*

Introduction

While cooperation in education may seem to be a twentieth-century development, it has long-standing origins in many societies. For example, an ancient Jewish tradition of having

a learning partner (*Chavruta*) with whom to study the Talmud is referenced as early as the Babylonian Talmud (Shabbat 63a). Cooperative learning (CL) has developed in secular education over a period of more than fifty years. Eventually, some of us realized that the core values of cooperative learning are compatible with the values of the world's religions. In this paper, we examine the relationship between cooperative learning and selected values within Judaism.

What is cooperative learning?

The field of cooperative and collaborative learning is not monolithic. Indeed, there are many methods of cooperative and collaborative learning in small groups. For an elaboration on the various approaches to implementing cooperative learning see the *Handbook of Cooperative Learning Methods* by Shlomo Sharan (1994) and the volume *Pioneering Perspectives in Cooperative Learning* by Neil Davidson (2021). What all these approaches share is that students work together cooperatively in small groups of 2-5 members in order to accomplish a common goal or academic task in a positive and mutually supportive manner.

In a theoretical synthesis of varied cooperative and collaborative learning approaches, Arató (2023) has identified eight attributes that are common to all the approaches. These are:

1. Personally inclusive parallel interactions
2. Encouraging and constructive interdependence
3. Personal responsibility and individual accountability
4. Equal access and participation
5. Critical friendly and reflective transparency
6. Conscious improvement of personal and social competences
7. Conscious improvement of cognitive and learning competences
8. Open and flexible structures

In addition to these common attributes, there are other attributes which vary among the approaches to cooperative and collaborative learning. Examples of these are how groups are formed, how or whether to teach interpersonal skills, the structure of the group, and the role of the teacher. For further details, see Davidson (1994, 2002).

For syntheses of the research on cooperative learning, see the extensive reviews by Johnson and Johnson (1989), Slavin (1990), Sharan (1980, 1990), and Newmann and Thompson (1987) at the high school level. Additional reviews have focused on conditions for productive group work (Cohen, 1994), task-related group interaction in mathematics groups (Webb, 1991), and cooperative learning with post-secondary students in science, mathematics, engineering, and technology (Springer et al, 1999). In addition, see the more recent cooperative learning research reviews of Gillies (2014), Kyndt et.al (2013) and the Johnsons (2017).

Research conducted in many different subject areas and various age groups of students has shown positive effects favoring cooperative learning in academic achievement, development of higher order thinking skills (both critical and creative), self-esteem and self-confidence as learners. In addition, CL has shown to promote intergroup relations including friendship across racial and ethical boundaries, inclusion, social acceptance of mainstreamed students labeled as handicapped or disabled, developing empathy, the ability to take the perspective of another person, and the development of interpersonal

pro-social skills. When pro-social interpersonal skills are applied in a CL structure or method, they foster the inclusion of everyone in the group, encourage all group members to give their ideas, and enable participants to listen respectfully to all points of view.

What Jewish Values or Virtues, *Middot*, Support Cooperative Learning?

A *middah* is a Jewish value or virtue; it is a righteous way to conduct one's life. *Middot*, the plural of *middah*, are thus Jewish values or virtues. Although *middot* are Jewish values or virtues based on Jewish traditions, any person, Jewish or not, can aspire to live according to these universal values.

Three Universal Jewish Values or *Middot* that Support Cooperative Learning

There are at least three universal Jewish *middot* that support cooperative learning and they are:

- *Derech eretz*, literally meaning the way of the world or thoughtful and appropriate conduct and common decency toward others
- *Areyvut*, mutual responsibility and accountability and
- *Kavod*, honor and respect.

Now let's elaborate on the meaning of these *middot*.

What is Derech eretz?

Derech eretz, the way of the world, represents the core principles of human behavior including common decency, civility, civic virtue and social responsibility. These acts of common decency, **Derech eretz**, are the core *middot* that are the basis of the Torah, the Hebrew Bible, and in fact, these core moral principles predate the giving of the Torah from The Divine to Moses.

Rabbi Yishma'el said, "**Derech eretz** preceded the Torah by twenty-six generations." (Vayikra Rabbah 9;3) Therefore, the values of **derech eretz** describe how all people especially students and teachers should behave toward each other in general and especially while studying the Torah and the Talmud, the commentaries on the Torah.

What is Areyyut?

The *middah* of **Areyyut** means mutual responsibility and accountability. Where is **Areyvut** derived? It is derived from Leviticus 19:16 which states "You shall not stand idly by the blood of another." This *middah* informs us that each member of the cooperative group or team has the individual and shared responsibility for helping others accomplish their learning objectives. In addition, in Mishnah Sanhedrin it says: "All Israel is responsible for one another."

What is Kavod?

Kavod is a *middah* that tells us that each person is entitled to be honored and respected. The **Kavod** *middah* informs us that all people by virtue of being human deserve to be treated

with honor, respect and dignity regardless of their role, level of education, or economic privilege. Why is everyone entitled to **Kavod**? Because we are made in the image of G-d, '**Betzelem Elohim**'; And G-d said, "Let us make the human being in our image and likeness. (Genesis 1:26)

Rabbi Elazar ben Shamua of the 2nd Century CE said: "Let the honor of your student be as dear to you as your own; the honor of your colleague as the reverence for your teacher; and the reverence for your teacher as the reverence of heaven." "Ben Zoma said who is honorable? One who honors all others." – Pirkei Avot 4:1.

