Recapping: effective pedagogy to ensure inclusivity and optimise learning and teaching experiences

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Abstract

Recaps have long been used in the media industry, where they have been found to be effective in supporting viewers' understanding and recall of information. More recently, recaps have been explored in educational settings. This study examines whether recapping can support inclusivity and help to optimise learning and teaching experiences in the context of a business school in a widening participation university. We applied a mixed-method approach to collect data from both students and instructors. We used questionnaires to capture quantitatively their perceptions about recapping and semi-structured interviews to explore their opinions in more depth. Our findings indicate that recapping is perceived as an effective pedagogical approach that can improve learning experience of students, teaching experience of teachers and ensure a more inclusive environment. The research makes both theoretical and methodological contributions to the literature.

1. Introduction

It is common that teaching in a business school involves a lecture attended by a large group of students and followed by smaller seminar groups or tutorials. Lectures are often used to introduce topics, theories and concepts which will be further studied and applied in the seminars, using a variety of learning activities, including case studies, problem-based learning or simulation (Desjardins and Diedrich, 2003; Maxwell, 2004; Laditka and Houck, 2006; Dockter, 2012). For the teaching and learning process to be effective, students should be familiar with the key theories and concepts from previous lectures before coming to the next lecture or attending a follow-up seminar. However, it is not uncommon that some students arrive at class without knowledge about those prior theories and concepts, so limiting the effectiveness of their learning and making it challenging for instructors, such as the authors, two lecturers in London business schools, to deliver the planned teaching activities. The challenges may be even prominent in the context of widening participation in higher education (HE) because students are varied in terms of their academic and socio-cultural backgrounds, prior educational attainment and English language skills. To be effective, pedagogical approaches need to carefully consider the needs of students from more diverse groups.

In the media industry, experimental studies have found that recaps can contextualise and energise prior content, with the effect of improving audience recall and retention of information from television and radio. In their research, Perloff *et al.* (1982) found that recapping enhanced viewers' recall of the content of news stories. Bernard and Coldevin (1985) examined the effects of short, headline recaps on the recall of specific information from and knowledge about a television news programme. Their findings showed that recaps increased viewers' retention of the gist of the news stories. This applied equally to recaps that were presented in oral form and those where they involved oral plus visual information, while high overlap between information presented in a visual and verbal format. Studying the use of recaps on viewers'

understanding of radio news, Gerhard (1992) found that recaps produced a significant increase in performance. Gunter (2015) explains that recaps can enable the internalisation – as well as retention in the cognitive processing – of new information. Petruska (2019) suggested that recaps can also increase viewers' desire to watch a programme.

In the current literature on the use of recaps in education, there is no universal and consistent definition of recapping. Wyse (2014) defined recaps as a teaching strategy in which an instructor summarises and situates salient information discussed in a previous class. In Stavnezer and Lom (2019), a recap is a short review of prior course content and can be effectively done in a student-led format. Recaps can be done in text-based, image-based and video-based formats. In Bothe *et al.* (2020), a recap is a quick revision of the learned topics and can be used at any point in a course and done in text-based, image-based and video-based formats. McAlister (2021) defines a recap as para-text which can be used to contextualise and energise previous content for viewers in the media generally and in the television industry. For this study, we define recap as an innovative pedagogical approach which can provide an interactive summary and revision of previous content to enable active learning. We include recaps done by both instructors and learners in a verbal-only format or in a verbal-plus-visual format.

In educational settings, the use of recaps was first investigated by Wyse (2014), who argued that recaps can enhance student engagement and ensure a more inclusive learning process. Findings in more recent studies show that recaps can promote active learning, encourage class participation, assess class participation and emphasise student voices in philosophy classrooms (Lowe, 2016), science, technology, engineering and maths (STEM) courses (Stavnezer and Lom, 2019), massive open online courses (MOOCs) (Bothe *et al.*, 2020) and engineering classes (Dart, 2020).

Wyse (2014) developed a four-minute recap activity in which students engage with peers and recall content in their own words. This provides opportunities for students to practise articulating the content and for questions to be answered. It is argued that recaps may be applied to any content and any class format and size. As this pedagogical approach can bring together diverse voices in the classroom, it may also promote inclusivity when students learn to listen to one another, value the input of others and see the value of many voices in the learning process. In a theoretical paper, Lowe (2016) looks at the issue of remembering in the context of philosophy classes and argues that students tend to forget concepts and theories taught to them, even only a few weeks after they have been introduced, which is frustrating to philosophy teachers. To find a solution, Lowe drew on cognitive science literature on how people learn and proposed a five-minute recap activity to aid student learning and increase the retention of materials and skills. Lowe suggests this could be the best way to start each philosophy class. The limitation common to these two papers is that their respective arguments are developed theoretically but have not yet been tested systematically.

