

Promoting Sustainable Behavior

A guide to successful communication

Rachel James, August 2010

Have you ever found it challenging to persuade your best friend to shut down their computer at night? Or failed to convince your neighbours to turn off their sprinklers? Have you ever felt exasperated by your colleague's unwillingness to recycle?

You are not alone. Promoting sustainable behavior is not easy. Fortunately, social scientists have developed an understanding of what it takes to make people change their habits. This is a quick review of their research findings, designed to help *you* improve your environmental messaging.

But how important is behavioral change anyway?

Tackling environmental issues requires change at every level. Even within large powerful organisations change has to begin with someone acting differently¹. Behavioral change isn't enough on its own, but it is vital.

Surely all it takes is education about the potential economic savings?

Sometimes highlighting financial benefits can instigate behavioral change. But decisions based on economic motives alone can be problematic. This is primarily due to the volatility of the economy², but also because it encourages people to view themselves as driven by money rather than environmental concerns³. As we will see [later](#), this difference in self perception is very important.

So do we just need to make people care about the environment?

No. Changing attitudes is important, but it isn't enough. Research indicates that there is no direct link between values and action⁴. In one experiment, 94% claimed individuals had a responsibility to pick up litter, but only 2% picked up litter that was "planted" by the researcher⁵. In another study, people who attended energy efficiency workshops reported knowing and caring more about energy conservation, but only 1 of the 40 participants changed their behavior⁶. We need to use methods that change attitudes *and* behaviour.

What's this got to do with UC Berkeley?

[Cal Climate Action Partnership](#) has set a target to reduce greenhouse gas emissions to 1990 levels by 2014. Whilst the university is investing a great deal in infrastructural projects, behavioral change is also required if this target is to be achieved. The current mitigation scenario assumes that behavioral projects will account for a reduction of 3,363 metric tons CO₂e: 12% of the total cut⁷. [Operational Excellence](#) also plans to minimise energy costs through individual metering in departments. This will rely heavily on behavioral change to drive down energy use.

Has there been that much research into behavioral change?

Most of the ideas here are based on social marketing: the application of marketing to achieve specific behavioral goals for a social good⁸. The field has been growing since the 1970s, and now has its own journal: *Social Marketing Quarterly*. 2008 saw the first *World Social Marketing Conference*. There are also several research institutes and consulting firms focused specifically on social marketing. Whilst the majority of applications have been in health education, Social Marketing is increasingly used for sustainability. UC San Francisco and UC Office of the President (UCOP) have both instigated campaigns using principles from social marketing, and UCOP estimates that their 'energy pledge' programme has led to an annual saving of 11.18 tons of CO₂e⁹.

So how can we promote sustainable behavior?

First it is vital to

ATTRACT ATTENTION

and keep it.

When people are listening make sure you use

PERSUASIVE MESSAGES,

and

STRATEGIES

to foster change.

Remember to keep an eye on your

DELIVERY

and think carefully about your

AUDIENCE.

4 METHODS FOR:

ATTRACTING ATTENTION

Have you considered that the average person might not find the number of watts saved by a CFL quite as intriguing as you do? A great deal of environmental messaging doesn't work because it is boring or inaccessible. You need to engage your audience by creating ideas that are attention grabbing and memorable: ideas that are **sticky**¹⁰.

Here's how:

1) SURPRISE them

We all build **schemas**, or mental structures, based on our experiences. This is how we understand the world. When these schemas are challenged, that is, when things happen that we do not expect, we pay more attention so that we can fix our schemas. Therefore, we can attract attention by **breaking schemas**¹¹.

Talking trash

Litter bins which say thank you have been introduced in several European cities including Helsinki and Berlin¹². The solar panelled trash cans are designed to keep the streets cleaner. They work by breaking schemas: people do not expect rubbish bins to talk, so get a surprise, and this makes them pay more attention to waste disposal. This could easily be applied to recycling bins.

A second way we can use the unexpected is through **mystery**¹³. By building up curiosity before revealing interesting information, we can not only get attention, but keep it. To use mystery, you could craft an elaborate [story](#) ("Who's killing the polar bears?"; "The long journey to the kitchen table: travels of a hamburger"), or simply ask questions, for example: "How long do you think you could power a TV with the energy saved if you recycled that soda can?"¹⁴

2) Paint a PICTURE

Images are easier to understand and more memorable, so focus on impacts that are easy to visualise.