Summary of the universal middot

In sum, the universal *middot* of **Derech eretz** (to act with common decency), **Aveyvut** (to demonstrate mutual responsibility for others) and **Kavod** (to show respect and dignity toward others) are three foundational Jewish principles, values and associated behaviors which support all types of cooperation in general and all methods for implementing cooperative learning in particular. In addition to the three universal *middot* of **Derech eretz**, **Aveyvut** and **Kavod**, the Talmud teaches us to include all persons in both religious and public life. For example, in Pirkei Avot, 2:5 it says: "Do not separate yourself from the community" (Pirkei Avot 2:5); accordingly, we must prevent anyone from being separated or isolated from the community against their will.

Furthermore, in Leviticus 19:14 we are commanded, "You shall not insult the deaf, or place a stumbling block before the blind." Stumbling blocks come in many forms, from less-than-accessible buildings, Shabbat services, prayer books and web pages to health care that is harder to access or isn't sufficient for people with disabilities to be excluded from serious study. We are obligated to remove these stumbling blocks; this is why Judaism cares so deeply for the rights of people with disabilities.

Additional Jewish Texts that Inspire Inclusive Practices

- "Do not curse a person who is deaf and do not place a stumbling block in front of a person who is blind." (Leviticus 19:14)
- "Teach a child according to their way." (Proverbs 22:6) (according to their needs and abilities).
- "Rabbi Yochanan said: " "Rabbi Yochanan said: 'Each of the 40 days that Moses was on Mount Sinai, G-d taught him entire Torah. And each night, Moses forgot what he had learned. Finally, G-d gave it to him as a gift. If so, why did G-d not give the Torah to him as a gift on the first day? In order to encourage the teachers of those who learn in a non-traditional manner.'" (Horayot, Jerusalem Talmud)
- **"Rachmana leib'a ba'ee."** – "G-d wants only the heart." Talmud, Sanhedrin 106b
- "The Torah was given to us via Moshe as the heritage of all Israel" Deut.33:4. "Whoever prevents any individual from learning Torah has stolen his legacy."(Pesahim 91b)

In sum, the three *middot* of **Derech eretz**, **Areyvut** and **Kavod** are examples of Jewish values that support cooperative behavior and attitudes in general and cooperative learning in particular. Now let's explore how the concept and practice of *chavruta*, paired or grouped student learning, is a basic method for implementing cooperative learning.

How Does The *Chavruta*, Paired Learning, Support Cooperative Learning?

The *Chavruta*, a group of Jewish study partners, is an early form of cooperative learning. After the destruction of Solomon's Temple 586 BCE. the importance of studying in pairs (*chavruta*) was referenced in the Babylonian Talmud (Shabbat 63a) by R. Abba who said in the name of R. Simeon b. Lakish: "When two disciples form an assembly in **halakhah**, [Jewish Laws of Observance], the Holy One, blessed be He, loves them". In addition, Rabbi Yochanan said about his study partner, Bar Lakisha, "With (my study partner)… whenever I would say something, he would pose 24 difficulties and I would give him 24 solutions, and as a result [of the give-and-take] the subject would become broadened and clarified." (Bava Metzia 84a).

Some of the earliest references to learning in groups, and particularly in pairs, occur in the *Talmud*, where it says: "Two scholars (studying together) sharpen one another" (BT –Ta'anit 7a*)*

The significance of forming groups to study Torah is also reinforced by R. Yosi b. R Hanina who is quoted as saying "scholars who sit alone to study the Torah…become fools" (Berakhot 63b). He also strongly asserted: "Form groups and study Torah, for the Torah is only acquired through study in a group."

Chavruta or paired learning is very different from traditional learning where the teacher pontificates on a Talmudic topic and students are expected to replicate what the teacher had stated orally or via a comprehension test. On the other hand, with *chavruta*-style learning each student has the responsibility to (a) analyze the text, (b) organize his or her thoughts into logical arguments and (c) explain his reasoning to his partner or partners. His learning partner is expected to respectfully listen to his reasoning and pose clarifying and insightful questions and by this process each learner's ideas are sharpened and may produce new insights into the meaning of the sacred text.

Summary

It is striking that Jewish educational methods predate cooperative learning by centuries. CL is a specific type of active learning in which students work together on academic tasks in small teams to help themselves and their teammates learn together. The research on cooperative learning is extensive and compelling. When compared with other instructional approaches, such as individualized instruction and the lecture method, cooperative learning is positively correlated with a number of significant learning variables.

Cooperative learning is supported by the Jewish *middot* (values or virtues) including **derech eretz** (thoughtful behavior and common decency), **areyvut** (mutual responsibility and accountability), **kavod** , (honor and respect) and the inclusion of all students in both religious and public life.

References

Arató, F. (2023). A Shift to the Future: In Gillies, R., Millis, B. and Davidson, N. (Eds). *Contemporary Global Perspectives on Cooperative Learning: Applications Across Educational Contexts.* (pp. 208-222). Routledge.

Aronson, E., Blaney, N. Stephan, C., Sikes, J. & Snapp, M. (1978). *The Jigsaw Classroom*. Beverly Hills, CA: Sage Publications.

Avot 4:1

Brooks, J. G. & Brooks, M.G. (1993). *In Search of Understanding: The Case for Constructivist Classrooms.* Alexandria VA: Association for Supervision and Curriculum Development, 27.

Cohen, E. (1986, 1994). *Designing Group Work: Strategies for the Heterogeneous Classroom.* (2nd edition). Teachers College Press, Columbia University.