Stavnezer and Lom (2019) look at student-led recaps in the STEM context. Two instructors at two different institutions collaborated and implemented a five-minute student-led recap at the beginning of each teaching session on three different courses – involving fifty-four students – and gathered feedback from the students on this pedagogical approach by means of a questionnaire after each teaching session and one at the end of the semester. Their findings show that the use of student-led recaps was an effective and efficient strategy for promoting active learning, encouraging class participation, assessing class participation and

emphasising student voices in classrooms. They argue that student-led recaps can enable a variety of cognitive processes in the learning process, including retrieval, practice and the testing effect (Toppino and Cohen, 2009; Rowland, 2014; Yang *et al.*, 2019; Yang *et al.*, 2021). Furthermore, they argue that student-led recapping is an inclusive pedagogy enabling all students to participate proactively in the learning process and that it promotes peer engagement. However, they acknowledge that their findings are based on the feedback and perception of students only and further research is needed to study the academic performance of students after this pedagogical approach is applied.

Bothe *et al.* (2020) examine the effectiveness of the use of a flashcard-like recap tool in the context of a MOOC. They tested out their recap tool in three different courses over six weeks with a total of 799 enrolled students. They conducted a survey with a total of seventy-five participants at the end of the courses. The learning statistics were recorded automatically on the platform and could therefore be analysed to understand when and how learners used the recap tool. These researchers also investigated the relationship between recap use and the academic performance of recap users. Their findings showed that recaps can provide personalised learning opportunities and that recap users on average perform better in graded assessments. However, they underline that the findings were based on the MOOC's context and that there could be differences in other contexts. In addition, the findings are purely based on quantitative data analysis, with no qualitative data element.

Dart (2020) investigated recapping using Khan-Academy style videos (animated reinforcement of the teaching message) in blended learning courses in the context of engineering. Video recaps were implemented in three undergraduate engineering courses, with total of 3,290 enrolled students between 2016 and 2018. Linear regressions indicated an improvement in student engagement where the video recaps were used; however, the relationship between the view duration and how much students learnt was not tested. Further research would be needed to look at the correlation between video engagement and performance of students in their assessments. Again, no qualitative data were used in the study.

Three gaps in the extant literature on the use of recaps in education have been identified. Prior studies on recaps have been limited to some specific academic contexts, such as STEM, MOOCs, philosophy and engineering and have not investigated the issue in the context of other academic disciplines. Methodologically, studies on recaps have applied only experimental and quantitative methods. There has been no research using a qualitative or mixed-method approach. Furthermore, no prior study has looked at the pedagogical approach from the perspective of teachers. Findings in prior studies have been based on data collected from learners only. Our paper seeks to address these three gaps.

This paper examines the use of recaps in the context of a business school. We applied a mixed-method approach to collect primary data for investigation and examined the perceptions of students and teaching staff about the use of recaps by means of questionnaires. Follow-up semi-structured interviews were conducted, in order to understand the participants' opinions in more depth. This study is the first to examine the pedagogical approach from the perspectives of both learners and teachers.

2. Method

2.1 Participants

Participants of this research were students and staff at the University of Greenwich Business School. A quota-sampling approach was applied to the student survey. Emails were sent to 400 students at levels 4, 5, 6 and 7. For the staff survey, the emails were sent to eighty-two teaching staff; the emails were sent three times: an initial email, a reminder email and a last-chance email.

For the student survey, there were 122 responses, representing a response rate of 31%. 50% of the students were female, 48% were male and 2% identified their gender as 'other'. In terms of level of study, 28% of the students were at level 4, 25% at level 5, 20% at level 6 and 27% at postgraduate level. Regarding domicile, 43% of respondents were home students and 57% were international students.

For the staff survey, there were forty-seven responses, a response rate of 57%. For the teacher survey, 51% of the respondents were module leader of at least one module and were also teaching in other modules, 45% were tutors only without any module leadership and 4% were module leaders and sole teachers in their own modules. In terms of teaching experience, 25% of the respondents had less than three years of experience, 23% had three to five years, 28% had six to ten years, 11% had eleven to fifteen years and 13% had more than fifteen years.