A hole the size of a football

Gozales et al¹⁵ trained utility suppliers to speak in vivid language. Rather than talking about the heat which could escape under doors, they explained that the cracks would add up to a hole the size of a football in a living room wall. People who heard the vivid explanation were much more likely to buy weatherstripping for their house.

Or actually use images.

Obama says recycle

In California State University-Northridge, recycling bins were equipped either with signs saying 'No Trash, Please, Only Recyclables', or with an image of the President recycling¹⁶. You can guess which was more effective.

3) Get EMOTIONAL

Psychologists suggest that we all have a rational side and an emotional side¹⁷. If we only target the rational side, there will be no motivation for change. **Emotional cues** are more likely to illicit action¹⁸. Emotional triggers vary from person to person, but as a general rule focus on environmental impacts for people and animals, and use case studies: people have more **empathy** for the story of one suffering child than statistics about 10,000 suffering children. The personal testimony of an island-dweller affected by flooding will be much more effective than projections of 21st century sea level rise.

WARNING: Don't rely on FEAR...

People have a **finite pool of worry**: they can only handle so much bad news at a time. More immediate concerns about unemployment are likely to replace long term fears of biodiversity loss¹⁹, so your message will not be remembered on the basis of fear alone. What's more, fear could actually cause inertia. Individuals respond to threats using **problem-focused coping** (taking action) or **emotion-focused coping** (denial/apathy)²⁰. To avoid the latter, people need to feel that they have control.

- So:
- don't use too many threatening messages
 - couple threatening messages with empowering ones
 - once people understand the crisis move quickly to the solution

4) Tell a STORY

Simulation

Stories allow us to play along. This is more than visualisation: we cannot imagine events without evoking the same modules of our brains which are evoked for real events. If we imagine a flashing light, we activate the visual part of our brain. So stories help us to learn. They are the next best thing to practicing²¹. Tell people a story about cycling to work: the fresh air filling your lungs, the wind brushing your face. Tell them a story about the great bargains you found on a second-hand shopping trip. Tell them how it felt to take part in a climate change rally.

Inspiration

Stories can uplift, motivate, and energise. The key to using stories for inspiration is to spot the good ones. There are several classic story types which work well: stories where the protagonist overcomes a formidable challenge (**David and Goliath**), stories where two people develop a connection that bridges a gap (**Romeo and Juliet**), and stories where a genius discovers something new (**Newton and the apple**)²². The key here is spotting the stories. Do you know someone who has struggled to raise the funds to retrofit their house (David and Goliath), changed the opinions of a climate sceptic (Romeo and Juliet), or invented a bicycle powered generator which can fit in their dorm room (Newton and the apple)?

6 WAYS TO FORM:

PERSUASIVE MESSAGES

1) Be specific and CONCRETE

Specificity is key. Don't tell people to "save the world", tell them how...

...and tell them in **concrete** language. Jargon words and ambiguous terms mean different things to different people²³. When experts use **abstract** language they forget that others don't understand it. Only use concrete phrases – those that people can imagine

using their senses. So don't tell people to "eat sustainable food", tell them exactly what to eat. Don't talk about "green futures", tell them what a [green future](#) is.

2) Find your CORE

Strip down your messaging to one core idea. Emphasise this. Like a journalist puts the key information as the **lead** at the beginning of an article, you need to put your core first.

It's the economy, stupid

In Clinton's presidential campaign, he wanted to address all kinds of issues, but his key political advisor, James Carville, forced him to stick with "It's the economy, stupid". They stripped his campaign down to this core, with successful results²⁴.

Like Clinton, there are many issues that you are going to want to tackle, but taking one core idea at a time (lighting or heating or water) could be key to your success.

3) Back yourself up

There are several ways you can add **internal credibility** to your argument²⁵:

- **DETAILS.** make them vivid.
- **STATISTICS.** make them accessible.
- **TESTABLE CREDENTIALS.** make a claim your audience can test for themselves.
- **EXAMPLES.** try to find one that passes the **Sinatra test**.

