

Informal Peer Learning of Diverse Undergraduate Students: Some Learners Make Meaning through Collaborative Activity

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Abstract

This paper explores student reported informal peer-learning in a business degree cohort at a UK community college. Literature on conceptualisation and debate regarding peer-learning is examined along with established typologies with respect to equality, mutuality and structure. Following this a critical review of evidence-based studies is undertaken. Crucially we propose a framework of conceptual, functional and experiential themes of peer learning, linked to aspects of student diversity in such courses/institutions. This framework is applied in our questionnaire study investigating the perceptions of second- and third-year students about peer learning. The main findings are that the thematic directionally distinct peer-learning seems not to be prevalent but that across themes and settings some students are more generally engaged in peer-learning than others. The content-based theme of two-way peer-learning that is strongest is guidance in making sense of subject literature; the weakest is guidance on environment aspects of business, e.g. economics. The settings of strongest peer-learning are reported to be those of in-class activities plus group assessment work. The main teaching recommendation is therefore greater deployment of in-class activities that require collaborative learning and require peer learning. The main recommendations for further research include more open explorations of student peer engagement where students can specify significant in-class events and experiences.

Keywords

Peer Learning; Business Degrees; Widening Participation; College HE.

Introduction

As noted by Boud (2001) a leading writer on peer-learning, if we as tutors set ourselves as the mediation point for all that students need to know, we are making a serious mistake. He goes on to assert that peer-learning in the educational setting is key to skill development as regards people effectively learning from each other in life and work, and as regards people learning practical discernment across information received through all sorts of channels.

There are many different forms of peer education including peer tutoring as covered by Duran (2017). While peer-learning itself is variable, as Boud (2001) asserts is essentially involves the sharing of knowledge and understanding between participants in a similar situation (i.e. cohort) who do not have a role as teacher or expert practitioner. Boud also asserts the reciprocal two-way nature of peer-learning.

In line with reasoning developed later, we propose in this study that both the value and the propensity for peer learning may be strong when there is balanced diversity in terms of socioeconomics, demographics and prior learning. We connect this to complementary differences in terms of relative preferences, strengths and weaknesses. For reasons more closely explored in the literature-based analysis, it is argued here that a degree cohort at a community college – and in particular a cohort studying a pre-management business degree is likely to be very diverse in these key respects. We also

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propose themes of peer learning in this context which we term functional, conceptual and experiential.

With these proposals in mind, this study seeks to conduct an initial indicative piece of research on the extent and themes of informal peer-learning across a business studies degree cohort at a community college in the UK.

The literature-based analysis of this paper looks at the different depictions of peer-learning in context of the wider notion of peer education, as well as the theoretical underpinnings, findings and methods of existing studies in peer-learning. There is also assessment of education literature based reasoning for suspecting diversity and strong peer-learning potential/benefit in community college pre-management business degree cohorts.

Thereafter the study goes forward with primary research in the form of an embedded case study at a community college on a business studies degree cohort using an anonymised questionnaire tool – structured to discern and classify different themes of peer-learning both provided to and received from cohort classmates. Following analysis of these findings – there is discussion of possible strategies to more greatly facilitate and enable the informal peer-learning such as it is.