Davidson, N. & Worsham, T. (Eds.) (1992). *Enhancing Thinking Through Cooperative Learning.* New York: Teachers College Press, Columbia University.

Davidson, N. (1994, 2002). Cooperative and Collaborative Learning: An Integrative Perspective. In Thousand, J., Villa, R. & Nevin, A. (Eds). *Creativity and Collaborative Learning: A Practical Guide for Empowering Teachers and Students.* (2nd edition) (pp. 13-30). Brookes Publishing.

Davidson, N. (Ed.) (2021). *Pioneering Perspectives in Cooperative Learning: Theory, research, and practice in diverse approaches to CL.* Routledge.

Genesis 1:26

Genesis 3:24

Gillies, R. M. (2014). Developments in Cooperative Learning: Review of Research. *Anales de Psycologia, 30*(3), 7 92-801.

Johnson, D. & Johnson, R. (1989). *Cooperation and Competition: Theory and Research.* Edina, MN: Interaction Book Company.

Johnson, D. W., & Johnson, R.T. (2017). *Joining Together: Group theory and group skills* (12th ed.). Pearson.

Kagan, S. (1992). *Cooperative Learning.* Kagan Publishing.

Kyndt. E., Raes, E., Lismont, B., Timmers, F., Cascallar, E. & Dochy, F. (2013). A meta-analysis of the effects of face-to-face cooperative learning. Do recent studies falsify or verify earlier findings? *Educational Research Review*, *10*, 133-149.

Lyman, F. (1981). The Responsive Classroom Discussion: The Inclusion of All Students. *Mainstreaming Digest.* University of Maryland.

Leviticus 19:16

Midrash Leviticus, Rabbah 9:3

Melamed-Turkish, M. (Summer, 2007). Mitzvot pairs. Jewish Education News. NY*: Coalition for the Advancement of Jewish Education. 28*(2).

Newmann, F. & Thompson, J. (1987). *Effects of Cooperative Learning on Achievement in Secondary Schools: A Summary of Research.* National Center on Effective Secondary Schools.

Schmuck, R. & Schmuck, P. (2000). *Group Processes in the Classroom. Madison (8th ed.).* Brown and Benchmark Publishers.

Sharan, S. (1980). Cooperative Learning in Small Groups: Recent Methods and Effects on Achievement, Attitudes, and Ethnic Relations. *Review of Educational Research.* 241-271.

Sharan, S. (1990). *Cooperative Learning: Theory and Research.* Praeger Publishers.

Sharan, S. (Ed.) (1994). *Handbook of Cooperative Learning Methods.* Greenwood.

Slavin, R. (1990). *Cooperative Learning: Theory, Research, and Practice.* Englewood Cliffs.

Solomon, R., Davidson, N. & Solomon, E. (1993) *The Handbook for the Fourth R III: Relationship Activities for Cooperative and Collegial Learning. Vol. III.* National Institute for Relationship Training Inc.

Solomon, R. & Solomon, E. (2009). *Toolbox for Teachers and Mentors: Moving Madrichim to Mentor Teachers and Beyond.* Wheatmark Publishers.

Springer, L., Stanne, M. E. & Donovan, S. S. (1999). Effects of Small-Group Learning on Undergraduates in Science, Mathematics, Engineering, and Technology: A Meta-Analysis. *Review of Educational Research*, *69*, 21-51.

Webb, N. (1991). Task-Related Verbal Interaction and Mathematics Learning in Small Groups. *Journal for Research in Mathematics Education 22*(5), 366-389.

Researchers' Reading Log –
Two Books About Cooperation

George M. Jacobs

Co-Vice President, Kampung Senang Charity and Education Foundation, Singapore
ORCID: 0000-0002-7640-1842

The Power of Us - Review

Van Bavel, J. J. & Packer, D. J. (2021).
The power of us: Harnessing our shared identities to improve performance, increase
cooperation, and promote social harmony.
Hachette Book Group.

The authors, two social-psychologists from Canada working at universities in the U.S., wrote this book for the public, rather than for fellow academics. This means that they discuss research and concepts from social psychology in a way that most people can understand. Furthermore, Van Bavel and Packer use many stories to illustrate concepts, and they offer practical applications of the concepts. Another of the book's admirable traits is the authors' recognition that individual studies may not be applicable to other settings, for example, because each setting is different.

The book's 276 main pages, not including 20+ pages of acknowledgements and references, provide coverage of many areas in the study of identity, especially the social nature of identity. In Chapter 1 – The Power of Us - the authors invite us to complete the following sentence – I am _____ - 20 times, 20 different ways, e.g., "I am a badminton player" or "I am a vegan" or "I am a teacher who uses cooperative learning," to demonstrate that each of us has multiple identities. This experience of our own multiple identities confirms the excerpt the book offers (p. 22) from the Walt Whitman poem "Song of Myself:"

> *Do I contradict myself?*
> *Very well, then I contradict myself*
> *(I am large, I contain multitudes.)*

In other words, we have multiple identities. Furthermore, those identities can change. Perhaps, the book's two most important points about identity are first that identity has a major impact on what we think and how we behave. Groups are important here because "the groups people belong to are often fundamental to their sense of self and understanding of who they are" (p. 31). Second, people often adjust their lives to fit in with their groups

and "*try to act in ways that they believe will advance its [the group's] interests, making personal sacrifices if necessary*" (p. 32).

