

**An exploratory investigation: Using the case
study approach to facilitate progression**

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Abstract

Ensuring progression is a prevalent issue and one that is constantly at the forefront of education. Academics, researchers and educators worldwide have led a significant number of studies involving methods of maximising progress. One such debated method is the use of case studies throughout a range of disciplines, but also specifically within the study of Business Studies. This paper will critically review that research and seek to verify the validity and transferability of these authors' claims and their existing research findings. Further, this paper and its research will also seek to further differentiate between and explore the effectiveness of differing case study approaches, including those concerning non-fictional, fictional, local, national and international scenarios. Additionally, case studies are regularly used within the teaching of the Business discipline in an attempt to bridge the gap between theory and real-world business and, as such, it is of particular benefit to understand whether such an approach is effective in terms of facilitating progression and supporting learning.

Justification of study

Having planned to teach a sequence of lessons, a progression map was created with the purpose of summarising key teaching and learning points and planned outcomes and objectives for the duration of the sequence. This progression map was designed to underpin and facilitate the effective planning and delivery of four consecutive Key Stage 5 (Year 12) lessons, focussing specifically upon the use of breakeven as a management technique. There were a number of key foci associated with the progression map, one being the use of case studies and another being an appreciation of the importance of ensuring progress throughout the class. I purposefully planned to use case studies as a way of encouraging students to develop their understanding and ability to interlink and contextualise theory and real world business, thereby encouraging and facilitating progress. My desire to use case studies was confirmed by a number of academic research projects, one being that of Adrian Lyons, HMI. Whilst writing an Ofsted research paper, Lyons once said that effective teaching is that which sees the subject being linked to the real world, by using case studies and examples which are relevant to students' experiences (Lyons: 2015).

Having read Lyons' guidance, I decided it necessary to research the effectiveness of using case studies and as such have written this paper in an attempt to substantiate the claims of Lyons and other similar academics and researchers. Whilst there is a large amount of research highlighting the specific benefits of using case studies within specific contexts, there is little data which provides an overview of all available data before reaching a substantiated evaluation on case study effectiveness. The aim of this paper is therefore to analyse the current research available and reach an evaluative and well-informed judgement on the overall effectiveness of using case studies within the teaching and learning process.

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Before reviewing the current literature available, a definition of case study will first be provided as to provide clarity throughout the remainder of the paper. Therefore, for the purposes of this paper, a case study is simply a story. A story that “presents a realistic, complex, and contextually rich situation” which often involves a dilemma, conflict, or problem that one or more of the characters in the case must negotiate (Cmu.edu: 2015).

Having clarified the definition of case study, the paper is now able to focus on existing research and examine the theoretical validity of the literature currently in existence. One academic who supports Lyons’ view is Professor Paul Lawrence (2015), who suggests that a good case study is “the vehicle by which a chunk of reality is brought into the classroom to be worked over by the class and the instructor. A good case keeps the class discussion grounded upon some of the stubborn facts that must be faced in real life situations” (Cmu.edu: 2015).

In further support of Lyons’ and Lawrence’s claim, Barkley, Cross and Major (2015) claim that although case studies have been “used most extensively in the teaching of medicine, law and business, case studies can be an effective teaching tool in any number of disciplines. As an instructional strategy, case studies have a number of virtues”. Barkley, Cross and Major further add that case studies “bridge the gap between theory and practice and between the academy and the workplace and that using case studies gives students practice identifying the parameters of a problem, recognizing and articulating positions, evaluating courses of action, and arguing different points of view” (Barkley, Cross and Major: 2015).

Whilst the above five authors all lend support to the view that case studies can support and facilitate pupil progress, Davis (1993) also suggests that an effective case study is one that:

- tells a “real” and engaging story
- raises a thought-provoking issue
- has elements of conflict
- promotes empathy with the central characters
- lacks an obvious or clear-cut right answer
- encourages students to think and take a position
- portrays actors in moments of decision
- provides plenty of data about character, location, context, actions
- is relatively concise.