Literature Based Analysis

As recognised by Boud (2001) peer-learning can be very informal and incidental in its essential sense of individuals learning with and from each other. The key defining aspects, namely that the process involves status equals in similar situations where none/neither have a formal tutor or instructor position are agreed also by Topping (2005). It should be noted however that most treatments of peer-learning depict it as a learning strategy deployed or an actively implemented process, (Hammond et al, 2010). There are two main reasons for this. One, with there being anecdotal and experiential belief that some peer-learning occurs informally and aids student attainment, there is also conscious organisation to increase and enhance this. This aspect constitutes initial justification for distinct schemes such as PASS, Peer Assisted Study Schemes in Australia (Dancer et al., 2015), PAL and PALS, Peer Assisted Learning and Peer led Academic Learning Schemes respectively in the UK (Hammond et al, 2010; Keenan/HEA, 2014) and the numerous schemes originating and centred in the United States under the terminology SI or Supplemental Instruction (Capstick et al., 2004; Martin, 2008). The further motive for active strategies and formal schemes to be dominant in the literature is the reasonable desire to move from the anecdotal and experiential reflection to some kind of testable scenarios where the effects of peer-learning can be assessed. In particular Hammond et al. (2010) are critical of some of these positivistic efforts due to difficulties/issues in deriving separable intervention and control cohorts, and the possibility of confounding factors when comparing groups and their academic performance.

Within the broad coverage of peer education there are formats which deviate sizeably from the Boud (2001) status equal/no tutor/reciprocity depiction. Topping et al. (2017) classify different forms of peer education within the dimensions of Equality, Mutuality and Structuring with there being significant variations on all three. As noted by Falchikov (2001) a good deal of peer education is cross level peer tutoring whereby a student leader from a higher level helps in classroom-based activities. This approach is critiqued in practice with the mutual respect aspect being seen as stronger between authentic same level peers (Falchikov, 2001). The formally specified tutor aspect has also been critiqued in that the presence of a more advanced learner may still encourage a passive approach to learning (Ladyshevsky, 2000). There are of course some practical feature advantages where peer education involves a formally set tutor role. Looking across the different approaches surveyed by Duran (2017) including peer tutoring and peer-learning by teaching, an established peer tutor position can enable students so appointed to undertake planning both for quality of explanation and for formative questioning of the peer tutoring recipient to check for depth of learning. Having noted these

aspects – and their proximity to those of traditional teaching – this study focuses on the basic Boud articulated approach. This is partly because of the parity of respect and active engagement points made above, but also because this study seeks to ascertain – at least thematically – the kind of peer-learning that is going on informally. Therefore, in the classification of Topping et al. (2017), the peer-learning explored here, in so far as it is prevalent, involves: strong equality, between cohort classmates with none given a tutor role; sizeable mutuality as students may receive and provide peer guidance albeit in an ad hoc, non-synchronised and not strictly pair-wise way; and a low degree of structuring because of that informal ad hoc nature and no particular planning.

In terms of argued benefits of peer learning, a number of relevant and general points apply from the literature. In conceptual terms, Boud (2001) sees the benefit of reciprocal peer (same class) learning being that students are both learning from and contributing to each others' learning. Boud links this to Habermas' (1984) notion of an 'ideal speech act' wherein issues of power and dominance are not prominent. The notion of social interdependence in the work of Vygotsky (e.g. 1986) – linked to peer education by Dancer et al (2015) surely has its strongest applicability in the reciprocal peer-learning setting. The connection to constructivist and social constructivist learning is also important as this kind of peer-learning sees education being enhanced by social interaction and works on the premise that everyone has some existing relevant knowledge to contribute. Crucial in specific terms here is Vygotsky's notion of zones of proximal development in which student capability, given help (including peer help) can feasibly be extended. The reciprocal peer-learning setting is almost certainly also optimal for any community of learning benefits to come through and help new students cope with the challenges of higher education, as again related to peer education by Dancer et al (2015). It should be noted here, however, that the reciprocity of peer-learning is unlikely to be simultaneous in real time since some students are likely to be stronger than others depending on the topic being covered. This is an important practical point to recognise especially in view of the thematic nature of peer-learning investigation to be put forward in this study. In context of widening participation in higher education, Allan and Clarke (2007) cite Biggs (2003) as asserting a role for peer-learning in study skills accumulation linked to meta-cognition and more widely learning to learn. This is significant in terms of being generic across all curricular but student type specific relating to those whose prior study skills may have been limited. Another beneficial aspect reasoned in the literature is Topping's (2005) self-disclosure point whereby student willingness to admit ignorance or confusion and ask for guidance may be greatest in interaction with peers who hold no position of authority. It is noted that the argument presented here relates specifically to that context of status equals in informal settings.