The practical nature of the book is stated in its subtitle: "Harnessing our shared identities to improve performance, increase cooperation, and promote social harmony." This subtitle attracted me to the book, because as a user of cooperative learning as a learner and teacher, I seek out ideas that might help me better understand and facilitate cooperation in classrooms or anywhere. Throughout this summary of *The Power of Us*, I will share ideas from the book that might be relevant to cooperation.

One of the most incredible findings of the research reported by Van Bevel and Packer is the way that people can easily identify with a group, even if they are randomly assigned to the group. Our species' readiness to join and identify with groups augurs well for cooperative learning, in which perhaps the key principle is positive interdependence. Johnson and Johnson (2024/1994, paragraph 24) state that "*Positive interdependence exists when group members perceive that they are linked with each other in a way that one cannot succeed unless everyone succeeds.*"

However, Van Bevel and Packer note that just being in a group does not guarantee a strong sense of identity as a member of a group. Similarly, many teachers and students have observed that students may sit in a group but not work as a group, not feel positively interdependent with groupmates. Fortunately, the cooperative learning literature offers many strategies for encouraging students to care about their group members. These strategies include team building activities, group goals, group celebrations/rewards when goals are reached, roles for group members, distribution of unique resources among group members, use of social skills that facilitate group functioning, structuring interaction such that everyone has and utilizes opportunities to participate in the group, and building a group identity via such means as mottos, mascots, logos, colors, handshakes, cheers, and shared experiences.

The Power of Us discusses another strategy for promoting common identity among group members: competition with/against other groups. Indeed, history as well as current news headlines are replete with examples of group identity as a sources of negative actions. However, competition can also be cooperative, because competition often takes place in the context of a rule-governed system, with participants, e.g., at a dance competition or in an election – valuing fair play. Under such conditions, competition can spur improvements which benefits all.

The book's Chapter 2 – The Lens of Identity – describes research showing that identity can bias our observations, such as followers of two different teams watching the same match, with the followers of each team believing that their team played fairly while the opposing team cheated.

Chapter 3 – Sharing Reality – also looks at bias, with people changing the way they view the world to fit a story that makes their group look good, e.g., how a doomsday cult adjusts their story when the world does not end on the day predicted by the cult leader. Fortunately, this chapter offers ideas for avoiding groupthink, i.e., the harmful practice of people agreeing with the group leaders or consensus without thinking deeply or even if we disagree. Research suggests that even people who seem high in cognitive ability can fall victim to groupthink. Expressing a view reminiscent of Vygotsky's Sociocultural Theory (1980), Van Bevel and Packer state, "*humans' understanding of the world is shaped by other humans – ... our realities are fundamentally social*" (p. 87). To counter groupthink, Van Bevel and Packer suggest:

a. Group leaders (whether official leaders or de facto leaders) should give their views last, rather than first;
b. Promote the idea that "An enemy will agree, but a friend will disagree;"
c. Include the role of "devil's advocate" to offer contrary perspectives, and practice the social skill of disagreeing politely;
d. Encourage input from all group members, possibly anonymous feedback;
e. As Johnson and Johnson (2024/1994) suggest, groups should spend time discussing how well they function, including what they are doing to reduce groupthink.

Chapter 4 – Escaping Echo Chambers – looks at the problem of people holding fast to perspectives that align with their group identity because what they hear, read, and view comes from sources that reinforce those perspectives. Opportunities to interact – online or in person with people who have different perspectives is one of Van Bevel and Packer's research-based solutions. Cooperative learning techniques, such as Academic Controversy (Johnson et al., 1996), and social skills building activities, such as practicing paraphrasing and asking for elaborations, provide forums for such possibly mind-opening interactions.

Chapter 5 – The Value of Identity – includes a discussion of trust. Being willing to cooperate with others often involves an act of trust, trust that they will do their fair share in the group. Shared identity increases trust, even trusting people whom we have just met and, therefore, being willing to work with them. If initially, shared identity is absent, other means can be used to build trust, such as those mentioned above in the discussion of Chapter 1. Another way to build trust draws on the many examples in the book of the spectacular successes that have resulted from the power of cooperation, i.e., as stated in the book's title: *The Power of Us*.

Chapter 6 – Overcoming Bias – and Chapter 7 – Finding Solidarity – look at ways to build common identity between people who for whatever reasons, including structural discrimination, do not trust each other. A famous story from the cooperative learning literature describes how Aronson and a team of other social psychologists went to newly desegregated U.S. schools in the 1970s (Aronson, 2024). Students of different races studied together in the classrooms, but they self-segregated in the school canteens and playgrounds. In response, Aronson and colleagues invented the famous Jigsaw cooperative learning technique in which students form heterogeneous groups, share a common learning goal, have equal status due to the unique information given to each group member, and are encouraged by teachers to collaborate. Van Bevel and Packer tell a similar story in which bias was to some extent overcome when people in Iraq came together on mixed-religion soccer teams. Cooperative learning promotes this mixing of people with different identities via the use of heterogeneous grouping to determine which students will be groupmates. Examples of variables involved in forming heterogeneous groups include race, religion, nationality, gender identity, social class, special needs, and personality.

