

Making choices: a role play scenario about hand drying

The key idea for role play scenarios is to focus on a specific, realistic context in which students can experience **making choices**. The scenario should make sense to the students involved (even if it is imaginary) in order to encourage them to consider the implications of choices that they or others might make. The aim is for students to gain experience of asking critical questions and using evidence, linked to previous work about the functionality and the life stories of objects, to support their arguments.

A scenario needs to be sufficiently complex for students to take different points of view, drawing on personal opinions and evidence, and there should not be an obvious 'right' answer. It should encourage students to consider environmental, economic and social aspects of the choice to be made, which may be in conflict with each other.

On the next page you will find a scenario for a role play activity which involves making a choice.

Three particular roles are described in this scenario, which could be given to different groups of students.

There are also three information sheets containing some background information, each with a different focus. The information on the sheets has been put together from different sources, which are indicated on the sheets. These may present different views and priorities.

To organise the role play it is best to spend some time with all the students discussing the scenario, so that they all understand the context. The groups will then need time to prepare the arguments they want to make. The final part of the role play will be a meeting of all the groups, at which a choice should be made.

The Scenario

Highlands School is currently having the toilet and washroom facilities refurbished. Until now they have provided paper towels for students to dry their hands, but the Head teacher wants to consider installing electric hand dryers instead.

The school is concerned to develop the involvement of students and parents in decision making, particularly on issues which may have environmental implications.

The Head teacher has called a meeting for staff, students and parents at which a choice about hand drying about will be discussed.

The Roles

You are the Head teacher, and other members of staff at Highlands School.

You are concerned about the school budget and so want to look at the costs of different options, including the work that would be involved, such as emptying rubbish bins. You may also have views about the environmental impact of the choices you make.

One member of this group will take the role of the Head teacher to chair the final meeting.

You are students at Highlands School. You are the people who will be using the hand drying facilities, and so may be concerned about how efficiently they work, the time taken and keeping the washrooms tidy, as well as other issues.

You are parents of students at Highlands School. Your main concern is that there is a hygienic way for students to wash and dry their hands. Some of you may also be concerned about the school budget, or about environmental issues.

Hand drying methods: Environmental issues

The use of electric hand dryers reduces waste, and the touch-free models currently on the market also help to minimize the spread of germs (*from a website giving advice to small businesses*)

To make paper towels, trees are cut down and wood must be transported to factories where it is then made into paper towels. However, usually the wood comes from sustainable commercial forests: the trees are grown as a crop, and this provides employment for the community. (*from the website of a company that makes electric dryers*)

The environmental cost of making paper is high as electrical energy is needed for both the manufacturing process and packaging. Paper towels have to be supplied regularly and so the cost of transport is also high. (*from the website of a company that makes electric dryers*)

A research study looked at the entire life cycle of various hand drying products – materials, manufacture, use and end of life - including use of transport, dispensers, waste bins and bin liners. It concludes that paper towels and warm air hand dryers have the highest environmental impact – generating 70% more carbon emissions than the newest technology on the market, the cold air-driven hand dryer from UK manufacturer Dyson. (*from a newspaper report: the study was commissioned by Dyson.*)

The vast majority of paper towels are not recycled. They are designed not to break down when wet and this makes them hard to recycle. They are made of organic material so when they are sent to landfill harmful greenhouse gases such as methane are released. (*from the website of a company that makes electric dryers*)

During the productive life span of the average hand dryer, around 24 trees would have to be cut down if paper towels were used in the place of this one dryer. (*from the website of a company that makes electric dryers*)

Hand drying methods: Hygiene

Drying skin is essential to getting rid of bacteria, and paper towels are better than electric driers: they're more efficient, they don't spatter germs, they won't dry out hands and most people prefer them (*Mayo Clinic study, reported in the Wall Street Journal, 2012*)

Studies have shown that hot air blowers tend to spread bacteria between 1 and 3 meters from the device (*Wall Street Journal article, 2012*)

A randomised study shows that there are no statistically significant differences in the efficiency of paper towels, warm forced air from a hand-activated dryer, and spontaneous room air evaporation (that is, letting hands dry naturally) for removing bacteria from washed hands. (*from the website of a company that offers 'a range of hand drying solutions'*)

Hand to hand contact is the single biggest method of transferring bacteria from person to person. Proper hand washing and drying is essential to prevent cross-contamination. (*from the website of a company that offers 'a range of hand drying solutions'*)

Hand drying is an essential part of the hand washing process, as wet skin helps spread bacteria. (*from a UK National Health Service website*)

If only hot air dryers are provided, the best advice is to take extra time to dry your hands thoroughly. There is little evidence that they are any worse than paper towels, other than the extra time spent drying your hands. (*from a UK National Health Service website*)

The trouble with electric hot air blowers is that they take so long. Most people dry their hands for a bit, then wipe them on their dirty jeans, or open the door with their still-wet hands. The electric blower uses more energy than making a paper towel. (*Hospital epidemiologist, reported in the Wall Street Journal, 2012*)

Hand drying methods: Cost and convenience

The newest high speed low energy electric hand dryers are definitely the most cost-effective and environmentally-friendly method of hand drying. *(from the website of a company that offers 'a range of hand drying solutions')*

In an office with 50 people using paper towels, each person would use 2.5 paper towels on average 4.5 times a day. Over a year this would be 146,250 paper towels at an approximate cost of 846€.

The total cost of using an energy efficient electric hand dryer to dry the same number of hands (117 to 235 Kw/hours of electricity at a tariff of about 0.14€) would be 16€ to 32€ a year. There is also the cost saving of reduced staffing time used to replenish the paper towels and dispensers, and to remove rubbish. [The cost of electric dryers for schools from this company ranges from 115€ – 520€ per dryer.] *(from the website of a company selling electric dryers)*

For convenience, a good reliable hand dryer has to win. No one has to remember to restock it so it is always available. This also means clean, tidy washrooms and no need for bins to take up room. Paper towels create a job no school caretaker or cleaner wants. *(from the website of a company selling electric dryers)*

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A standard electric hand dryer will typically last for 10 years. Electricity is used in supplying a hand dryer, but once installed, nothing is required in terms of upkeep. There is no rubbish disposal associated with the use of an electric hand dryer, saving landfill space and reducing amounts of harmful greenhouse gases emitted into the atmosphere. *(from the website of a company that makes electric dryers)*

A study conducted in Australia revealed that users have a strong preference for using paper towels and that "hand hygiene would possibly decrease if paper towels are not available in washrooms." Electric dryers that are used in many washrooms allow for only one user at a time. This is not convenient and often leads to avoidance or incomplete drying. *(from the website of a company providing 'skin care solutions' for industry)*