In relation to longstanding core pedagogy, perhaps the most straightforward piece that indicates a reciprocal benefit for peer-learning is the Cone of Experience/Pyramid of Learning based on the work of Dale (1954) and the National Training Laboratories Institute (NTL, 1954). In these model depictions, while learning retention rates for listening to a lecture are portrayed as likely to be very low, explaining or teaching to others what has been covered is up there with practical use of the material as providing a very high retention rate. In the later work of Dale (1969) methods such as explaining to others are depicted as giving a far higher cognitive capability in the material (in the taxonomy of Bloom et al (1956)) than watching/listening to lectures.

In terms of empirical studies, evidence of reported effectiveness of informal peer-learning was gathered from students by Hossain and Sormunen (2019). In their research, numerous students from a Library and Information Science cohort reported that a great deal of their information and communications technology learning came informally from peers. Their quantitative and qualitative research – examining process within informal peer-learning – showed that the learning tended to take place when students asked peers for guidance – upon reaching practical obstacles in their computer use, when working on course subject assessments. The informal and status-equals aspect is important to note here. It is also recognised that while focussed on a particular subject cohort, the content

conveyed in the peer learning is of a generic cross-curricular nature. A relevant study using peer evaluation of business degree learning, though taken forward specifically to apply to group work and mentoring, is that by Brutus and Donia (2010). The category themes used in their research tool very much link to ways in which students can rate and detail how peers are contributing to their learning – namely: cooperation, practical contribution, conceptual contribution and work ethic. Peer learning flows along these themes could be reflective of diversity related differences in strengths, weaknesses and preferences. As such this categorisation aspect is very close to the one deployed in this study. The difference about this Brutus and Donia (2010) research is that it focusses on sessions explicitly dedicated to group working and mentoring. There is merit in studying the extent and nature of such processes during regular teaching and study activity, and that is undertaken in this paper.

There are a number of reasons for thinking business cohorts may be diverse such that complementary strengths, weaknesses and preferences exist. Broadly speaking it may be that very different people choose the pre-management business degree because business study itself is diverse on a number of meaningful criteria. Based on the work of McFarlane (1997) it is fair to say that business study has a sizeable academic content element alongside a crucially vocational format in its learning outcomes. Furthermore, reflections on business studies curriculum and teaching methods, such as that by Mulligan (1987) in dual cultures context, indicate the field to have a sizeable humanities content focus alongside deployment of scientific techniques for subject analysis. In view of these balance, dichotomous or mixture aspects a business management studies degree cohort is highly likely to comprise, on the one hand students interested in the conceptual and contextual, as well as a data analytical applied treatment of material, and on the other students interested in the functional practicalities as well as the people and creative side of business and management activity. This intuitive point also corresponds to empirical work finding very strong learning styles differences across business studies cohorts (Biberman and Buchanan, 1986; Loo, 2002). In so far as salient differences in interests, preferences and motives reflect different relative strengths and weaknesses, pre-management business studies cohorts may have a diverse and perhaps complementary range of aptitudes and deficiencies.

