

- Teacher guidelines for case study -

Innovations in express packaging



Generic green
skills

Cognitive competencies:

- Environmental awareness and a willingness to learn about sustainable development
- Systems and risk analysis, skills to assess, interpret and understand both the need for change and the measures required
- Innovation skills to identify opportunities and create new strategies to respond to green challenges

Interpersonal competencies:

- Consulting skills to advise consumers about green solutions and to spread the use of green technologies.
- Strategic and leadership skills to enable policymakers and business executives to create conditions conducive to cleaner production, cleaner transportation, etc.



Learning
objective

Students are expected to:

1. Recognize how much carbon emissions logistic enterprises cause as well as the role of packaging and what solutions there are for this issue.
2. Evaluate the implementation of these solutions from different perspectives.
3. Investigate how logistics enterprises in your province respond to carbon emission issues and how this can be improved.



Small group work with individual learning



Facilitator

Role of teacher



Resources needed

A4 paper, laptop, case study, student worksheet



1 hour

Time required



Assessment

The assessment will be based on:

Students' group presentation. The assessment is based on the clarity of students' arguments, as well as their analysis of the implementation of the solutions and your suggestions about how to improve them.

Suggested teaching and learning sequences

Before the class:

1. Ask students to read through the case study and identify the key elements below:
 - a. Carbon emissions caused by logistics centers
 - b. Different solutions logistics enterprises adopt to reduce carbon emissions
 - c. How these solutions contribute to the implementation of relevant SDGs
2. Ask students to identify at least two solutions to discuss in groups.
3. Provide suggestions for students' field visits to a logistics center in their city individually, or in small groups. At the center students should examine the level of awareness about carbon emission issues held by the staff they talk to and identify the solutions logistic enterprises implement to reduce carbon emissions, as well as the challenges they face. Suggest students use the provided interview form during the visit. Students can adjust the form and add additional questions.

(Please see Appendix 1 for the teacher guidelines for the interview form.)

During the class:

1. Warm-up activity

- a. Show students the pictures that illustrate packaging problems.



Fig. 1. Card boxes on the roadside.
Source: Unsplash.



Fig. 2. Parcels at delivery centre.
Source: ce.jxcn.cn



Fig. 3. Overpackaging issue.
Source: tongshan.cjyun.org/

- b. Ask students to describe similar problems they have read about, or experienced in everyday life, to their group and identify the negative impacts on the environment.
- c. Facilitate students to share the results of their visit to the logistics center.

2. Group discussion

Facilitate students' group discussions that focus on:

- a. What measures do enterprises take to reduce carbon emissions caused by packaging? Do they face any challenges in implementing these measures? What is the level of awareness among staff at the enterprise?
- b. An evaluation regarding whether these measures are practical or effective across China.

Students will need to provide evidence/clear arguments to demonstrate why they are effective or ineffective. In terms of practical implementation, they should consider the various conditions/challenges in different areas, such as the differences between big cities and the countryside.

Ask students to do additional research if needed and list the arguments on both sides of an A4 paper and formulate a conclusion based on them.

- c. Based on the analysis of the conditions in the students' provinces, consider how current solutions could be adjusted, or identify other possible solutions that could be applied to reduce the carbon emissions caused by packaging.

3. Group presentation

Guide students to prepare a 5-10 min group presentation or speech that focuses on:

- a. An evaluation of the current solutions in relation to addressing packaging issues. Students should clearly introduce: the measures they are focusing on, the conclusion generated by the group discussion, and an analysis of the current situation in their province.
- b. Adjustments to current solutions, or suggestions of other possible solutions, based on the local context.

After the class:

1. Ask students in a group to identify a local logistics center where they will send their suggestions.

Students should write a letter that provides some suggestions for improving the implementation of current solutions, or introduce other possible solutions that could help address packaging issues.

2. Ask students to show this to you before sending.

Suggested answers/examples for the activities

1. Pre-class learning

- a. Carbon emissions caused by logistics centers
 - i. Huge amount of delivery boxes and wraps are wasted because consumers don't know how to recycle them.
 - ii. Online sellers tend to overpack.
- b. Different solutions logistics enterprises adopt to reduce carbon emissions

- i. Use zipper boxes and electronic sheets.
- ii. Use degradable materials as packaging.
- c. How these solutions contribute to the implementation of relevant SDGs
 - i. Between 2018 and 2020, the carbon emission per kilogram produced by single express delivery was successfully reduced from 0.091 to 0.061
 - ii. Customers have increased awareness of recycle and reuse packaging.
- d. Advice about visiting a logistics center in students' cities and the use of the interview form.
 - i. Observe and record what kind of packaging they use.
 - ii. Ask the workers and customers about their awareness about reducing and recycling packaging

2. Group discussion

- a. What measures do enterprises take to reduce carbon emissions caused by packaging? Do they face any challenges in implementing these measures? What is the level of awareness among staff at the enterprise?
 - i. Measures: reduce packaging, use degradable packaging materials, recycle points, etc.
 - ii. Challenges: talk about the challenges students observed. For example, small enterprises cannot afford the cost of degradable materials, and/or people's awareness of recycling is limited.
 - iii. The level of awareness: the level of awareness among staff at different enterprises could be very different. Some enterprises such as Cainiao and Shunfeng Express, which have taken action on reducing carbon emissions, tend to have staff with a higher level of awareness in sustainability. Teachers should invite students to talk about their observations and interview findings.
- b. Evaluate whether these measures are practical or effective across China. List the arguments from both sides and formulate a conclusion based on them.
 - i. Arguments for being practical or effective: 1) People's opinions are changing. More people are aware about recycling the packaging; 2) Electronic sheets are taking the place of paper sheets; etc.
 - ii. Arguments for not being practical or effective: 1) Traditional boxes and paper sheets are still widely used. 2) Most people consider price and convenience as their top priority. 3) Recycle points are only available in big cities.

Therefore, in big cities, the solutions are better implemented and people's awareness regarding the importance of recycling is higher. However, there are also some common issues, such as people's behaviors and habits being hard to change, and more basic infrastructure for facilitating recycling is needed.

- c. Based on the analysis of the conditions in the students' provinces, consider how current solutions could be adjusted, or identify other possible solutions that could be applied to reduce the carbon emissions caused by packaging.
 - i. The government should give some subsidies to logistics enterprises to encourage them to use degradable materials.
 - ii. The enterprises need to pay more attention to popularizing the recycle points and other recycling measures.

Reference:

- Double eleven green logistics: whole link carbon reduction of vegetable birds. *Green Packaging*, 2021(11), pp.12.
- Xiao, H. and Li, Y., 2021. Shenzhen Green Logistics Out of ' Acceleration '. *Shenzhen Economic Daily*, 11(3), pp.1-2.
- Xie, S., 2022. Study on Green Transformation and Development Strategy of Logistics Industry under Carbon Neutralization. *Reform and Strategy*, 3(12), pp.130-140.