Chapter 7 explores the potentially useful concept of expanding one's moral circle (Singer, 2011). We see those in our moral circle as worthy of support, i.e., we feel positively interdependent with them. Van Bevel and Packer recount a study in which supporters of the Manchester United football club were more likely to help a researchers' accomplice wearing a Manchester United jersey than the same person in the jersey of a rival football club. The jersey of the football club with which the research participants' identified put the accomplice within the participants' moral circle, while the wrong jersey on the same person cast him outside their moral circle. Efforts such as the United Nations' Sustainable Development Goals encourage people to greatly enlarge their moral circles to include people in other countries, people in other social classes, and even members' of other species. These expanding circles

also represent an expansion of the cooperative learning principle of positive beyond the small classroom group, beyond the classroom, beyond the school, onward and upward, so that students and others find and act on solidarity with the billions of others whose outcomes are, when thoughtfully considered, positively correlated with their own (Jacobs, 2023).

Chapter 8 – Fostering Dissent – seems somewhat similar to Chapter 3 on avoiding groupthink. Van Bevel and Packer cite studies in which groups of students into which trained dissenters had been placed outperformed groups without dissenters. In Chapter 8, the concept of psychological safety adds an important dimension to the discussion of how to promote an atmosphere in which people are not only willing to dissent but also willing to entertain dissent, rather that dismissing or attacking dissenters.

Chapter 9 – Leading Effectively – cites work by Gardner, known for, among other concepts, Multiple Intelligences Theory. Gardner studied effective leaders and concluded that, "*They told stories … about themselves and their groups, about where they were coming from and where they were headed, about what was to be feared, struggled against, and dreamed about*" (p. 235). Effective leaders do not only tell stories about identity; they embody the stories by taking action. Of course, it is incumbent upon everyone to decide which leaders we might collaborate with or which stories we should tell when we lead. As Van Bevel and Packer state, "*We get to decide which identity stories we want to embrace,…*" (p. 262).

The book's last chapter, Chapter 10, looks at The Future of Identity generally and focuses on three issues: inequality, climate change, and democracy. One highlight of the chapter was the account of the taking of the famous Earthrise photo by astronauts who reported feeling:

> "*…a deeper sense of connection with humanity as a whole. After they had seen the Earth from space, the significance of national boundaries waned and the conflicts that divide people on the ground seemed less important. As one astronaut put it, "When you go around the Earth in an hour and a half, you begin to recognize that your identity is with that whole thing*" (p. 272).

Van Bevel and Packer conclude their thought-provoking, useful book by reminding us that while, yes, social identities are powerful, we all retain the capacity to decide what to think and do: "*Whether by rejecting or embracing a particular conception of ourselves, by challenging our groups to be better, or by organizing in solidarity to change the world, we take control of who we want to be*" (p. 276).

References

Aronson, E. (2024). *The Jigsaw classroom*. Retrieved from https://www.jigsaw.org

Jacobs, G. M., Zhu, C., Chau, M. H., Guo, Q., & Roe, J. (2023). Using cooperative learning to teach the Sustainable Development Goals. *Autonomy and Responsibility: Journal of Educational Sciences*, *8*(1), 39-52. https://doi.org/10.15170/AR.2023.8.1.3

Johnson, D. W., & Johnson, R. T. (2024/1994). *An overview of cooperative learning*. Retrieved from https://www.co-operation.org/what-is-cooperative-learning

Johnson, D. W., Johnson, R. T., & Smith, K. A. (1996). *Academic Controversy: Enriching college instruction through intellectual conflict*. The George Washington University, Graduate School of Education, ASHE-ERIC Higher Education Report, 25(3).

Singer, P. (2011). *The expanding circle: Ethics, evolution, and more progress*. Princeton University Press.

Vygotsky, L. S. (1980). *Mind in society: Development of higher psychological processes* (Ed. by M. Cole, V. John-Steiner, S. Scribner, & E. Souberman). Harvard University Press.

Econarrative - Review

Stibbe, A. (2024)
Econarrative: Ethics, ecology and the search for new narratives to live by
Bloomsbury.

The definition of literacy has evolved (UNESCO, 2023). Once, to be seen as literate, people needed the ability to understand basic texts, such as newspapers and instructions. Access to education grew rapidly to meet this need, and the resulting literacy gains have yielded many benefits (National Literacy Trust, 2023). However, the concept of literacy has since greatly expanded. Now, to be literate, people first, need to understand many kinds of texts, including texts found online. Second, understanding texts created by others must be combined with people creating their own texts, alone or collaboratively. Third, and most important to this book review, literacy means being able to read between the lines of texts created by others, to think critically, and to apply knowledge of the world of texts to the texts people create themselves.

Work in the area of Critical Discourse Analysis (CDA) (Fairclough, 2013) offers many examples of how to apply critical thinking to the understanding of texts. CDA often found fault with texts produced by wealthy and powerful forces in societies, such as corporations. Arran Stibbe (2021) is a leader in using ideas from CDA to do what many call *ecolinguistics*: an examination of the interaction of humans with other species of animals, plants, etc., as well as with the physical environment, such as bodies of water and deserts (International Ecolinguistic Association, n.d.).

Stibbe's (2024) new book, *Econarrative: Ethics, ecology and the search for new narratives to live by*, represents a further development in ecolinguistics which had tended to focus only on criticizing texts produced on behalf of the dominant forces in society, texts that reinforce the status quo. A key feature of this dominant view is known as anthropocentrism (Lin et al, 2023), with *anthro* referring to humans, in other words seeing humans as the Earth's most important residents. This human-centric view justifies doing anything to the planet's other species. Other features of this dominant view include individualism, male supremacy, and consumerism, all of which contribute to the current environmental crisis.