The higher education setting of degree delivery at UK community colleges brings further diversity to cohorts – business studies and otherwise. As noted in works by the Education and Training Foundation and the UK Government Department for Business, Innovation and Skills, community (often called further education) colleges are at the relative forefront of the UK's Widening Participation and Lifelong Learning Agendas, including with regard to higher education and especially comparative to universities (ETF, 2017; BIS, 2012). In specific terms this means that community college degree cohorts contain a distinctly higher proportion of students without traditional academic entry qualifications, students from lower socioeconomic groups, and students from families without relatives having participated in higher education (ETF, 2017; BIS, 2012). Further, the proportions of students over 25 are distinctly higher at UK community college higher education, and the intake of students with relevant vocational entry qualifications is also a salient feature of degree cohorts at these colleges (ETF, 2017; BIS, 2012). The combination of these distinct proportion aspects of degree cohort composition mean that the following can reasonably be said regarding community colleges. Mature students with working life experience but limited academic qualifications, as well as students, young and older, coming through from vocationally focussed post-compulsory business diploma courses e.g. BTEC (Business and Technician Education Council), are likely to be just as numerous in community college business degree studies classrooms as students coming straight from a successful sixth form e.g. A (Advanced) levels background having studied a range of academic subjects including humanities and social sciences in post compulsory education. As such the diversity of relevant prior exposure, in terms of real-life experience of organisational workplaces, business intrinsic functions study and engagement with conceptual learning is likely to be substantial and quite possibly systematic across a UK community college business studies degree cohort.

The diverse and possibly complementary nature of preferences, aptitudes and prior experiences across a typical pre-management business studies degree cohort at a UK community college means that reciprocal peer-learning between the classmates may be critical, but also feasible and potentially very beneficial. In so far as this diversity is prevalent, there may be scope for thematic enquiry as to the nature and extent of peer-learning that informally takes place.

In terms of a stylised categorisation: The peer-learning guidance chiefly coming from matures could be depicted as Experiential, while that from BTEC vocational diploma completers could be termed Functional, and the guidance from sixth form A level completers could be classified chiefly as Conceptual.

There is no guarantee that the thematic peer-learning depicted above will be taking place; the diversities may themselves also form obstacles to the process. Whether looked at as learning style variances or aptitude variances, e.g. between the abstract conceptual and the experientially practical, the potential for zones of proximal development to be too far removed from where peers are operating, for non-teacher students to guide each other, is a possible problem. The life experience differences may also obstruct social integration, including on self-disclosure, between sub-groups, thereby inhibiting sizeable peer-learning. In particular there is research (Chapman, 2013) finding non-traditional matures entering universities to be prone to 'imposter syndrome' in the depiction of Clance and Imes (1978) and an enduring self identification as being different from traditional HE students and belonging to a distinct community of practice in the model of Wenger (1998). It is hoped that in the community college small class setting with an even balance of student types as set out above, the facility and potential for authentic integration will be greater for the matures giving sizeable scope for peer-learning. Further, the non-residential nature of community college means that some of the university campus lifestyle oriented alienations (Chapman, 2013) e.g. the contrasting dispositions to student union drinking cultures – should not apply to the detriment of the classroom.

The course and institution factors for diversity linked to complementary strengths, weaknesses and preferences indicate that peer learning flowing along conceptual, functional and experiential themes may be strong in business studies at community colleges. Further, the obstacles to certain groups having a peer learning role in HE generally are reasoned to be minimised for an FE college setting. While across studies on peer learning, there has been attention to informal and status-equals contexts, widening participation cohorts, subject specific courses and thematic categorisations, no study has combined these aspects for focus on a community college business degree in relation to regular teaching and learning activity. This paper goes forward with indicative initial research along such lines.

Methodology

Without specific interventions and distinct control groups, ability to assess student outcomes gain from peer-learning is greatly limited in the informal setting. However, students' own views about the nature and direction of peer learning provided and received can be ascertained, be it asynchronous in practice or otherwise. As such, in terms of research philosophy, this study can reasonably be depicted as an interpretive, rather than a positivistic investigation.

Within investigation of the thematic scope of informal peer-learning, there needs to be some consideration of setting. Lectures, in so far as they are not overly formalised, may frequently involve peer questioning and peer explanation as topics and terms are covered. Again, turning to institutional comparison, BIS (2012) note that the main mode of delivery in community college higher education, is much more small group oriented and interactive than that in most universities.