A **testable credential** might be: "drinking tap water is cheaper than drinking bottled water". Your audience can try this and prove it to themselves. Examples that pass the **Sinatra test** are more difficult to find. The aim is to identify just one example which provides enough evidence by itself to back up your claims. New York is Sinatra's example: "If I can make it there, I'll make it anywhere"²⁶. So if you were looking for an example of a research university, Columbia would pass the Sinatra test, because it was rated the top US research university in 2009²⁷. Consider this hypothetical exchange:

Student:	<i>UC Berkeley should cut energy use.</i>
University Official:	<i>We are a research university, we need the energy.</i>
Student:	<i>But Columbia is the top research university in the USA and it has cut energy use.</i>

4) Keep it personal

Focus messaging on an individual. Use "you". Put statistics in quantities per person. Highlight to each person their impact, so that they feel like they will make a difference²⁸, and emphasise the benefits for them as an individual. Tap into their identity.

a. Appeal to self-interest

Always answer the “what’s in it for me?” question²⁹. Consider what people care about and spell out exactly how behavioral change will get them what they want. Don’t be afraid to make it obvious. Use “you” and ask people to visualise. Remember that people aren’t only motivated by wealth, but many factors including security, learning, beauty, self esteem, and belonging.

WARNING: Highlight losses rather than gains

Messages highlighting losses which occur as a result of inaction are always more effective than messages that highlight savings as a result of changing behavior³⁰. So highlight the money people will lose if they don’t insulate their house, rather than the money they will save if they do.

b. Appeal to identity

Some decisions are not based on self interest, but identity³¹. We assess what kind of situation we are in, and what someone like us would do in that situation, so the most successful communication will marry environmental messages to our own sense of identity³². You need to make people feel that they are the kind of person who cares about the environment.

Don’t Mess with Texas

The state of Texas reduced visible roadside litter by 72% using an ad campaign. The aim was to target macho men in pickup trucks, who wouldn’t listen to “Please don’t litter”. Instead they used Texan celebrities. For example, Dallas Cowboys players were featured crushing littered beer cans with their fists and declared “Don’t mess with Texas”. This worked because it fitted with the truckers’ sense of identity³³.

Charitable Badges

Kraut³⁴ conducted an investigation in which individuals were asked donate to The Heart Association. Of those who did, half were thanked, and the other half were thanked and told “You are a generous person. I wish more of the people I met were as charitable as you”. This group gave 75% more asked to donate for another charity.

Once people see themselves as charitable, it will influence their decision making. Tell people they care about the environment, and they might start acting like it.

5) Go with the crowd

People conform to social norms³⁵. “**The bystander effect**” is perhaps the most dangerous manifestation of this: during an emergency with multiple witnesses, people wish to appear composed and want to act in accordance with social norms. Seeing others also looking calm, they do nothing. In the past, this has led to avoidable murders being ignored³⁶. If people can ignore a murder, just think how easy it is to leave on a light bulb.

Social proof must therefore be treated with caution. Cialdini et al³⁷ warn against using **negative descriptive norms**. Descriptive norms refer to what is commonly done, e.g. “some people leave lights on when not at home”. Negative descriptive norms refer to common behaviors that are undesirable, e.g. “75% of people leave lights on when not at home”. This can be counterproductive. For example, Woodsy Owl’s message ‘*This year Americans will produce more litter and pollution than ever before*’³⁸, encourages

conformity to the social norm: littering and polluting. **Injunctive norms** are more effective. These refer to what is commonly approved or disapproved, e.g. “75% of people think lights should be switched off when not in use”.

Arizona’s Petrified Forest National Park

Cialdini et al³⁹ used different kinds of social norms to see which were the most effective at reducing theft of petrified wood. “Many past visitors have removed the petrified wood from the park, changing the state of the Petrified Forest” (using negative descriptive norms) actually *increased* theft. The most effective message used negative injunctive norms: “Please don’t remove the petrified wood from the park”.

So we should avoid negative descriptive norms, and use injunctive norms. We give negative information greater attention, so it is better to use **negative injunctive norms**, i.e. it is better to say “don’t remove wood” than “leave wood in the park”⁴⁰. But what about positive descriptive norms? Should we emphasise how many people are already switching their lights off to save energy?

