

# Note 2: How does demonstration work?

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## Overview

Understanding how and why demonstration is an effective means of changing behaviour is an important step to good demonstration farming. This information note is based on the conceptual framework. It outlines basic principles from key behavioural theories in social psychology that explain why demonstration farming is an effective means of encouraging farmers to adopt innovations. It also suggests, from a behavioural theory perspective, what key components are required and why.

## Key Findings

- The concept of demonstration farming was developed in the 18<sup>th</sup> Century to show farmers the new scientific principles for agriculture. Written means of transferring knowledge had proved ineffective as farmers could not afford to risk untried innovations.
- Creating new beliefs about an innovation through knowledge transfer is important because it leads to attitude change.
- Confirmation from the peer group is often, but not always, important for changing behaviour.
- The farmer must believe that he/she has control over the process in order to implement an innovation. Changing attitudes by knowledge transfer alone is not enough to ensure change.
- Getting farmers to think deeply about the innovation will result in strong and long-lasting attitude change.
- Features of the presenter such as institutional authority, likability, expertise and credibility can promote behavioural change.
- Features of the message such as personal relevance and wording are also important.
- Providing interactive experiences in the demonstration is important because it makes the attitudes stronger and more accessible. This in turn leads to greater consistency between attitudes and behaviour.
- Experience also increases control beliefs, i.e. “I know I can because I’ve done it before” or “I know it will work because I’ve seen it work”.
- Peer to peer involvement works by increasing social congruence. Similarities between the message giver and receiver make it easier to communicate knowledge.
- Peer to peer involvement also assists by enhancing the validity of the information when received from farmers in a similar position.

# Introduction

## Why demonstrate and not educate?

The origins of demonstration agriculture go back to the second half of the 18th Century – a time when “scientific farming” was gradually replacing inefficient customary practices. Agricultural Societies had formed across Europe to try to improve farming practices. Their members experimented on their farms and reported their results in Society Proceedings. This publication was to be the “principal cause of the diffusion”. However, the approach proved to be ineffective as many farmers had “barely the wherewithal to stock their farms” – let alone risk investment in new, unpractised and untested innovations from books. As a result, by the end of the century, many were advocating that the best way of getting farmers to change their practices was for Agricultural Societies and landlords to directly demonstrate to neighbouring farmers and tenants that the scientific innovations would work. Farmers would thus be able to see the innovations in a local context and learn from their neighbours’ successes how to improve their agriculture. This principle still holds true today.

This information note presents results from the conceptual framework, outlining how behavioural change can be encouraged through learning, and how this relates to demonstration farming. It offers a theoretical perspective, but one that is useful for understanding how demonstrating innovations to farmers can lead to farmers adopting the innovations. For further information on learning through demonstration based on our case studies, see PLAID output 5.2. “Good Practices for Successful Demonstrations: Findings from 24 European case studies”.

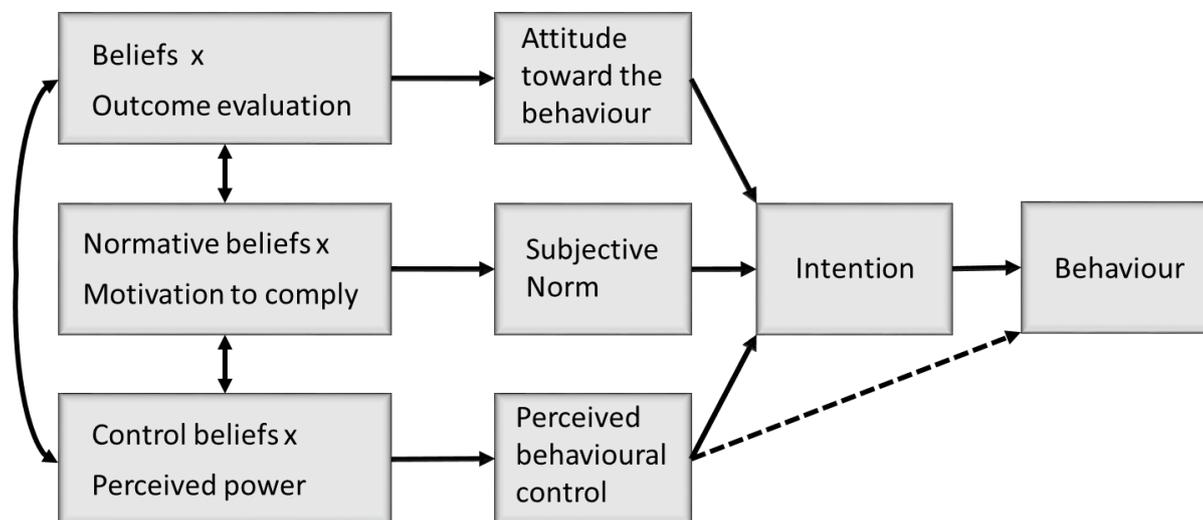
## What makes farmers change their behaviour?