Also important are activities including in class, some of which may be explicitly group organised while others may involve in class tasks in which discussion with classmates is allowed/encouraged during completion, ahead of feeding answers back to the tutor. There is also the setting of group assessment to which, as noted by Capstick et al (2004), peer-learning can be linked, explicitly or implicitly.

In Appendix 1 there is a questionnaire tool containing scale question statements relating to provision/contribution and receipt/benefit from and to classmates/peers of guidance/learning on the following themes:

- Conceptual and theory
- Real life experiences
- Functional areas
- Contextual aspects of business
- Making sense of subject literature

These questions are present in pairs on the questionnaire in the form:

I provide guidance to classmates on <i>theme</i>			
Not at all	Little	Quite a bit	A great deal
I receive guidance from classmates on <i>theme</i>			
Not at all	Little	Quite a bit	A great deal

This enables cross tabulation of responses for each individual student.

The questionnaire also has questions regarding settings in which peer learning may be taking place. In view of the fact that community college degree classes may not fit the discrete lecture, seminar, supervision format of established universities, these settings are referred to as phases in the questionnaire.

Again, these questions are present in pairs on the questionnaire in the form:

I provide guidance to my classmates during <i>setting/phase</i> .			
Not at all	Little	Quite a bit	A great deal
I receive guidance from my classmates during <i>setting/phase</i>			
Not at all	Little	Quite a bit	A great deal

In terms of research participants and sampling aspects, the student respondents came from years 2 and 3 of a university validated business undergraduate degree comprising three strands: Business with Marketing; Business with Accounting; Business with Organisation Behaviour, delivered at a UK community college. Invitation to participate and questionnaire distribution took place for both year groups when they were attending shared modules (taken by all strands). With regard to number and relevant diversity these cohorts taken together constituted 23 students, with institution data showing that:

- 9 students fitted the classification UK non-traditional mature (on age and level 3 post compulsory qualifications criteria)
- 6 students were of traditional undergraduate age with UK level 3, post compulsory qualification in A levels (academic subjects)
- 5 students were of traditional undergraduate age with UK level 3 post compulsory qualification in BTEC (vocational business diploma).
- 3 students were classified international

This profile does quite closely correspond to the even balance of student types as asserted above for community colleges degree education.

In terms of ethics, it was felt that the regular assurances of anonymity and confidentiality were particularly important in this study since questions especially about peer/classmate help received may be a sensitive esteem/status matter for some students. This primary research process including questionnaire tool, was put through and received ethical approval centrally at the institution concerned. The questionnaire itself does not include student classifying questions e.g. on age and prior education. In view of the small cohort size such questions would probably diminish confidence of anonymity despite assurances. Findings are viewed as being indicative on extent, themes and direction of peer-learning across groups that are heterogenous in the way described.

Limitations

Without age and prior education/experience classifying questions, this primary research can only yield indicative findings rather than effective verification on the issues.

Also, this research does not deploy intricate longitudinal sociometry as applied to the feedback aspect of informal peer-learning between teacher education students by Headington (2018). It is fair to say that this study is less comprehensive. Such a sociometric approach may ultimately be warranted with regard to community college business degree cohorts. At this stage an exploration of particular themes of peer-learning, through a relatively simple tool is viewed as useful for the pursuit of readily anonymised easy to view indicative findings. While the data strictly represents a snapshot, the questions do ask students to answer based on the experience throughout their degree cohort studies to date.

In terms of student clarity regarding the questionnaire: Although a period of explanation regarding themes and settings took place ahead of questionnaire distribution, this was not lengthy due to concerns of priming students to answer in a particular way. Despite the students being at years 2 and 3 on the degree and so having some experience of undergraduate study, we cannot rule out ambiguity or patchy understanding on the subtler themes and settings questions.

Results: Presentation and Comment

As noted above, twenty-three students were invited to take part and all twenty-three completed the questionnaire. The smallness of sample size along with the number of answer options mean that formal statistical analysis, e.g. Chi Squared, is not effective, but table presentation conveys key indicative themes.