In the follow-up interviews, there were student representatives of all levels of undergraduate and masters level study: three students at level 4, four at level 5, four at level 6 and six at level 7. For teaching staff, there was a good mix of teaching experience: two participants had less than three years of teaching experience, three had between three and five years, one had between six and ten years and two had over ten years.

2.2 Materials

Both the questionnaire and the interview script included a definition of recap to ensure a shared understanding of this term between researchers and participants.

In the student survey, we used nine questions to collect data on students' demographics and opinions on the use of recaps. Demographic information about students collected included gender, level of study, domicile and learning habits. We used one question to check students' familiarity with recaps in their courses of study, one question to ask if they liked the use of recaps, one Likert scale question allowing them to evaluate the helpfulness of the use of recaps for their study and two questions asking their preferences for recap type and length. Table 1 presents the list of variables from the student survey and the breakdown of those responses.

For the staff survey, we used six questions to collect data on their demographics and previous experience with the use of recaps. Demographic information of teaching staff included their roles and teaching experience. Four questions were used to understand their experience and perception of the use of recaps.

The follow-up interviews were semi-structured, with questions prepared in advance to start and guide the conversations. The questions checked interviewees' familiarity with recaps, what they liked and didn't like about the use of recaps and how helpful they thought the use of recaps was for their learning/teaching experience.

2.3 Procedure

We applied a multiple sequential mixed-method approach (Saunders *et al.*, 2015) in which surveys were conducted first, followed by semi-structured interviews. Questionnaires were used to examine the perceptions of students and teaching staff about recapping.

The follow-up interviews were conducted with seventeen students and eight teaching staff. Owing to the social distancing requirements and periods of lockdown because of the COVID-19 pandemic, the interviews were conducted online via MS Teams. The typical length of an interview was thirty minutes. The timeframe for the data collection was between December 2020 and June 2021.

The ethical application was approved by the University of Greenwich Research Ethics Committee before the data collection started. Participants were provided with the participant information form and asked for consent before the data collection. We used MS Forms for surveys, SPSS for analysing quantitative data from questionnaires and NVivo to analyse qualitative data. We followed the inductive analysis and the six-step process for thematic analysis in Braun and Clarke (2006).

3. Results

3.1 Quantitative data analysis

Following examination of the descriptive statistics, we ran cross-tabulations and conducted Pearson Chi-square tests to examine the relationships between demographic variables and variables in students' experience and preferences for the use of recaps.

Variable	Responses
Familiar with recap	87%
Like recap (if familiar)	99%
Find recap helpful	10% extremely helpful, 68% very helpful, 15% helpful, 2% unhelpful
Preferred recap type	73% prefer verbal-visual recaps, 27% verbal-only recaps
Preferred recap length	3 to 10 minutes in a one hour lecture; one hour if used as preparation for assessment
Learning habits – prepare for lectures	33% always, 49% often, 15% rarely prepare

Table 1. Key responses from student survey

Regarding recap familiarity, 87% of the students had seen the use of recaps, which means they knew about them and how they might be used in a teaching session. There was no relationship between recap familiarity and demographic group, meaning that students were familiar with the use of recaps regardless of their year of study, gender, domicile or learning habits.

Of students who had experienced the use of recaps before, 99% of them said that they liked their use. In terms of perceived helpfulness, 10% of students said that the use of recaps was extremely helpful for their study, 68% very helpful, 15% helpful and 2% not helpful, while 5% were not sure.

Recap likeability was significantly associated with level of study (X^2 = 13.45, p = 0.04) but had no significant relationship with gender, domicile or learning habits. Students at lower levels of study would have liked to see recaps used more. In the sample, 97% students at levels 4 and 5 would have liked to have recaps, while the numbers for levels 6 and 7 were 88% and 73% respectively.

For recap type, 73% would have preferred verbal-visual recaps and 27% verbal-only recaps. Regarding recap length, students would have preferred to have a recap of between three to ten minutes in a typical one-hour teaching session and a whole-session recap before assessments. There was no significant association between perceived helpfulness and recap length.

Preferred recap type was significantly related to level of study (X^2 = 20.01, p = 0.01) and domicile (X^2 = 10.64, p = 0.03), but had no significant relationship with gender or learning habit. Students at lower levels of study tended to like verbal-visual recaps more. In the sample, 85% of students at level 4 would have preferred verbal-visual recaps, while the numbers for levels 5, 6 and 7 were 81%, 75% and 52% respectively. International students tended to prefer verbal-visual recaps. In the sample, 93% of the international students would have preferred verbal-visual recaps, while the figure for this for home students was 83%. There was no difference in recap type preference by students of different gender groups or learning habits.