### Attitude change - persuasion

The Elaboration Likelihood Model is a well-established theory in social psychology. It addresses the issue of how communicators are able to create permanent attitude change and thus behavioural change. The theory suggests that if the demonstrator is able to get farmers to think deeply about an issue (“central route processing”), the result will be the development of attitudes that are strong, enduring and resistant to change. In contrast, if farmers cannot be encouraged to think deeply enough about the subject, the attitude change is less likely to be permanent. However, when a farmer is *not* interested in the subject he/she may be convinced by the “peripheral route”. In the peripheral route, factors such as (a) the authority of, liking of, expertise of, or credibility of the speaker, or (b) the way the message is presented (such as its ability to convince the farmer that they will be able to reach their goals) encourage the farmer to believe the message without necessarily engaging in deep thinking on the issue.

## Behavioural change

The Theory of Planned Behaviour – one of the main behavioural theories in social psychology – shows that attitude change is not the only factor necessary to encourage behavioural change. Over the years this model has been “a reference model in the literature on innovation diffusion”.



**Figure 1: Ajzen's (1991) Theory of Planned Behaviour**

Figure 1 illustrates the basic components of the theory. To place this in terms of a farmer attending a demonstration event, if a farmer:

- (a) develops new beliefs (based on new knowledge) about an innovation,
- (b) considers that these could have a positive result for his/her farm,
- (c) finds other farmers with a good reputation confirm the accuracy of these beliefs,
- (d) believes that it is possible to implement the innovation on his/her farm,

then the farmer is likely to form the intention to adopt the innovation. In the many thousands of applications of the theory it has been found that in some cases the opinion of others has no significant influence while in others it does. However, in the key message from this theory to demonstration farming is that more than a transfer of knowledge and attitude change is required to promote adoption.

### The importance of experience

One of the key differences between demonstration farming and other ways of providing knowledge is that demonstration is a means of teaching by providing experience – sometimes by simply showing the result of the practices and, at others, by allowing hands on experience of the innovation. But why is providing farmers with experience important?

Experience is important for two reasons:

- 1) Attitudes formed by direct personal experience are known to be stronger than other attitudes – meaning that they are more accessible (are more likely to come to mind) and, thus, are more likely to lead to a change in behaviour. Many studies have shown that the consistency between attitude and behaviour is higher when the person (in this case, farmer) has direct behavioural experience.

2) Experience can strengthen the control beliefs. Beliefs in one's own ability to apply the innovation (self-efficacy) and beliefs that nothing prevents successful application of the innovation (perceived behavioural control) are made stronger when the farmer has direct experience with the innovation, i.e. "I know I can because I've done it before" or "I know it will work for me because I've seen it work". Experienced people also require lower levels of instruction, making the application of the innovation easier.

Some studies have suggested that when a person has no experience in a behaviour, the influence of the peer group is stronger. For demonstrations the presence of the peer group (other farmers) *combined* with direct experience with the innovation is likely to lead to strong consistency between attitudes and behaviour. Consequently, changes in attitude are more likely to lead to changes in behaviour.

### **Peer to peer learning**

The importance of neighbours for transferring information about innovations in farming communities is well established. Discussions about innovations within farming communities often occur in environments where farmers socialise – including at demonstration events – rather than formal educational programs. But why is peer to peer learning effective?

1) One of the reasons communicating peer to peer is a good means of learning is "social congruence". This means that the "teacher" and the "pupil" are often similar in terms of their backgrounds and educational levels – and, in turn, their ways of thinking, knowledge, education, and so on, are similar. This enables them to better understand how to communicate knowledge to the other person and builds trust.

2) A second reason is that farmers generally live in a similar geographical context as their neighbours in terms of the soils, climate, access to markets, crop types, and so on. As a result, for many problems, the neighbours offer the best source of tried and tested information. Studies have shown that information is frequently transferred from peer to peer both voluntarily (e.g. through informal farm discussion groups or seeking a neighbour's advice) and incidentally (e.g. through looking over the hedge or "hedgerow farming").

While farmers are technically in competition, information on what works and does not work is often shared. Tapping into this form of learning for promoting the uptake of innovations is something demonstration farms can do both through promoting peer to peer discussions at the event, engaging respected local farmers for the events, and ensuring that respected local farmers are encouraged to take up the innovation.

## Conclusion

This information note has outlined the theory of how demonstration farming changes behaviour. Learning through demonstration differs from other forms of learning mainly because demonstration increases the strength of any attitude formed (also engaging in more “central route processing”), increases the beliefs that farmers can affect a positive outcome, and provides a peer environment within which information can be exchanged. Demonstrations can best encourage change by enabling farmers to obtain direct experience (as much as possible), getting farmers to think deeply about the issue, ensuring that speakers have the appropriate authority, and directly addressing the issue of how farmers can achieve their goals by providing practical advice.

A key message here is that knowledge transfer alone is not sufficient, something also revealed in our case studies. The case study report (5.2) found that demonstrations focus on knowledge transfer and providing farmers with new knowledge on various innovations. This addresses farmers’ beliefs (both changing old beliefs and creating new ones) and is an important function of demonstration that was highly valued by the visitors. However, to stimulate farmers to actually change things on their own farm, other necessary preconditions for change also need to be addressed.