With regard to results data presentation, responses to question pairs i.e. receive/provide guidance on each specific theme or setting/phase were cross tabulated into single table boxes. This gives an indication as to comparative balance in the following sense: On a theme/setting/phase where students are divided between strong net recipients and strong net provides of guidance, the most populated cells will be top right and bottom left corners. On themes/settings/phases where individuals are balanced between being providers and recipients of guidance, cell population will follow the top left to bottom right diagonal; top left dominant for minimal provider and recipient involvement, and bottom right dominant for sizeable provider and recipient involvement.

Table 1. Conceptual Guidance.

		I provide conceptual and theory guidance to my classmates			
I receive conceptual and theory guidance from my classmates		Not at all	Little	Quite a bit	A great deal
	Not at all	0	3	0	0
	Little	1	7	2	0
	Quite a bit	0	0	4	1
	A great deal	0	1	2	2

The notion of sizeable net recipients/providers in line with diverse complementary strengths, weaknesses and preferences, is not at all evident here. There is however an even balance between those reporting significant and not significant peer learning activity on conceptual and theory grounds, where significant peer learning involvement comprises provision and receipt of guidance.

Table 2. Real life experience guidance.

		I provide real life experience guidance to my classmates			
I receive real life experience guidance from my classmates		Not at all	Little	Quite a bit	A great deal
	Not at all	2	0	1	0
	Little	1	6	0	1
	Quite a bit	1	1	8	1
	A great deal	0	0	0	1

Again thematic net recipients and providers are not reported, though a good number report being recipients and providers. One aspect to note here, is that real life experience relevant to business can itself be diverse, e.g. as employee, product consumer, household budget manager. As such, the scope for individuals being both recipients and providers is reasonable.

Table 3. Functional Areas Guidance.

		I provide functional areas guidance to my classmates			
I receive functional areas guidance from my classmates		Not at all	Little	Quite a bit	A great deal
	Not at all	1	0	0	0
	Little	0	7	2	1
	Quite a bit	0	1	7	1
	A great deal	0	0	1	3

On this third theme there is also a lack of reported net recipient/provider status. There is slight balance in favour significant peer learning involvement, both providing and receiving, over not so.

Table 5. Guidance on the contextual aspects of business.

		I provide guidance to classmates on the contextual aspects of business			
I receive guidance from classmates on the contextual aspects of business		Not at all	Little	Quite a bit	A great deal
	Not at all	3	1	0	0
	Little	0	13	1	0
	Quite a bit	0	0	2	0
	A great deal	0	0	0	3

Here the majority are reporting as neither a significant recipient nor provider of peer learning on this theme. On the face of it this is quite surprising, suggesting that any prior learning on humanities and social science is not translating into insight bearing for business that is being shared. There is a possibility that the student respondents are not firmly clear on the meaning of business contextual aspects, in terms of linking to modules/topics like business environment.

Table 6. Guidance on making sense of the subject literature.

		I provide guidance to classmates on making sense of the subject literature			
I receive guidance from classmates on making sense of the subject literature		Not at all	Little	Quite a bit	A great deal
	Not at all	0	0	0	0
	Little	0	5	4	0
	Quite a bit	0	1	8	0
	A great deal	0	0	2	3

Here, most respondents are reporting significant involvement, with the majority as both recipients and providers.

Table 7. Guidance during activities phases of class.

		I provide guidance to my classmates during activities phases			
I receive guidance from my classmates during activities phases		Not at all	Little	Quite a bit	A great deal
	Not at all	0	0	0	0
	Little	0	5	0	1
	Quite a bit	0	1	12	1
	A great deal	0	0	2	1

Here the vast majority report being involved in peer learning, with involvement as both a recipient and provider. With this being a setting rather than a theme aspect, the net recipient/provider distinction is not expected.

Table 8. Guidance during lecture phases of class.