In contrast to anthropocentrism is ecocentrism, a view that encourages humans to value and feel gratitude toward other species and to seek ways to coexist with them. In synch with ecocentrism is ecojustice, a perspective that works for all humans to enjoy the benefits of sustainable development and that works against the unequal suffering of some people due to the environmental destruction wrought be anthropocentric actions. The book *Econarrative* continues and develops an existing trend in ecolinguistics to highlight existing ecocentric texts and to create more of them. Indeed, the book's chief contribution lies in pointing the way in this direction.

Econarrative begins with an extensive introductory chapter, Chapter 1, which provides Stibbe's definitions of key terms and concepts. Here are some of these definitions involving the term *narrative*, but first, Stibbe emphasizes that "*any narrative is only ever a version of the world and that other versions are possible*" (p. 14).

> **Narrative:** Beyond the general meaning of a text (spoken, written, visual) that tells a story, a narrative can also be a more general perspective on the world. Of course, different people will have different perspectives, and these perspectives can change.

> **Metanarrative:** What distinguishes a metanarrative from a narrative is that metanarratives are perspectives in the minds of many members of a culture. Many stories are generated from a single metanarrative. For example, the novel *Jaws* (Benchley, 1974) and the film based on the book tell the fictional story of a shark who kills a human and humans' resulting panic and their efforts to kill the shark. *Jaws* flows from an anthropocentric metanarrative and reinforces an adversarial perspective on relations between the more-than-human world (other species and the physical environment) and humans. A term related to metanarrative is dominant narrative, i.e., a perspective widely held in a society, with a powerful impact on what people in that society think and do.

> **Econarrative:** Many narratives and metanarratives refer only to humans, e.g., the view that most people are basically good (Benkler, 2011). Stibbe directs readers' attention to econarratives, those narratives that involve other species and the physical environment. However, he adds that not all econarratives are likely to positively impact the world and that econarratives, like all narratives, need critical analysis. This analysis must be based mostly on value judgements, not just on "*technicalities of language and narrative structure*" (p. 23).

Chapter 2 deals with creation stories. These can be particularly impactful on people's perspectives, because these stories speak about "*the place of humanity in relation to other species and the physical environment*" (p. 27). For example, Stibbe cites Harari (2022) who links the 21st century's climate crisis to the line in the Genesis section of the Bible calling on humans to "*fill the earth and subdue it*" (p. 28). A key term in Chapter 2 is activation, which is related to but goes beyond the use of the active voice. Instead, activation involves who appears in narratives and whether they have sentient roles such as thinkers, doers, sensers, dreamers, singers, creators, and communicators, or whether they only passively receive the actions of others, usually humans.

The book's third chapter explores people's identities, in other words, the stories that they tell about themselves. Do people see themselves "*as narrowly ensconced within the human world or as interacting with a wider community of life that includes both human as well as non-human beings*"? (p. 58). Stibbe worries that people are increasingly cut off from their "*ecological selves*" (p. 69), and he praises narratives in which humans identify as being linked to other species in relationships of "*mutual care and sustenance*" (p. 58).

Chapter 4 concerns haiku, a form of poetry often but not necessarily associated with nature, a form of poetry that while linked to the Japanese language is now often written in other languages as well. Is haiku even narrative form? For instance, there is no series of events in this haiku cited by Stibbe (p. 74):

> *Among lily pads*
> *Across the wind-scoured pond*
> *Flowers of etched ice.*

Stibbe is more interested in the role haiku or any texts can play is changing humans' perspectives and actions regarding nature. He praises haiku for making visible what humans often ignore and for "*arousing compassion for ordinary and often overlooked animals, plants, and aspects of the physical environment*" (p. 90). Perhaps haiku's attentive observation of nature can lead to "attentive care" (p. 91). The chapter's conclusion quotes Rigby (2001, p. 19):

"I too would like to believe that poets can in some measure help us 'save the earth,' but they will only be able to do that if we are prepared to look up and listen when they urge us to lift our eyes from the page."

My favorite chapter in Econarratives is Chapter 5, "Enchantment: Wonder in Nature Writing." Early in the chapter, the sociologist Max Weber is quoted as stating in 1918 that humanity would be unwise to let go of our feeling of wonder as regards nature (p. 96):

"The growing process of intellectualization and rationalization does not imply a growing understanding of the conditions under which we live. … It means that in principle, then, we are not ruled by mysterious, unpredictable forces, but that on the contrary we can, in principle, control everything by means of calculation. That in turn means the disenchantment of the world. … We need no longer have recourse to magic to control the spirits or to pray to them. Instead, technology and calculation achieve our ends."

Stibbe, and probably Weber too, is definitely not devaluing science. Instead, like Rachel Carson (1965) whose groundbreaking writing marked a beginning of a modern movement against the harm humans were doing to our fellow Earthlings, Stibbe is saying that science can go hand-in-hand with a feeling of awe about nature. As our scientific understanding increases, so too can our wonder at the diversity and beauty of the world around us. Carson is quoted (pp. 97-98) as writing about:

"[a gift to children of] a sense of wonder so indestructible that it would last throughout life, as an unfailing antidote against the boredom and disenchantment of later years, the sterile preoccupation with things that are artificial, the alienation from the sources of our strength."

Furthermore, Stibbe stresses that he is talking about the magic of the everyday, not about making a bucket list including the Seven Natural Wonders of the World (World Atlas, 2024) and then burning fossil fuels by flying around the world to see them all. This is not to mention the time pressure of viewing the famous wonders before human-induced environmental destruction disappears them. The genre of New Nature Writing is praised because it "*eschews sublime encounters with spectacular nature in distant places and instead (among other things) opens up paths to reconnect with more mundane and overlooked local nature*" (p. 103).