Case studies can also “be particularly effective when news stories are used that students may well have heard about or seen on TV” (EBEA: 2015). The Economics, Business and Enterprise Association further add that case studies can facilitate the application of knowledge to situations which students may already have some understanding of which can help further develop evaluative skills (EBEA: 2015).

Thus far, it is clear that a number of research projects, subject bodies and academics contribute great support to the idea that a case study can be effective in progressing students and enabling pupils to overcome barriers to learning, not only within Business Studies, but throughout a range of other disciplines. As each of the above pieces of research supports the same concept, it can be deduced that there is theoretical validity throughout the research quoted. Whilst it would be good practice to compare and contrast information and research which both supported and disputed the notion of case study effectiveness, it has become apparent from widely researching all available sources of academic literature and other secondary research that indeed there is no data claiming that case studies are either ineffective or indeed counter-effective in terms of promoting progression and facilitating a development in knowledge and understanding. Whilst there are some

scholarship models and Ofsted reports relating to the effectiveness of using case studies specifically within other disciplines, these are outside the scope of this paper's focus and as such are unrelated to the central focus of determining the effectiveness of using case studies within the subject of Business Studies. For this reason, such data could not be used, but would be a good basis for further study.

As no information regarding case study ineffectiveness and/or counter-effectiveness could be sourced, it becomes imperative that the above research in support of case studies is evidenced and examined in order to substantiate the validity of the claims. It cannot simply be assumed that case studies are effective in facilitating pupil progression because no research exists which contradicts this view. For this reason, detailed evidence will later be presented which substantiates the claims made by the above authors in support of using case studies.

In contrast, whilst the above authors collectively support the notion that case studies support an effective learning environment, they fail to identify whether specific features of case studies are more effective than others. For example, whether a local case study is more or less effective than a national or international case study. Whilst this is a key limitation of the available research, specific features are still investigated throughout my use of case studies and as such this is still able to inform the evaluative judgement reached to conclude the paper.

Reflective Evaluation

Whilst the aforementioned literature generally supports the consensus that case studies can aid the establishment of a positive learning environment, I have, through the teaching of my lesson sequence, sought to verify the validity of this claim. Whilst looking at case studies in general, I have also looked more specifically at different styles of case study and how these impact upon students' progress within and between lessons. The results of such are extremely useful in that they inform the planning and delivery of future lessons to ensure that students are able to make as much progress as possible. As well as making an allowance for using different types of case study, I have also attempted to use different case studies which appeal to different groups and individuals. For example, gender based case studies may only appeal to one gender or the other, thus inhibiting progress for either gender group which finds the case study disengaging. Similarly, students from low-income families may be somewhat disengaged by a case study which concerns a high quality and well established jeweller, but may instead respond much better to a case study involving a familiar local budget supermarket, thus allowing for greater interest and subsequent progress. Further, students with FSM eligibility or who are considered as Pupil Premium may have requirements and interests which differ from those of other student groups and categories. Each of these variables has been taken into consideration and will be referred to in the following analysis. After all, it is imperative to ensure that all students make good progress, as opposed to simply the majority of learners, as Secondary Education (SecEd) guidance states there is "no Ofsted outstanding unless Premium pupils make good progress" (Henshaw: 2015).

Firstly, having delivered a lesson in which students were shown how to calculate breakeven output using the breakeven formula, I decided to conduct a parallel assessment task which involved approximately one half of the class completing basic calculations. The basic calculations were presented in their simplest form and without the context of a business or case study. The remainder of the group were given the exact same assessment questions, but the calculations appeared within a case study task and made reference to local familiar businesses. Excluding extreme anomalies, whereby an extreme anomaly is defined as a variance of greater than 25% between a student's predicted grade and performance grade, the following results were obtained from the experiment:

Student	Target Grade	Grade Achieved	Basic Assessment	Case Study Assessment
A	BB	BB		-
B	BC	BB		-
C	BC	CC		-
D	CC	BC		-
E	CC	BC		-
F	BC	DD	-	
G	CC	DD	-	
H	BC	CD	-	
I	DD	DE	-	