		I provide guidance to my classmates during lecture phases			
I receive guidance from my classmates during lecture phases		Not at all	Little	Quite a bit	A great deal
	Not at all	0	0	0	0
	Little	0	6	3	1
	Quite a bit	0	3	6	1
	A great deal	0	0	1	2

We note here that there is still a sizeable number actively involved in peer learning during lecture phases. This is significant in that while university lectures are distinct from seminars/classes with high numbers and chiefly teacher centred delivery, in FHE colleges, lecture phases occur in the same small class interactive setting as the seminars.

Table 9. Guidance during group assessment work.

		I provide guidance to classmates during group assessment work			
		Not at all	little	Quite a bit	A great deal
I receive guidance from classmates during assessment work	Not at all	0	0	2	0
	Little	0	1	1	2
	Quite a bit	0	1	10	1
	A great deal	0	0	1	4

Overall reported peer learning activity levels here are much higher, but the setting concerned is itself very much oriented to peer learning, so high numbers here accord with the mentoring and group work findings of Brutus and Donia (2010).

Discussion and Conclusion

A significant amount of peer-learning guidance is being reported as taking place.

The thematically distinct direction flows of peer-learning guidance, as depicted as likely from the literature and context-based analysis, do not seem to be happening, e.g. people just providing conceptual guidance while receiving experiential and functional guidance, and so forth; the lower left and upper right areas of the thematic question response tables contain virtually no students.

Within each theme there seem to be some people significantly involved in peer-learning exchange, providing and receiving, and some people less so. The upper left to lower right diagonal of the response tables contain the bulk of the students in most cases.

In thematic terms it is a bit stronger for functional and experiential peer guidance, than conceptual. Interesting also it is very low with regard to peer guidance on the contextual or environmental aspects of business. These like economics, politics and law represent subjects that are not active functions of business, but still have a relevant bearing. As such it may be that the delivery here is almost entirely driven by the tutor. The peer-learning is reported as more sizeable, though still chiefly two-way, with regard to guidance on making sense of the subject literature.

The reported peer-learning is especially prevalent in the activities' sessions within classes and during group assessment work; in the latter, there is only one student reporting no significant involvement – provision or receipt – in peer-learning guidance. The peer-learning is less prevalent during lecture phases of classes but even in those, there is a non-trivial amount being reported.

An indicative conclusion to draw is that the thematic cohort diversity of the business degree subject and the community college setting is in itself not driving the direction of the peer-learning guidance. One aspect of the community college setting which may be enabling peer-learning in generic terms, is the smallness of class size and as such the facility for activities to take place within classroom delivery rather than the teacher centred lecture to a large cohort. The general prevalence of peer-learning reported, and in particular that regarding making sense of the subject literature, does tentatively further justify the core assertion from Boud (2001) that learning beyond the tutor's actions and stipulations is significant. It should be once again noted that this prevalence is from the students' own point of view and has not involved specific formal peer-learning settings, nor a control group for which that peer-learning formal setting is not present. The sizeable though partial involvement in peer-learning across the board is encouraging in line with the cone/pyramid depictions which say that explaining to others is a strong factor in strengthening information retention and understanding, especially in that the vast majority are actively involved in peer-learning during group assessment

work. The appreciable minority reporting no significant involvement in peer learning, provision or receipt, in any other phase, is a concern.

In terms of educational recommendations, continuance and where possible expansion of in-class activities, where helping each other is specified, on community college business degrees is greatly encouraged. Linking to the prevalence of peer learning on making sense of subject literature, some of these activities could include business article/report comprehensions. Linking to the lack of peer-learning regarding business environment context subjects, it is also encouraged that in class-group activities, connecting the topics of economics and law to business functions/problems, are made prevalent.

Turning to recommendations for further research, noting that the student participants had received part of their learning within the period of the pandemic, it would perhaps be interesting to investigate how much, during lockdown phases, peer-learning has taken place online between classmates when working on assessments, this may be non-synchronous e.g. questions and guidance on social media or specific forums.