People can experience the enchantment off nature vicariously via texts, as long as those texts show members of other species as "individuals who can be counted (and therefore 'count')," not as "*mass nouns such as biomass or timber measured in mere tonnages of stuff*" (p. 100). Other advice on promoting enchantment includes portraying other species "as beings in their own right rather than as resources or human possessions" (p. 101). Furthermore, humans can be portrayed as relating to other species, not as being detached from them, using them, or studying them as uncaring, objective observers.

Chapter 6 highlights the word *ethics* in the book's title *Econarratives: Ethics, ecology and the search for new narratives to live by*. "*Narrative ethics regards moral values as an integral part of stories and storytelling because narratives themselves implicitly or explicitly ask the question, 'How should one think, judge, and act – as author, narrator, character, or audience – for the greater good?*" (p. 123). Jane Goodall, the student and protector of chimpanzees and other species is quoted (p. 131) as stating, "*to make change you must reach the heart, and to reach the heart you must tell stories. The way we write about other animals shapes the way we see them – we must recognize that every individual nonhuman animal is a 'who,' not a 'what.'*"

In his 2021 book on ecolinguistics, Stibbe discusses the role of ideology, which closely relates to metanarratives. He quotes (p. 141) the physicist and environmental campaigner, Vandana Shiva on some of the fundamental ideology underlying anthropocentrism:

> *"Colonialism and industrialism have destroyed the Earth and indigenous cultures through four false assumptions. First, that we are separate from nature and not a part of nature. Second, that nature is dead matter, mere raw materials for industrial exploitation. Third, that indigenous cultures are inferior and primitive, and need to be 'civilized' through civilizing missions of permanent colonialization. Fourth, that nature and cultures need improvement through manipulation and external inputs."*

Chapter 7 emphasizes the importance of emotions if econarratives are to impact people's beliefs and behaviors. Closely linked to emotions are advertisements, the focus of Chapter 8. Stibbe argues that ecolinguistics needs to study advertisements, first, to understand how companies, including those that use our fellow animals for food – one of the most horrific instances of anthropocentric activity – seek to manipulate us and, second, to use the same strategies for ecocentric ends. Toward this second goal, Stibbe quotes ecological activist and journalist Ayana Young, as follows (p. 168):

> *"What does the dominant culture use to seduce us? And why are we not using those tools to seduce people in another direction? Can we look at what does work and actually utilize those tools with integrity, with love, with devotion for a greater good, and also be creative, make art, and have a fun time doing it?"*

Just as Chapter 2, the first chapter after the book's introduction, looked at narratives about the beginnings of life, Chapter 9, the last chapter before the book's conclusion, looks at narratives about possible endings of life. Stibbe questions the impact of texts which foretell ghastly endings to our species, as the damage humans has done crushes us in a cacophony of catastrophe. Instead, Stibbe seems to favor an approach that leaves humans with choices, as is expressed by Rachel Carson (p. 218):

> *"We stand now where two roads diverge … The road we have long been traveling is deceptively easy, a smooth superhighway on which we progress with great speed, but at its end lies disaster. The other fork of the road … offers our last, our only chance to reach a destination that assures the preservation of our earth."*

In Chapter 10, Stibbe concludes his thoughts on econarratives, highlighting not just what they are or where they are found but what they do. On page 222, he quotes Donly, as positing that narratives "*serve as a point of comparison between the textual world and the everyday one that the reader inhabits. Within the difference between these two worlds emerges the narrative's power to reshape readers' thinking.*"

To conclude this review, readers should bear in mind that, although Stibbe does a fine job of explaining and exemplifying concepts, this is an academic book written for fellow academics, not one written to popularize academic research for the public. Speaking of concepts, Stibbe makes an important point when he states that any concept "*has a wide range of definitions in the literature and there is no objective way to decide which of these is the 'correct' one. Each definition has advantages and disadvantages in different contexts and for different goals*" (p. 127).

As to goals, please note that the last three words of the title of this book as well as of Stibbe's (2021) previous book are "to live by." Thus, the main goal of reading this book

perhaps should not be to use the book's ideas to complete an assignment at university or to burnish one's CV by publishing a scholarly work. Perhaps the main goal could be to take inspiration from ecolinguistics to change the way we and others live so as improve the way we humans interact with the planet's other species and with the physical environment.

References

Benchley, P. (1974). *Jaws*. Doubleday.

Benkler, Y. (2011). *The penguin and the leviathan: How cooperation triumphs over self-interest.* Currency.

Carson, R. (1965). *The Sense Of Wonder.* Harper And Row Publishers

Fairclough, N. (2023). Critical discourse analysis (2nd ed.). In M. Handford, & J. P. Gee (Eds.). *The Routledge handbook of discourse analysis* (pp. 11-22). Routledge.

Harari, Y. N. (2022, October 18). To change our future, we should change how we teach history to children. *The Guardian.* Retrieved from https://shorturl.at/mqwS3

International Ecolinguistics Association. (n.d.). *About.* https://www.ecolinguistics-association.org/

Lin, J., Fiore, A., Sorensen, E., Gomes, V., Haavik, J., Malik, M., ... & Grigoryeva, A. (2023). Contemplative, holistic eco-justice pedagogies in higher education: From anthropocentrism to fostering deep love and respect for nature. *Teaching in Higher Education*, *28*(5), 953-968. https://doi.org/10.1080/13562517.2023.2197109

National Literacy Trust. (2023). *What is literacy?* Retrieved from https://literacytrust.org.uk/information/what-is-literacy

Rigby, K. (2001, May 30). *What are poets for? Heidegger's gift to ecocriticism.* Presentation at the Centre for Comparative Literature and Cultural Studies, Monash University.