WARNING: Beware of ‘the boomerang effect’

Most people overestimate the prevalence of undesirable behaviors among peers, so illustrating that they are less common than perceived could be beneficial. However, there are always some who underestimate the undesirable behavior’s prevalence, so positive descriptive norms could cause them to be less sustainable. To avoid this boomerang, an injunctive norm should be included with the descriptive norm.

Smiley Faces

When households in San Marcos, CA were given information on their energy use relative to neighbours (descriptive norms), those who were above average reduced their energy demand, but those who were below average used more energy. This boomerang effect was overcome by giving the below average households a smiley face 😊 and the above average households a sad face ☹️ (injunctive norms)⁴¹.

So:

- make social norms visible → e.g. “this house composts” signs
- avoid negative descriptive norms → “87% of people have never composted”
- use negative injunctive norms → “most people think composting is great”
- accompany positive injunctive norms with injunctive norms

6) Create a vision

So much environmental messaging, particularly associated with climate change, gives the impression that we must all make great sacrifices to avoid a hellish future. This isn’t very appealing and it certainly isn’t working. Instead, we need to create a vision of a low carbon heaven. Tell people about *your* vision: clean air, bicycles, farmers markets, Tesla sports cars, green technology. We need to make low carbon behaviors desirable if they are going to sell. So create a vision, and only when people have an idea of the vision should you spell out the alternative: climate hell⁴².

9 STRATEGIES FOR:

CHANGING BEHAVIOR

1) Association

We are more likely to be persuaded by people we like. One of the factors which effects how much we like someone is association (we metaphorically shoot the messenger)⁴³. So we can be more persuasive if we associate ourselves with things that people like. One way to do this is **'the luncheon technique'**. Research shows that people approve more of speeches which they hear whilst eating. So associate your campaign with likeable people, fun events, and **food**.

2) Reciprocation

When we receive a gift or favour we are inclined to return it. We do not want to feel indebted, and fear being viewed as a scrounger. So give people something: candy, buttons, drinking bottles, linen bags...Use your imagination (but make it sustainable).

3) Scarcity

Opportunities seem more valuable when availability is limited. This is why it is more persuasive to tell someone how much money they will lose from not insulating their home than how much money they will save⁴⁴. Scarcity also lies behind some widely-used sales tactics. If you are holding an event make the number of tickets limited, or give [free food](#), but only to the first people to arrive.

4) Situational Change

It's not all about the message. We can actively change the situation to make sustainable behaviors less costly and more desirable, using both **monetary incentives** (free bus passes, rewards for low energy use, free CFLs, charging for plastic bags, bottle deposits) and **non-monetary incentives** (car pooling lanes, competitions to reduce energy use).

WARNING: Be careful with removing incentives.

When internal motives are replaced with incentives, the original motivations can be undermined. If incentive cannot be maintained for a long time it may be unwise to use it.

Perhaps the most effective situational measure is **changing the default**. We all have automatic behaviors which make day to day life easier. And, we have a tendency to go along with the default option. By changing this default we can promote sustainable behaviors. So, make double-sided printing the default setting; place the organic/local/low packaging food item at eye level. Thaler and Sunstein call this 'libertarian paternalism', and encourage us all to be 'choice architects'⁴⁵.

Bad Popcorn

This study is a particularly good illustration of the power of situational factors. Participants were given a very large quantity of horrible tasting popcorn. None enjoyed eating it, but some ate more than others. In fact, participants ate 53% more if they were given it in a larger bucket⁴⁶. We eat more from larger containers. This suggests that there is great potential for reducing food waste by providing smaller plates and smaller trays in dining halls.

5) Haggling

Don't be afraid to use classic sales techniques. Haggling works because it utilises both “**the contrast principle**” and reciprocity. “The contrast principle” refers to the way that we compare things that are closely related in time and space⁴⁷. For example, an organic cotton t-shirt won't seem so expensive if we are first presented with a designer one. **Reciprocity** is activated because we feel obliged to make a concession to someone who has made a concession to us. So ask for a big behavioral change, and if people refuse let them agree to something smaller “for now”. In some cases it might be wise to suggest a **trial** if they have already refused to introduce a particular behavior.