In view of the potential for ambiguity around student appreciation of meaning, particularly of conceptual/contextual aspects of business study, there may be merit in having some two-way dialogue within or ahead of the primary research aspect itself, such that students can highlight any confusion and have it addressed, ensuring common understanding between researchers and participants. The value of this in terms of authentic findings may outweigh any tutor-student anonymity assurance in the data collection.

Reflecting again on study limitations, it is noted that the research undertaken was quite restricted, in terms of specifying particular themes and settings for peer-learning responses within studies, and not giving students the ability to highlight phases or events that they thought relevant. In view of this it may be beneficial to deploy an adapted version of Brookfield's (2017) Critical Incident Questionnaire, whereby students would be enabled themselves to pick out phases or aspects within their studies where they have felt most peer engaged/peer distanced and where they have felt most affirmed/helped or puzzled/confused from peer interaction. Analysis of evidence gained that way would of course be more qualitative.

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Appendix 1: Peer Learning Questionnaire

This questionnaire is part of a Research Project on capturing and exploring informal peer learning in diverse groups, focussing on a business degree cohort at a UK community college. The data obtained from this questionnaire will be used to help achieve that research aim.

Please answer the questions honestly. The information you provide is anonymous and will be treated as strictly confidential. By completing this questionnaire you are giving your consent for your information to be used for the above research purposes. The information you provide will be held under the terms of the latest Data Protection legislation. It should further be noted that following submission of the paper for publication all such data will be destroyed. If you wish to pass over some questions or only partially complete the questionnaire that is fine and it is still valid for you to submit the questionnaire.

Thank you.

Russ Woodward
Nicola Pattinson

These questions relate to your entire studies experience on the business degree and is in no way focussed just on the covid online phases.

In all questions, please circle the response that most closely reflects your honest view on the applicability of the statement concerned.

Question 1.

A) I receive guidance from my classmates on theory and conceptual aspects of business studies
Not at all Little Quite a bit A great deal

B) I provide guidance to my classmates on theory and conceptual aspects of business studies
Not at all Little Quite a bit A great deal

Question 2.

A) I receive guidance from my classmates on real life aspects of business studies
Not at all Little Quite a bit A great deal

B) I provide guidance to my classmates on real life aspects of business studies
Not at all Little Quite a bit A great deal

Question 3.

A) I receive guidance from my classmates on the functional module areas of business studies, e.g. marketing, accounts, people management
Not at all Little Quite a bit A great deal

B) I provide guidance to my classmates on the functional module areas of business studies, e.g. marketing, accounts, people management
Not at all Little Quite a bit A great deal

Question 4.

A) I receive guidance from my classmates on the contextual module areas of business studies, e.g. economics, politics/government and law.

Not at all Little Quite a bit A great deal

B) I provide guidance to my classmates on the contextual module areas of business studies, e.g. economics, politics/government and law.

Not at all Little Quite a bit A great deal

Question 5

A) I provide guidance to my classmates during lecture phases of business classes

Not at all Little Quite a bit A great deal

B) I receive guidance from my classmates during lecture phases of business classes

Not at all Little Quite a bit A great deal

Question 6

A) I provide guidance to my classmates during activities phases of business classes

Not at all Little Quite a bit A great deal

B) I receive guidance from my classmates during activities phases of business classes

Not at all Little Quite a bit A great deal

Question 7.

A) I receive guidance from my classmates during group assessment work

Not at all Little Quite a bit A great deal

B) I provide guidance to my classmates during group assessment work

Not at all Little Quite a bit A great deal

Question 8.

A) I receive guidance from my classmates on how to make sense of the course literature

Not at all Little Quite a bit A great deal

B) I provide guidance to my classmates on how to make sense of the course literature

Not at all Little Quite a bit A great deal