In terms of students' learning habits, 33% of students stated that they always prepared before attending each teaching session and 49% often prepared, 15% rarely prepared and 3% went through the materials only when they needed to do the assessments.

Variable	Responses
Prior use of recap	98%
Frequency of recap use	21% used recaps in all teaching sessions, 19% used recaps in most teaching sessions and 58% used recaps for some teaching sessions
Preferred recap type	73% recap users used verbal form and 27% used verbal-visual recaps.
Perceived helpfulness	14% said that it was extremely helpful for their teaching, 50% very helpful and 28% helpful, with 8% not sure.

Table 2. Responses in the teacher survey

Almost all teachers in the sample had used recaps in their teaching before, accounting for 98%. Just 2% were not familiar with recaps and had never thought about their use before. However, the frequency of their use of recap varied. Among the recap users, 21% applied recaps to all teaching sessions, 19% used them in most teaching sessions and 58% used them for some teaching sessions. In terms of recap types, 73% recap users used the verbal form and 27% used the verbal-visual. Regarding perceived helpfulness, 14% said that it was extremely helpful for their teaching, 50% very helpful and 28% helpful, while 8% were not sure.

We also examined the relationships between teacher demographic variables and use of recaps. There was no relationship between prior recap use, recap type, frequency of use or perceived helpfulness with role or teaching experience. However, recap use frequency was associated with length of teaching experience (X^2 = 22.22, p = 0.04), meaning that those with more teaching experience tended to use recaps more often. The percentage of teachers who used recaps in all teaching sessions ranged from 90% of those with more than fifteen years of teaching experience, to 60% of those with eleven to fifteen years of teaching experience, 23% of those with six to ten years of teaching experience of those with three to five years of teaching experience and 17% of those with less than three years of teaching experience.

3.2   Qualitative data analysis

We conducted thematic analysis of interview transcriptions from interviews with students and teachers. Two key themes emerging from the analysis were the benefits and drawbacks of recapping. Figure 1 presents four sub-themes about the benefits of recaps for the students' learning experience, learning process, improving teaching experience and ensuring a more inclusive learning environment.

For the learning experience of students, recapping can make a learning session more engaging and interactive. Many students said that, for them, a recap can be a short period of time for engagement, interaction, discussion, the sharing of ideas and clarification of possible misunderstanding of a theory. Teachers underlined in the interviews that recapping is particularly helpful when there is a lack of understanding and engagement by students. They explained that poor engagement could be down to limited familiarity with theories and concepts. The use of recaps can create discussions which enable students to recall, refresh and share their knowledge in interactive ways. This argument was supported by many students in the interviews.

One first-year student said:

> *"It is useful and helps me recall main points because I do not always remember what study in lectures, not always watch videos and read slides before attending a class."*

One third-year student said:

> *"Sometimes I have to go through an hour or two hours of lecturing, my brain will stand still and forgets totally what I have learned. But, recaps do help me to remember and go through a few main points. That really, really helps. That's why I think recapping is very important, even for those who attend lectures."*
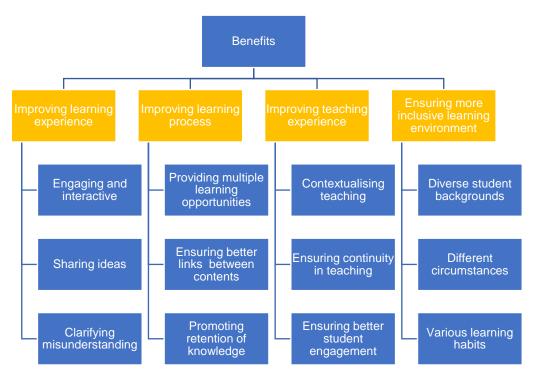
Figure 1. Sub-themes on the benefits of recaps for teaching and learning experiences

The use of recaps was also perceived to benefit the learning process of students by providing multiple learning opportunities, ensuring better links between content and promoting retention of knowledge. One very experienced colleague explained:

"*Retention is something that we need to constantly work on. Recap can provide students with the opportunity to fully understand what they learn. If recap is not used, students literally have only one hit, and do not have another opportunity to actually learn and retain what they learn.*"

For improving teaching experience, teachers in the interviews argued that the use of recaps can help them to contextualise and ensure continuity in teaching and ensure better student engagement. They explained that the use of recaps can set context, link the current teaching session with the previous ones, provide students with baseline understanding of the topic being discussed and prepare and engage them better in the activities of a teaching session. Many colleagues underlined that the use of recaps is particularly useful for modules that are heavy with theories and topics built on each other. Students need to understand previous concepts and theories to learn new ones. Teachers found that recapping can work well for online, blended and face-to-face teaching. They used recaps for all levels of study and teaching sessions, including lectures, tutorials and workshops.