Juvenile delinquents at the zoo

Cialdini et al⁴⁸ asked students if they would chaperon juvenile delinquents at the zoo – 17% agreed. But in another group which were first asked if they would mentor a juvenile delinquent for 2 years (which none agreed to), 50% agreed to the zoo trip.

WARNING: Don't be too dramatic.

If you start out too big, haggling doesn't work. It is important to [know your audience](#) in order to judge what might be deemed too big or too small.

6) Commitment

We like to be consistent. So much so, that after we have made a decision we feel more certain about it. For example, after placing a bet we are more certain that our horse will win⁴⁹. So encouraging people to make a pledge is effective. They will feel social pressure to be consistent.

Committing to the Bus

People who did not ride the bus and were asked to make a verbal commitment to ride it twice a week were just as likely to change their behavior as those given an incentive (free bus tickets), and a third group who pledged *and* were given an incentive⁵¹.

Research suggests that commitments work best if they are **personal** (to someone), **meaningful** (to the person requesting the pledge), **written**, made **public**, and require some **effort**⁵⁰. You can also use [incentives](#) to encourage commitments. However, commitments are so powerful that people often change even when the incentive is removed.

Newspaper Fame

Pallack et al⁵² gave people energy conservation tips and told them that if they saved fuel their names would be in the newspaper. They made a 12.2% cut. Later they were told it was not possible to publish the names. This actually increased their energy reduction to 15.5%. Cialdini⁵³ believes this is because they owned the change – after the initial motivation was taken away, people realised that they had already changed, and assumed this must be because they cared about the environment.

[Identity](#) is part of the reason why commitments are so effective. After making a commitment, we immediately perceive ourselves as caring more about the environment. This is powerful because it means we might be more amenable to larger changes in future⁵⁴. However, commitments can also have negative effects...

WARNING: Beware of ‘totem behaviors’, ‘the single action bias’, and ‘moral licensing’

Often people pick a small, or totem, behavior to change and then stop there⁵⁵. This is because their sense of vulnerability is reduced (‘the single action bias’)⁵⁶, or because of ‘moral licensing’: we feel better about our behavior and like we deserve to behave badly on another aspect⁵⁷.

Licensed to wash

Davis⁵⁸ found that after getting high-efficiency washers, consumers increased clothes washing by nearly 6 percent. This is an example of moral licensing.

7) Prompts

We all have automatic behaviors. So even if we are open to change we might need to be reminded to make that change again and again, until it becomes automatic. Prompts are most effective if specific and close to where and when the desired behavior occurs⁵⁹.

Remembered Recycling

Introducing more conveniently located recycling containers and using prompts increased the amount of newspaper recycled in apartment complexes from 50 to 100%⁶⁰.

8) Feedback

Feedback reduces anxiety, reinforces behaviour, and helps people know that they are making a difference⁶¹. Feedback on energy use can create savings of up to 20%⁶².

Can Recycling

Signs above aluminum can recycling containers that provided feedback about the number of cans that had been recycled during the previous weeks increased capture rates by 65%⁶³.

9) Modeling

Use role models. This plays on [social proof](#): if people see a similar person doing something, they might assume it is the norm. So be a role model yourself, and use models, even in videos, to encourage behavioral change.

Models in the Shower

Aronson & O’Leary put signs in showers asking people to turn off the shower whilst “soaping up”. This was not effective. But, when an unknown person with their back to the participant did it, the participant copied this modelled behaviour in 49% cases. When two models did it, 67% conformed⁶⁴.

1) Pick your moment

People are more susceptible to change in transition periods: spring and autumn, pay days, summer holidays⁶⁵.

2) Be nice

It is all too easy for us to get carried away in a rant about the dangers of consumer society and the problems with the way people are currently behaving. But making people feel bad is unlikely to work⁶⁶. You have to help them to help. People are more likely to be persuaded by someone they like⁶⁷. So be nice.

3) Ask in person

Conversation has more impact than posters, videos, emails. So use **word of mouth**.

Idle Parents

Signs asking parents not to idle outside schools were ineffective, but when a person dressed as a public health official spoke to parents personally - frequency of idling dropped by 32%, average length of idling dropped by 72%⁶⁸.