Having analysed the results, a number of key points can be deduced and calculated. Firstly, four of the five students (A, B, D, E) who completed the case study assessment achieved at least their target grade or above. One student (student C) achieved a grade below their predicted grade; however this was only one grade below and only 2 marks from the boundary of the upper grade. In summary, a majority of those students who sat the case study assessments gained a performance grade equal to or above their predicted grade. This suggests that 80% of such students made at least satisfactory progress throughout the lesson as a nil baseline prior to the lesson starting had been confirmed of all students through introductory question and answer sessions.

Conversely, students F, G, H and I all sat the basic assessment in which a case study and business scenario was not used. These four students had a very similar baseline to that of the other students and had been present throughout the same previous lessons as their peers. However, a notable difference is that each of these four students failed to achieve their predicted grade. The students were respectively 3, 2, 2 and 1 grade below their expected grade. Whilst this may be due to other variables, for example inconsistent effort and/or a barrier to learning, such as a relative weakness in mathematical skills, the interim results still suggest that the students who sat the case study assessment made greater progress between the start and end of the lesson than those who sat the basic assessment. This parallel assessment activity thereby appears to support the authors' views mentioned previously, however further evidence and elimination of variables was required to fully substantiate the claim.

To provide further information for analysis, I conducted an additional experiment throughout my second progression map lesson with the hope of either further supporting or contrasting the notion of case studies promoting progression. In this lesson, I decided to not split the class in to two halves, but instead to treat each individual identically. This particular task was designed to eliminate the variables which may have impacted upon the experiment conducted in the previous lesson, namely the fact that students required a basic awareness of using mathematical formulae to calculate breakeven output. As this lesson was not concerned with figures and formulae, the mathematical barrier-to-learning previously present had been completely eliminated from the investigation. This was intended to improve the accuracy of the results because it is widely acknowledged that barriers to learning might inhibit progress (Essex.gov.uk: 2015), thus providing skewed results regarding the individualised levels of progress made by each student. For example, those students who made unsatisfactory progress may have done so because of their barrier to learning and not the fact they sat a non-case study assessment. However, the actual cause of poor-performance cannot be explicitly confirmed, and as such, this remains a key limitation of the first experiment.

During this second breakeven lesson, students were introduced to a number of common strengths and limitations of using breakeven as a management technique. Again, for the purposes of ensuring accuracy and validity, student baselines were again measured and nil prior knowledge was

confirmed for each student. Additionally, to ensure student engagement, I ensured that the case study used was exciting and animated as to try and generate class discussion. This class discussion created a positive atmosphere and a “positive atmosphere will help generate and sustain students’ participation. Instructors can emphasize that the analysis will be a group project, and that no one will be criticized for raising naive questions or uncertainties” (Stanford University: 1994). Such a positive atmosphere was created experimentally to see if there was any impact upon the progression made within both case study and non-case study assessments. This was useful as “without a clear sense that they are free to experiment with hypotheses, students will tend to remain silent until they feel that the ‘right’ answer has been identified” (Stanford University: 1994), and this could have, in turn, made it look like progress had not been made when in fact it had but no student felt comfortable evidencing such for fear of communicating or contributing a mistake. Towards the end of the lesson, each student then sat two short formative assessments. The first was a series of questions simply requesting an explanation of a strength and limitation (formative 1). The second assessment (formative 2) was identical in detail; however it appeared within the context of a national case study. The following results were obtained from each student:

Student	Target Grade	Grade Achieved in Formative 1	Grade Achieved in Formative 2
A	BB	CC	BB
B	BC	CC	BC
C	BC	CD	BB
D	CC	CD	BC
E	CC	CD	BC
F	BC	CC	BB
G	CC	DD	CC
H	BC	CD	BB
I	DD	EE	CC

Having analysed and interpreted each student’s result in both the first and second assessment, the following key findings were realised:

