

GOOD Flipped Classroom CASE



27

Instructor
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Department
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LGT3307
Strategies and Technologies in
Warehousing Management

Class size
100+ students

Students
Year 3 and Year 4 undergraduate
students, including senior- year
admitted (SYA) students,
studying BBA (Hons) in Supply
Chain Management and Analytics

Details of Flipped Classroom IMPLEMENTATION

Why did the instructor use the flipped classroom approach?

Jacky adopted the flipped classroom approach to make better use of limited face-to-face time in a large warehousing management class. Students came from different backgrounds and had different levels of prior exposure to warehousing. In LGT3307, they needed not only conceptual understanding but also guided application, especially for operational and quantitative topics. By moving basic content delivery to the pre-class stage, Jacky could reserve more in-class time for clarification, problem-solving, peer support and hands-on practice.

The approach was also suitable because most students had not visited a warehouse before. Short flipped classroom videos helped them build an initial understanding of warehousing operations, workflows and technologies

before class. The videos linked abstract concepts with real operational processes, so class discussions could begin from a more informed basis.

Another reason was the need to maintain continuity of learning. The semester was affected by public holidays and adverse weather, including disruptions in weeks 2, 4, 5 and 9. Instead of arranging physical make-up classes, Jacky used videos and quizzes to cover essential content and compensate for lost class time. Students’ effort was recognised through participation marks, reducing timetable pressure while keeping learning structured.

How was the flipped teaching approach implemented?

Preparation of materials

- Jacky curated suitable online resources and supplemented them with short self-prepared Panopto videos tailored to LGT3307. For flipped lessons, pre-class preparation typically included a concise video of around 8 to 10 minutes. The materials focused on key warehousing concepts and, where appropriate, calculation procedures that students would later apply in class.
- The videos and related materials were uploaded to Blackboard and Panopto. To keep the workload manageable, they were brief, focused and aligned with the intended learning outcomes. Short quizzes were embedded in Panopto or placed on Blackboard to check understanding and encourage active viewing.

Pre-class activity

- In weeks 1 and 2, Jacky introduced the flipped classroom arrangement. He explained why it was used, how students should prepare and how the activities connected to the course. This early orientation was important because many students were unfamiliar with flipped learning.
- Before relevant lessons, students watched the assigned videos, reviewed supporting materials and completed short quizzes. These activities formed part of the 10% participation component, with emphasis on effort rather than heavy assessment pressure.

In-class activity

- For most flipped lessons, Jacky began with a brief clarification of common questions or misconceptions arising from the videos and quizzes. This ensured that students had sufficient baseline understanding before application-oriented tasks. Class time was then used for discussion, peer support and problem-solving. In some lessons, ClassPoint and generative AI (GenAI) demonstrations were used to show how emerging technologies could support industry decision-making. A key part of the arrangement was the three computer lab sessions held from weeks 6 to 8. Before these sessions, students watched videos explaining relevant calculation details and step-by-step procedures. As a result, lab time focused on hands-on practice, troubleshooting and targeted support while students worked through quantitative exercises.

Post-class activity

- After class, students could revisit the flipped classroom videos, Blackboard materials and recordings for revision. For some topics, especially quantitative ones, follow-up exercises helped students consolidate what they had practised in class. Suggested answers were released after deadlines so that students could compare their work with the expected approach.

What are the good practices that can be learnt from this case?

Using concise pre-class videos to make student preparation manageable

- Jacky used short pre-class videos of around 8 to 10 minutes to introduce key concepts, calculation procedures, and analytical steps before class. These videos were uploaded to Blackboard and Panopto, together with related learning materials and short quizzes. The concise format made the pre-class tasks manageable for a large class with different levels of prior exposure to warehousing. It also allowed students to revisit the videos when they needed to review difficult concepts or prepare for quantitative exercises. By moving basic explanations before class, more face-to-face time could be used for clarification, discussion, and application.

Leveraging participation-linked quizzes and early orientation to encourage student preparation

- Jacky introduced the flipped classroom arrangement clearly in week 1 and week 2. He explained why the approach was used, how students should prepare, and how the pre-class tasks were connected to in-class activities and assessment. The pre-class quizzes were linked to the participation component, which accounted for part of the 10% participation component of the final grade. This gave students a clear reason to complete the tasks while keeping the assessment pressure reasonable. Combining early orientation with participation-linked quizzes helped encourage preparation and supported students’ adjustment to the flipped classroom approach.

Aligning pre-class preparation with computer lab activities to strengthen hands-on application

- Jacky closely connected pre-class learning with in-class application, especially in the three computer lab sessions from weeks 6 to 8. Before attending these sessions, students watched flipped classroom videos explaining calculation details and step-by-step procedures. As a result, the computer lab sessions did not need to focus mainly on first-time explanations. Students could spend more class time on hands-on practice, troubleshooting, peer support, and quantitative exercises. This also allowed Jacky to provide more targeted support when students encountered difficulties.

What was the impact on student learning?

The flipped classroom approach improved the flexibility, continuity and quality of in-class learning. Through short videos and quizzes, students could study basic concepts at their own pace and were not dependent solely on live lectures for first exposure to the content. This made the course more resilient during a semester affected by public holidays and adverse weather.

The relationship between pre-class engagement and attendance was visible in the learning data. Among students who achieved an average pre-class quiz score above 80/100, 80% maintained class attendance above 80% throughout the semester. By contrast, among students whose average score was below 50/100, 80% had attendance below 80%. These figures should not be interpreted as direct causal evidence, but they suggest that the quizzes functioned as a useful indicator of sustained engagement.

Students’ effort in watching videos and completing quizzes helped compensate for missed class time, reducing the need for make-up classes and unguided self-study. The positive response was reflected in improved eSFQ ratings. In a similar subject previously taught without the flipped classroom approach, Jacky received an eSFQ rating of 3.7. After adopting the flipped classroom approach, the relevant rating increased to around 4.4 to 4.5, placing it above the 70th percentile and close to the 90th percentile.

The flipped approach improved the usefulness of class time, especially in the computer lab sessions. Prior exposure to calculation steps allowed students to focus more on practice than on first-time explanations. This was validated during a departmental peer visitation: the reviewer noted that, because basic concepts were handled before class, the instructor could maintain an appropriate pace for more in-depth exploration. Student comments about a “pseudo-warehouse visit” experience also suggest that the videos helped them understand warehousing operations more concretely.

What were the challenges encountered during the implementation and what solutions were used?

Ensuring Consistent Student Preparation Before Class

- One challenge was the unevenness of student preparation. While most students completed the pre-class videos and quizzes, some were less consistent in engaging with the materials before class. This could affect in-class activities, as unprepared students might struggle to join discussions, follow problem-solving tasks or apply concepts during exercises. To address this issue, Jacky linked the pre-class tasks to the participation component. He also began flipped lessons with short in-class clarifications to address common questions or misconceptions identified from students’ preparation. This brought students to a more similar starting point before application-oriented activities, while keeping the workload reasonable.