3 questions about
your

AUDIENCE

1) The congregation or the choir?

It is important to go beyond the usual suspects⁶⁹. Don't spend all your time "preaching to a choir" of people who are already engaged in environmental issues. You need to reach the congregation, the majority. These people are not environmental activists or climate cynics, but have a slight interest in global issues and could change their behavior if approached successfully⁷⁰.

On the other hand, don't ignore people who you assume will have already adopted the desired behavior. Remember [moral licensing](#)? Many of us are guilty of that too. Social marketing shouldn't be about asking "why don't they...?", but "why don't we...?"⁷¹.

2) Who is likely to spread the word?

Our messages might be more effective if we target certain people: those who will tell others, or those who will be listened to if they do. In this way, we can spread environmental messages through **social diffusion**⁷².

a) Community Leaders

We are more likely to be persuaded by someone we know and like⁷³. Group affiliation is very powerful, and the smaller the organisational unit, the better⁷⁴. For these reasons, community representatives might be good targets. Once they are on board, they can spread the message to the rest of the community.

Recycling in the Community

Participants who didn't previously recycle were encouraged to do so: either using a written appeal, or by a block leader. The latter was twice as persuasive, and 28% of those visited by their neighbour began to recycle weekly⁷⁵.

b) Mavens

Mavens are intense gatherers of information, and are often the first to pick up on nascent trends. They wish to be of service and influence, and so love to share their knowledge. These unselfish motives mean they often get people's attention, and the quality of their information means that when a maven gives us advice we are compelled to take it⁷⁶. Mavens have a great deal of potential to create change.

c) Connectors

Connectors know an extraordinary amount of people. This is a personality trait rather than a strategy: they just have a skill for making acquaintances, and like to keep in touch with them. They know people in different worlds, subcultures, and niches. This means connectors are very powerful, and the closer an idea gets to a connector, the more powerful it becomes⁷⁷.

d) Public Opinion Leaders

Some people are more trustworthy or well-respected than others, and therefore have more of an influence on public opinion. Use them.

Pennsylvanian Juvenile Justice System

Juvenile Justice workers in Pennsylvania were asked who they turned to for advice on better procedure. The 386 people interviewed converged on a small number of people⁷⁸. These people are “public opinion leaders”.

e) Salesmen

Some people are naturally persuasive. They have energy, enthusiasm, charm, and likeability. They use their body language to great effect. They can pass on their emotions to other people⁷⁹, and they are good at spreading ideas.

f) Authority figures

We are programmed to respond to authority. This is signalled to us by titles, uniform, business suits, fancy cars, and even height. Experts, scientists, and celebrities are all good people to have on side.

3) Should we approach different people in different ways?

The short answer is yes. KNOW YOUR AUDIENCE. The “[Don't Mess with Texas](#)” example shows how important it is to tailor your campaign to the target market. This is difficult. There are no general rules: not all campaigns are intended to appeal to macho truckers in Texas. You need to think about *your* specific audience, and might want to consider some market research and a pilot study to ascertain the barriers to change, which vary from place to place⁸⁰. It is also important to ask yourself:

a) **How much do they know?**

Don't fall victim to “The Curse of Knowledge”. If we know something, we find it hard to understand what it is like not to know it⁸¹. If your audience doesn't know much about sustainability, spell out the obvious, and use [concrete](#) language.

On the other hand, if they know a lot about sustainability you need to [add credibility](#) to your messages using details, statistics, and examples⁸², and use two-sided arguments: tell them the pros *and* cons of behavioral change.