Stibbe, A. (2021). *Ecolinguistics: Language, ecology and the stories we live by*. (2nd ed.). Routledge.

Stibbe, A. (2024). *Econarrative: Ethics, ecology and the search for new narratives to live by.* Bloomsbury.

UNESCO. (2023, June 29). *What you need to know about literacy.* Retrieved from https://www.unesco.org/en/literacy/need-know

Project Invitation, Religious and Spiritual Values Compatible with Cooperative Learning

Cooperative learning is an educational methodology developed in the secular world. Its roots are in the fields of educational philosophy (Dewey 1916). Constructivism (Vygotsky 1934,2012) sociology (Cohen 1986) and psychology, e.g. Deutsch (1949), Sharan (1980), Slavin (1983), Johnson and Johnson (1989). Cooperative learning research has shown distinct advantages in its application in secular education including academic achievement, development of higher order thinking skillls, self-esteem and self-confidence as learners, intergroup relations including friendships across racial and ethnic boundaries, development of interpersonal skills, and the ability to take the perspective of another person.

After fifty-plus years of secular engagement with cooperative learning, some of us finally realized that the key concepts and values of CL have compatible values in spiritual and religious traditions around the world. To explore this notion, we are assembling a small team of authors who each have enthusiasm for cooperative practices and personal knowledge of a particular religious or spiritual tradition. The goal is to write a series of articles on the spiritual/religious values consistent with CL (which might later comprise an edited volume).

The traditions would include but not be limited to:

- Christianity (e.g. Catholicism, Protestant denominations, Society of Friends, United Church of Christ…)
- Unitarian/Universalism, Judaism, Buddhism, Hinduism, Johrei, Bahai, Islam, Sufism
- Indigenous peoples, e.g. Maori in New Zealand, Native American,
- Others?

To get started with this piece on spiritual values connected with CL, we can look for pertinent quotations including spiritual, ethical, or moral precepts in varied religious or spiritual traditions. We can search for quotes using key words aligned with cooperation. Here is a starter list of pertinent words. Please feel free to add to it.

- Cooperation, Collaboration, Working together, Interdependence, Mutual support, Community
- Social skills, Teamwork skills
- Equity, Diversity, Social justice
- Peace, Dialogue, Conflict resolution
- Caring, Compassion, Friendship or friendliness, Love
- Unity, Oneness, Interconnectedness

- Wisdom, Deep Understanding, Mindfulness
- Faith, Stewardship

The research methodology will employ qualitative methods based on analysis of texts in the varied religious or spiritual traditions. We will be looking for occurrences of keywords related to cooperation, collaboration, working together, and so on. Starting with the key words, we will identify pertinent quotations of sayings and illustrative passages. For each religious or spiritual tradition, we will weave together the quotations into a coherent whole.

Alternative wordings

Authors of the various papers might choose slightly different wordings for the title and descriptions in their papers.

- For example, values might also be labeled as ideals, precepts, beliefs, teachings, concepts, notions, …
- Then one can say underlying CL, compatible with CL, connected with CL, in commonality with CL, consistent with CL, supporting CL,…

So one among many versions would say, spiritual and religious values supporting CL. There are many possible choices. Do you have a favorite wording? What resonates with you?

We are seeking for scholarly papers that will be radiant, illuminating, inspiring, uplifting, renewing…etc. The papers should be engaging at all three levels: heart, mind, and spirit. These desired conditions should flow naturally, given the infinite, all-encompassing Source of the religions and spiritual movements.

These papers should not be pedestrian scholarship. The papers should clearly elucidate the religious and spiritual values that support cooperation in life and in learning. Of course, they need to be factually, and conceptually accurate, and well-grounded and documented in the sacred texts. A strong collection of quotations of sayings and passages will lead naturally to an illuminating paper that touches the heart, mind, and spirit of the reader.

Progress report:

The Catholic paper is complete and submitted to a journal.
The Jewish team has a good fourth draft.
The team on Indian Sanatan dharma culture is exploring ideas.

Forming new teams

Would you be interested in forming a new team to explore the relationship between CL and a spiritual or religious approach in which you are deeply involved?

If so, please contact Neil Davidson at neild@umd.edu

Publication goals

As of now, our plan is to publish separate papers in appropriate spiritual or religious journals. Doing so will encourage the spread of CL to religious or spiritual traditions that might not otherwise consider it. And each paper will share illuminating insights that deepen our understanding of the fundamental values of CL.

Might these publications eventually be brought together in an edited volume? That would depend on our ability to form a strong editorial team. Are there any volunteers who want to write a pertinent chapter, who are capable and experienced editors, and who want to take on major responsibility for producing this edited volume?

Comments, pro and con, and suggestions on this project are welcome. Please send them to Neil Davidson, neild@umd.edu, and to Ferenc Arato, koopcsop@gmail.com.

And of course, we will continue our main emphasis on CL In the secular world of education.

Cooperatively yours,

The NICLEE Cooperative Leadership Team,
Ferenc Arato, Neil Davidson, Yael Sharan, Laurie Stevahn