- Every student performed greater in the case study assessment (formative 2) than in the non-case study assessment (formative 1);
- Every student met or exceeded their predicted grade on the case study assessment (formative 2); and
- Every student failed to achieve their predicted grade on the non-case study assessment (formative 1).
- Before analysing each of these key findings in greater detail, the following information was also calculated to provide a visual representation and easier comparison between the results of each assessment:
 - The median result was (grade) CD in formative 1, and (grade) BC in formative 2. The median predicted grade of all students was (grade) BC.
 - The range was 4 grades in formative 1, and 2 grades in formative 2. The predicted grade range, collectively, of all students, was 4 grades.
 - The mode result of formative 1 was (grade) CD, whilst a mode of (grade) BB was achieved in formative 2. The group’s mode predicted grade was BC.

Each of these key findings and statistical analyses will now be further examined to provide a deeper insight into whether or not case studies can facilitate and promote progression, and if so, to what extent.

Firstly, as can be seen from the table above, every student performed greater in the case study assessment than in the assessment where a case study scenario was not used. This finding alone lends weight to the notion of case studies encouraging students to make and demonstrate progress. All students demonstrated better progress when a case study scenario was used as part of the assessment process. Secondly, and on a more individual basis, all students were able to meet or exceed their target grade when using the formative case study assessment. For those students meeting their grade, this suggests that at least satisfactory progress was made. For the other students who exceeded their predicted grade, this suggests at least good or outstanding progress. In all cases, progress was made and may have been supported by the use of case study material.

In contrast to this, every student failed to achieve their predicted grade on the assessment in which a case study scenario was absent. Whilst there are other variables that could not be controlled, the results on the whole suggest students were able to make better progress when using case study material. It has been considered that the formative assessment results may have been skewed either in favour of or against either assessment, as students may have responded artificially when having to complete two consecutive assessments, however this variable alone is superficial as the results of this experiment are considered alongside the results of the previous experiment from lesson one and such a limitation was not present throughout that lesson. For example, students may have invested differing amounts of effort in each of the two assessments for reasons similar to the concept of muscle memory, in which respondents start to act differently because of the human brain storing a cache of frequently enacted tasks and responses. Students may have approached the two assessments differently simply because there were two of them, when indeed they may have approached one single assessment differently if it was not preceded or succeeded by another. This remains a limitation of this individual experiment, however does not affect the validity of the results gained from the previous lesson.

Furthermore, as well as this qualitative interpretation, a quantitative analysis was also undertaken to provide an alternative and less subjective view of the results gained. As summarised in the list presented above, the median results of CD and BC were achieved respectively in formative assessments 1 and 2. The main benefit of using a quantitative analysis such as a median is the minimisation of the impact of any anomalies within the data set, thus increasing the overall accuracy of the results. The respective mean calculations of CD and BC support the subjective analyses above in that the results suggest that students performed better as a group when using a case study. The median result was CD when a case study was absent, as opposed to a median score of BC when using a case study. However simply comparing CD and BC in this context does not make an allowance for predicted grades and as such whilst it can be confirmed that students performed better, the actual level of progress made cannot be properly understood. As such, the median achievement scores can also be compared to the median prediction for the group. To summarise, the median prediction was BC. When using a case study, students achieved a BC grade and so satisfactory progress was made. When using an assessment without a case study, a median grade of CD was achieved overall and as such the level of progress made throughout the group was unsatisfactory.

Similarly, the mode predicted grade for the group was calculated to be BC. The mode grade actually achieved on the non-case study assessment was CD, thus providing further evidence that the group achieved an unsatisfactory level of progress during and throughout the lesson. However, when undertaking an assessment which was based upon a case study scenario, a mode grade of BB was achieved, suggesting a level of progress exceeding the minimum expectation. Students actually managed to exceed their target grades when using case study material, thereby evidencing greater than satisfactory progress on this instance.