Most colleagues used recaps at the beginning of a teaching session because they think that the hardest part is to warm up students and recaps can be used to do that. They used recap less often during and at the end of a teaching session because of their teaching styles and time management. However, they agreed that recaps can be used during and at the end of a teaching session. Some colleagues found recaps can be used to encourage students to come to class on time. From their experience, if students know that there will be a recap at the beginning of a teaching session and they want to know and understand the topic, they will try to come on time in order not to miss the recap.

The use of recaps is perceived to create a more inclusive learning environment by catering for students with different backgrounds, circumstances and learning habits. Teachers in the interviews argued that the use of recaps can help to make sure students are on the same page in a teaching session, especially when working with students from a mix of academic backgrounds, languages, levels of preparation and understanding. Some students attend teaching sessions regularly but there are also students who tend to skip classes. Some prepare well but some do not engage with the teaching materials before a teaching session. Some may understand immediately, while some may not. Students may not follow the learning process that we expect them to, for example, we can't assume they will all watch a pre-recorded lecture videos or come to class prepared and ready to discuss a topic. Even for engaged and high-attaining students, recaps can help them look at a topic from different perspectives, have deeper understanding and correct any misunderstanding about a theory. One experienced colleague argued:

> *"If we just go straight to the content and activity in a tutorial, that's a very sharp beginning without making sure people on board and we can lose students straight at the beginning. Recapping can at least give students an opportunity to follow. Recapping is not necessary the pure repetition of the previous lecture, but it is just to make the point that what is important that has been discussed so far and what's new."*

Recapping is particularly helpful for students who miss previous teaching sessions or have little preparation before attending a teaching session. In the follow-up interviews, some students stated that they do not always go through the lecture slides, pre-recorded videos and other materials before attending a teaching session; they even skip classes. In the survey, many students also revealed that they rarely prepare before attending a class. In some cases, students have tutorials before lectures. In these circumstances, recapping can be helpful for them to learn and engage in a teaching session.

One second-year student reflected on his experience:

> *"Sometimes I do miss lectures prior to attending the tutorials. It's very seldom but it does happen. The use of recaps can help me catch up and engage in the learning activities."*

Teachers in the interviews also underlined that students have different learning habits and circumstances. The use of recaps can ensure that the learning of students can take place in many ways. Some students acknowledged in the interviews that they were more introvert and tended to hesitate to ask questions even though they did have questions and would have liked instructors to clarify points. The proactive use of recaps by an instructor therefore can be helpful for them.

A second-year student reflected on his experience:

> *"Some students, myself included, might be afraid to ask questions sometimes and recaps can clarify some of the questions that we may have but we are afraid to ask either because we feel silly to ask or maybe we are embarrassed to ask."*

Students argued that verbal-visual recaps would be particularly useful for students with language barriers or difficulty in learning. For many students, recap with the written elements can be helpful for them to refer back to later or they simply do not want to miss any details in the recaps because the recaps are the key points.

However, recapping is not a flawless pedagogical approach. Figure 2 presents the three sub-themes about the drawbacks of recaps: repetition, they can be counter-effective and there tends to be more workload at the beginning.
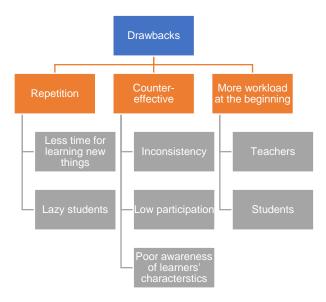

Figure 2. Sub-themes on perceived drawbacks of recapping

One theme emerging from the interviews with both students and teachers is repetition. Some students explained that they always prepared well for each teaching session. Therefore, they thought that recapping might be a repetition for them. Recaps can take up the time that should be used for learning new things. One level 7 student said:

"I think recap could be seen as time away from new contents. I'm sure, this is kind of a struggle for lots of lecturers, teachers and professors, there is so much that they know about, passionate about and the presence of recap could take away some of that time that could be spent for new original materials that could be presented to students."