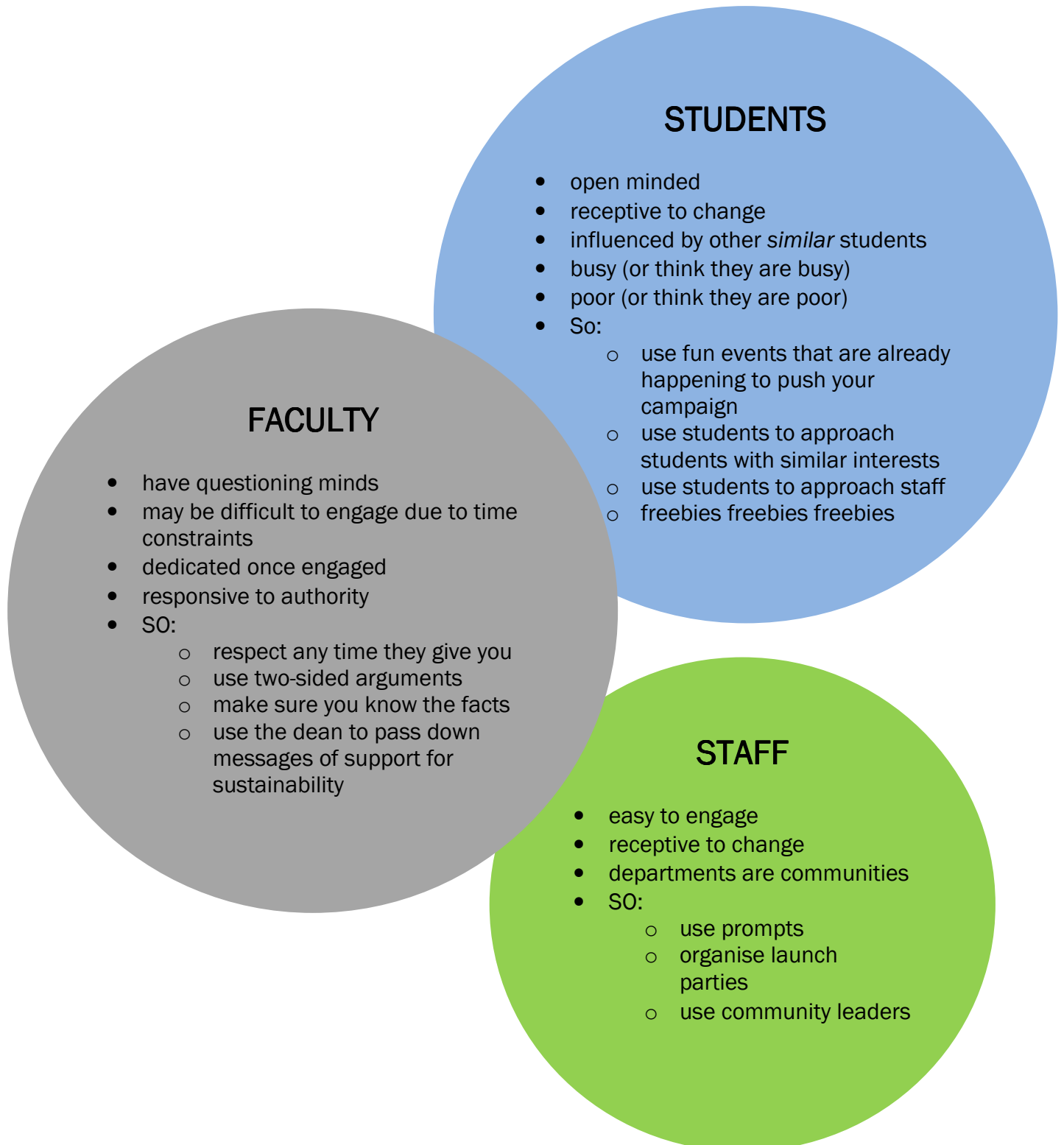
b) **How much do they care?**

It is best to present a message that is slightly more extreme than the beliefs of your audience: too extreme and they might become less supportive of sustainability, too weak and it won't make any difference⁸³.

Segmenting the Audience

Social marketers often highlight the importance of segmenting your audience into easily identifiable groups, which will be approached in different ways⁸⁴. You can divide your audience in terms of how much they know or care about the environment, but in an organisation it might also be advisable to divide people according to status.

At Berkeley we are working with three main groups:



Further Reading

- *Fostering Sustainable Behavior* <http://www.cbsm.com/public/world.lasso>
Doug McKenzie-Mohr's website: contains his entire book plus many articles and case studies. The best social marketing work geared specifically to sustainability
- *Fostering Sustainable Behavior* by Mckenzie-Mohr and Smith
- *Made to Stick* by Chip and Dan Heath
- *Influence* by Robert B. Cialdini

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