In conclusion, a number of findings can be drawn from both the research which has been reviewed and the experimental evidence which was collected within lessons. However, as with all research, it remains imperative that key limitations are considered when reaching and interpreting an evaluative conclusion. The first such limitation is centred around the fact that the evidence collected was only collected from one class and as therefore cannot necessarily in itself be applied generally to other students, topics, classes, subjects or establishments. The evidence collected was merely only a screenshot of the Year 12 progress which was measured during two lessons and as such may not be an accurate representation of other scenarios. Likewise, the evidence collected related only to key stage 5 and the information gathered may not be applicable for key stage 4 students who may approach learning differently. Similarly, the class involved was a vocational applied class and therefore single award a-level students may approach case studies with an attitude different to that of the applied course students. Secondly, the information and assessment data used related only to using case studies in assessment style scenarios. Students may respond differently to the use of case studies in non-assessment conditions whereby non-assessed progress can still be made. However, because such progress would not be being assessed, it would become difficult to evidence whether progress had been made.

To overcome these limitations, further research would be beneficial which makes allowance for a number of contrasting contexts, for example different key stage students from contrasting schools in geographically differing regions. Likewise, it would be of particular benefit to measure the effectiveness of using case studies in non-assessment settings, although this may be difficult for the reasons discussed above.

However, having allowed for these limitations, the research collected still very much supports the research which was reviewed as part of this project. The information gathered from the first lesson demonstrated quite clearly that there was a significant difference in the performance and progress of the half of the class which used case study material as opposed to the other half which completed the task with no case study material. The students who used the case study material made significantly more progress than both their peers and their predicted grades. Whilst this information lends significant support to the views of Barkley, Cross and Major, it is important to remember that a number of external variables may have also impacted upon the progress shown within this lesson. Such external variables, such as barriers to learning, may inhibit progress which could skew results pertaining to the measurement of progress. For this reason, further evidence was collected in a contrasting manner throughout the next lesson as to ensure such variables were not present in the new setting.

During this second lesson, all individuals were this time treated identically and completed two tasks each. One task relied upon case study material; the other did not. In similarity with the previous investigation, the results again suggested that students using case study material progressed faster than the occasions in which no case study material was used. During this task, the performance of each student was assessed twice after which the performance grades obtained were compared with the student's target grades, as opposed to the previous lesson in which one half of a class was compared to the other half. This provides two different methods of approaching, interpreting and measuring the impact of adopting the case study approach.

Whilst the methods of collecting the data varied significantly between lessons, the overarching findings remained largely complementary in terms of supporting both Lyons and the EBEA. There was a common theme present throughout the research findings which leads me to partly confirm the accuracy and validity of existing research regarding the effectiveness of case studies in ensuring progression. However, ensuring progress can also depend on how a case study is used, and this is a factor that must also be considered when using case studies. For example, in some scenarios simply

using case study material may not be enough to ensure progress. Given the complexity of many cases, it can be “useful to begin class discussion with questions that require students to review and organize information on the first level: what are the relevant facts and how do they translate into major themes or issues” (Stanford University: 1994). For example, it is worth considering that using a case study may not ensure progress if the case study is not sufficiently discussed and understood. Further research could thereby assess the effectiveness of using both case studies which have been thoroughly discussed and those which have not.

Using case study material on this occasion was effective in ensuring pupils made either satisfactory or above satisfactory progress. However, it must also be remembered that further research would be beneficial to examine a number of different students across both key stages throughout a range of different school settings. If further research could be carried out, it would also be beneficial to examine a number of significantly differing ability students, as lower ability students or pupil premium students may respond differently to different style case studies. Finally, it would also be beneficial for there to be a wider range of up-to-date research and scholarship regarding the case study approach; however such seems limited partly because of the discipline being non-curriculum.

As the research has indicated quite clearly a correlation between progress made and the use of case study material, future teaching and learning steps will now involve the regular use and thorough explanation of case studies and case study material. However, to further promote progress, it would be useful to understand more specifically the impact of using different styles of case studies, for example local or national, fictional or real, and as such these are to become the foci of further research.

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