One concern was that the use of recaps could also make some students less likely to engage with content in their independent study time. As students know that there will be a recap, they may not want to go through the materials themselves or hesitate to attend lectures.

"The use of recaps may allow them to come disengaged, there might be some level of comfort of knowing that there would be a recap that would take place, that would help stir the understanding."

Students and teachers in the interviews also voiced concerns that, if recaps are not used properly, they can be counter-effective. Some possible circumstances in which they thought recapping could go wrong include inconsistency between content and/or instructors, low participation by learners and poor understanding of instructors about the diverse needs and characteristics of students. One third-year student said:

"If recapping is not carefully implemented, it could make students, especially shy and introvert students, feel uncomfortable if they are asked or tested."

The use of recaps could add more workload for both teachers and students at the beginning if they are not familiar with recapping. It would take time to prepare and add recaps to the design of teaching sessions if an instructor is not currently using and familiar with recapping. For student-led recaps, students would need time to get used to them and prepare.

4. Discussion

In this research, we look at recapping and examine whether it could contribute to an inclusive approach. Through surveys and interviews with both students and teachers, the research findings capture their perceptions of the use of recaps for their learning and teaching experiences. Recapping is perceived as helpful for improving the learning experience and learning process of students, by creating more engaging and interactive learning activities, providing multiple learning opportunities and allowing students to share their ideas and knowledge proactively, which can promote peer learning (Topping *et al.*, 2017). Recapping can also provide opportunities to clarify and correct misunderstandings, increase retention of knowledge and ensure better links between content, which can promote scaffolded learning and teaching (Taber, 2018). These findings are consistent with prior studies such as Lowe (2016), Stavnezer and Lom (2019), Dart (2020) and Bothe *et al.* (2020).

However, there can be varying learner needs for dealing with the use of recaps and different practices of teachers. Our findings show that students at lower levels of study would like to have more recaps and they would prefer verbal-visual ones. International students also tend to prefer verbal-visual recaps. These findings are understandable, because students at lower levels of study tend to have lower levels of background knowledge and they are less practised in terms of technical knowledge and learning skills, while students at higher levels of study may have more background knowledge and can be more independent in their learning process. A language barrier may be a hurdle for international students to catch all the points in recaps. Recaps with a combination of verbal and visual means can enable them to learn from recaps both verbally and visually. They can also have time to look up and take note of vocabulary and terms new to them. In terms of the recapping practices of teachers, our findings show that teachers with more years of teaching experience tend to use recaps more. As they have more teaching experience, they may well know more pedagogical approaches and teaching techniques, including recapping.

In the context of widening participation, any effective pedagogy should take into account more diverse groups of learners. Our findings show that the use of recaps is perceived by both students and teachers as an effective approach that can ensure a more inclusive learning and teaching environment. The use of recaps can cater for students of different backgrounds, circumstances and learning habits and put them on the same page in a teaching session. This finding is in line with Wyse (2014) and Stavnezer and Lom (2019).

Findings in this research also reveal that recapping is perceived to be an effective approach that can improve the teaching experience of instructors. Accordingly, the use of recaps may provide an instructor with many pedagogical benefits, including contextualising and ensuring continuity in teaching and increasing student engagement.

However, recapping can also have drawbacks, such as repetition and additional workload at the beginning. The benefits of recapping could be negated and the method could even be counter-effective if recaps are not properly implemented. Recapping is therefore not a flawless pedagogical approach; effective implementation requires the knowledge and skills of both teachers and learners.

There are some limitations in this study that future research can delve into. This research captures only the perceptions of students and teachers. Further research could look at more objective data, such as results from the evaluation of relevant courses. In this study, we look only at the perceived benefits for learning and teaching experiences. Further research can explore possible associations between improved learning experience and student academic performance. Our study is the first to look at the pedagogical approach from the perspective of teachers, touching on an area unexplored in the literature. Future research could continue by examining possible relationships between improved teaching experience and work satisfaction. Another possible endeavour would be to capture good practices in applying this pedagogical approach in a wider range of academic disciplines.

5. Conclusion

Our findings are consistent with previous studies that show recapping can be an effective pedagogical approach that can improve the learning experience of students. However, it is important that it is used appropriately and that potential drawbacks such as repetition and additional workload are acknowledged. Our study contributes to the newly emerging research stream on the use of recaps in educational settings. Theoretically, this research provides evidence showing that the use of recaps can be an effective pedagogical approach in teaching and learning in the context of business schools. Methodologically, our study is the first research applying a mixed-method approach to collect primary data to capture the direct voices of both students and teachers.

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