

VeLAD 2022 – Development of open educational resources (OER)

1 Title

Sustainability – means of transport in New Zealand and Germany

2 Overview

Topic	What means of transport are used in Germany and New Zealand and what alternatives to owning a car do we have?
Aims	<p>Students develop a critical understanding of different means of transport used in New Zealand and Germany</p> <ul style="list-style-type: none">• Students can describe pictures and guess the topic of the lesson with the help of guiding questions• Students can collect information about means of transport used in New Zealand with the help of a text and a statistic• Students can compare means of transport used in New Zealand and Germany with the help of a text, statistics, and their own experiences• Students can find advantages and disadvantages of cars together with a partner and discuss them later in a plenary discussion• Students can prepare and take place in a fishbone discussion on alternatives of the car by working together in a group and with the help of the internet
Level	Grade 10
Time	1 double lesson
Content	<ul style="list-style-type: none">• Pictures that show different means of transport used in Germany and New Zealand• A text on means of transport used by New Zealanders written by a student from Dunedin• Two statistics that compare means of transport used by Germans and New Zealanders to commute
Materials	<ul style="list-style-type: none">• Worksheet M1 for students• Key for worksheet M1• Worksheet M2 for students• Key for worksheet M2• Presentation M3

3 Didactic considerations

To lead into the lesson and motivate the students, teachers could use two different methods. For the first they could use the pictures of different means of transport found in New Zealand and Germany (Presentation M3) to get the students interested in the topic. For scaffolding the teachers could ask questions like:

- What do you see/ feel/ hear/ ...?
- Where do you think the picture was taken?
- Have you used this mode of transport before? How did you like it?

Afterwards the teacher may ask the students if they can guess the topic of the lesson.

For the second option, the teacher could ask the students what means of transport they use to get to school and why. Together, the class could collect different means of transport as well as their advantages and disadvantages on the blackboard. Then the teacher could ask the students if they think students in New Zealand use the same means of transport or if they expect any differences.

The teacher should also provide reasons why the class is going to work on a comparison between Germany and New Zealand. One possible reason could be that New Zealand is the most distant country from Germany and that it is therefore interesting to see how big the differences between those countries are. Furthermore, New Zealand is a popular travel destination for young Germans who have just finished school. Therefore, it could be interesting for the students to already learn about possible means of transport they could use here.

Worksheet M1 could be used in the next part of the lesson in which students learn about means of transport used in New Zealand. Task one shows a text by a university student from Dunedin who describes what means of transport he and his friends use. While reading, the students could mark the means of transport mentioned. Afterwards, the teacher could discuss the text with the class to check if they understood everything, as well as what was surprising/new for them.

Task two of M1 shows two statistics on how Germans and New Zealanders commute to work. The students could match the statistics with the right country and explain their decision. For help they can use the text of task one as well as their own experiences.

In task three of M1 students should apply their newly gained knowledge to formulate similarities and differences of means of transport used in New Zealand and Germany together with a partner. Afterwards the teacher could collect some answers and put them on a table on the blackboard so that the students can complete their notes.

After completing M1, the students already know what means of transport are mostly used in Germany and New Zealand. In the second part of the lesson, they should now develop a critical understanding of the by far most used mode of transport in both countries – the car – and learn about some alternatives.

To lead into this part of the lesson, the teacher could ask the students some general questions like “Whose parents own a car?” or “How often do you use it?”. Afterwards the students could collect some information about the car as well as its advantages and disadvantages with a partner before discussing them in class. It can be expected that the students already have some knowledge about this topic, but for guidance, the categories given on worksheet M2 could help them. The teacher could collect the ideas of the classroom discussion on the blackboard and the students could copy the advantages and disadvantages into the first column of M2.

Because it can be expected that there will be a lot of disadvantages of cars mentioned by the students, it will be important to look at some alternatives. That could be done in group work. Therefore, the teacher needs to form groups of about four to five students who all work on a presentation on one of the three means of transport: bikes, public transport, or carsharing. A suitable context for this could be a fishbowl discussion on alternatives of the car as part of a Fridays for Future demonstration. The students could be assigned the roles of chairmen of the ADFC Leipzig (“Allgemeiner Deutscher Fahrrad-Club”), teilAuto and Leipziger Verkehrsbetriebe to represent the associated means of transport. Again, they could use the categories given on M2 for guidance. Also, they could be allowed to use their mobile phones or digital devices provided by the school to complement their own knowledge with information from the internet. Additionally, the teacher should select one or two volunteers to lead the discussion. They should prepare different guiding questions and topics.

Some research sources that the teacher could provide are:

- https://sciaga.pl/tekst/10183-11-advantages_and_disadvantages_of_cycling_as_a_means_of_transport
- <https://environmental-conscience.com/bicycling-pros-cons/>
- <https://www.ifema.es/en/global-mobility-call/sector-news/advantages-and-disadvantages-of-public-transport>
- <https://edgearticles.com/2018/07/09/public-transport-advantages-and-disadvantages-of-public-transport/>
- <https://www.automoblog.net/best-car-sharing-services/>
- <https://carsharing.org/what-is-car-sharing/>

After the students had enough time for preparation, the fishbowl discussion should take place. For this, two members of each group and the moderator should have a seat in a circle in the middle of the classroom. The rest of the students should have a seat or stand behind their group members, take notes, and observe. The students on the outside could be allowed to trade places with those in the fishbowl. The moderator should lead through the discussion with help of his or her prepared guiding questions. Another option is to hold more than one discussion at the same time to increase the talking time of the students.

At the end, the teacher could discuss the results with the students. Questions that the teacher could ask for the reflection are:

- Do you think a car-free transport is realistic?

- What alternative to the car did you like the most? Why?
- Will you try to use alternatives to the car more often in the future?

A possible homework assignment could be that the students should try to avoid using cars for a week and reflect on their experiences. Possible questions they could answer are:

- Did you manage to not use the car for the whole time?
- If not, why have you had to use the car?
- What alternatives to the car did you use? What did you like/dislike about it?
- Was it easy/hard for you?
- Did the challenge change your opinion towards the importance of cars?

4 Background information

Teachers who work with these materials should know what means of transport New Zealanders use and why they do so. Data that shows this information is for example provided by the Environmental Health Intelligence New Zealand (<https://ehinz.ac.nz/indicators/transport/main-mode-of-transport-to-work/>) and can be found in task one and two of “Worksheet M1”. It is also required that teachers know disadvantages and advantages of cars, public transport, bikes and carsharing. This knowledge can be refreshed by looking at the “Key for worksheet M2”.

If you want your students to work on their presentation with the help of the internet, they should have some experience in doing so. If that is not given, the teacher should introduce them to working with the internet and raise awareness of why and where they need to be careful. Also, it would be helpful if the students are already familiar with the fishbowl strategy. If not, a brief introduction of the strategy by the teacher would be helpful.

Furthermore, it would be helpful if the students have already learned something about New Zealand so that they can activate their previous knowledge. If that hasn’t happened yet, teachers could use the first part of the lecture to introduce the country briefly so that students get an idea of New Zealand and the people who live there.

5 Materials

- Worksheet M1 for students
- Key for worksheet M1
- Worksheet M2 for students
- Key for worksheet M2
- Presentation M3

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