Learning to embed sustainability skills and knowledge in the workplace- Final Project Report.

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Sustainable
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Scaling-up:
Learning to embed sustainability skills and knowledge in the workplace

Final Project Report

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Executive Summary

"A new business model for Tesco is required; the whole world needs to make the changes now. I am surprised how much I have changed my work and personal life with the knowledge I have." (Tesco participant on RoundView course)

Overview of report

Sir Terry Leahy, Tesco's CEO, set the stage for Tesco to be a leader in creating a low-carbon economy, saying in 2007: *"We are going to have to re-think the way we live and work."*

This report describes the findings of a research project funded by the Sustainable Consumption Institute (SCI) entitled 'Scaling-up', which took place between August 2009 and January 2010.

Dr Joanne Tippett (School of Environment and Development, University of Manchester), and a research team from the University of Manchester, undertook this SCI funded research, and are the authors of this report.

This report has been produced for the SCI and Tesco, with the hope that it will also be helpful to others who seek organisational change towards more sustainable practices.

Overview of 'Scaling-up' research project

Overall aim of the project

To find effective ways to embed new thinking that maximises people's understanding of sustainability and changes in behaviour, in the context of 'training the trainers'

This initiative followed directly from an earlier nine-month SCI project entitled 'Sustainability Skills in the Workplace' which had as its key objective:

To identify effective training and communication methods to enable people to understand sustainability issues and take action – and to implement and assess a learning pilot which delivers this in Tesco. (Full report available from www.sci.manchester.ac.uk.)

Feedback from Tesco staff involved in the Sustainability Skills project was positive, demonstrating significant shifts in attitude and awareness, and increased motivation to take action towards a sustainable future. The Scaling-up project was designed to build on this, and explore how to spread and embed sustainability learning throughout the organisation.

Sustainability action research

Training Tesco staff in Stores and Head Office

Overall, both projects have involved 78 members of staff (30 in Stores and 48 in Head Office) attending training, with 105 additional members of staff being interviewed or attending focus groups. Five training courses have taken place, three in the earlier Sustainability Skills project and two during this Scaling-up project. Training was carried out in Stores and in Head Office in both projects. The research team delivered the training.

A 'new' sustainability framework

The basis of the training was a whole-system framework for understanding and decision-making around sustainability. This framework draws from decades of previous development, including The Natural Step, Cradle-to-Cradle, Industrial Ecology, PP4SD and the Principal Investigator's earlier work. New tools and processes were developed and tested in the action research. The framework became known as 'the RoundView'.

The RoundView is a **positive**, **whole-systems** approach to **sustainability**. The motivation for its development was to make the ideas accessible to staff at all levels. The hope was to increase not just participants' capacity to act, but also their motivation and enthusiasm for change, and their ability to communicate effectively with each other towards this end.

Interactive and hands-on learning approach

An important aspect of making the ideas more accessible and easy to communicate was developing clear, simple graphics and hands-on learning tools to engage learners with the ideas. Several rounds of development and feedback have enabled clarification of key points. This has built on open source development of learning tools, which the Principal Investigator started after attending a Natural Step course in 1997.

Researching how to 'scale-up'

In addition to developing and piloting the RoundView training course, the current project explored and tested mechanisms for 'scaling-up' sustainability learning, to encourage and enable rapid spread throughout a large organisation. In-depth focus groups and interviews were combined with a small-scale train-the-trainer pilot in Stores and Head Office. This was further informed through secondary research and the literature.

RoundView Guidelines for Sustainability – Key points

- Training in pilots increased motivation, understanding and skill in staff at all levels
- Potential to help meet the big sustainability challenges in a positive and forward-looking way
- Offers a framework for strategic decision making
- Grounded in science and research
- Positively framed and accessible
- Hands-on and whole-brain tools to engage learners and support learning
- Creates a shared language to enhance cooperation and creativity
- Draws from decades of previous development, in particular from The Natural Step, Cradle-to-Cradle and Industrial Ecology
- An open framework, able to be adapted to different contexts (within limits so as to maintain coherence of the core ideas)
- Opens up tremendous opportunities for innovation
- May help reframe the question of sustainable consumption

This action research project – Key points

Further developed the approach to sustainability—the RoundView—that was successfully deployed in the Sustainability Skills project

- More staff trained and engaged in improving the learning initiative
- Enhanced and further tested the curriculum
- New framework for effective learning process (SHAPE) developed

Piloted small-scale train-the-trainer initiative in Stores and Head office

- Developed indicative model for building internal capacity (practitioner, facilitator, trainer)
- Train-the-trainers pilot led to increased capacity in Champions (Stores and Head Office)
- Explored tools and resources to support trainers

Developed possible next steps to evaluate the approach more fully within Tesco

- Developed a practical process for applying the Guidelines in roles and functions
- Made suggestions for building on enthusiasm of participants and Champions

Explored and suggested what might be needed for a successful potential roll-out

- Integrated analysis of the cultural context in Tesco with insights from the literature
- Synthesised insights from asset-based development, diffusion of innovation and transition management to develop suggestions for scaling-up

Sustainability training for Tesco staff

> *"[It] made me think about the wider impact of my decisions, both at work and home, on our planet." (Tesco participant during RoundView training).*

The RoundView Guidelines for Sustainability learning initiative piloted during this Scaling-up project comprised two sessions of training separated by a period of approximately two weeks, both in Stores and Head Office. The Stores sessions were each of two hours duration; the Head Office sessions were three hours each. Participants were asked to undertake a task (phrased as a 'Next Step') in-between sessions. (For details of places and times and number of attendees please see pg. 25).

Enhanced understanding and motivation

Virtually all participants in Head Office and Stores reported developing a broader view and better understanding of sustainability. Increased motivation to make changes and continue to learn about sustainability was reported across the board. For example (from feedback):

"Help[ed] reflect not only the issues but how to plan for changes which can lead to a sustainable future"

"Gained a better and deeper understanding of present and future issues'"

"Made me think of how I can influence"

"Re-energised me"

Challenges in implementation

Significant challenges, however, were identified in transferring the learning to the job. A repeating theme was frustration with the lack of ability to make significant changes in working practices, due to lack of agency and opportunity. Several of the interviewees expressed that it was not clear to them what they could do in the workplace. For example, one participant in Head Office felt that:

"… we don't really have an opportunity to be that impactful at work. In terms of us sitting around doing our job we have got a paper bin, a plastic bin we have got can bins and people have been kind of using that but besides that… there isn't very much going on in the office to encourage it."

The systemic and complex nature of the changes required was appreciated by staff as a potential barrier to implementation. This was expressed, for instance, by a Head Office participant who identified *"The fact that my Next Step needs to be taken on by others too, and Tesco as a whole to make a positive impact"* as a challenge.

A related theme that emerged was the need for senior management to be on-board for real action to take place, and for messages supporting change towards sustainability to filter down through from the top levels to line managers and Stores Directors.

Staff 'Next Steps' reflect new thinking

Despite these challenges, there were many examples of staff appreciating and understanding the message underlying the RoundView Guidelines, as illustrated by these 'Next Steps' from Head Office employees:

"Consider more seriously, alternative methods of operating my business in order to help preserve natural resources"

"Every time I make a decision, think about whether it can, in time, lead us to a sustainable future"

"Develop my knowledge and educate and influence those around me"

"To review my plans and actions against the sustainability guidelines and make sure I consider the environmental impact of any planned activity and opt for sustainable choices wherever possible"

The RoundView Guidelines for Sustainability

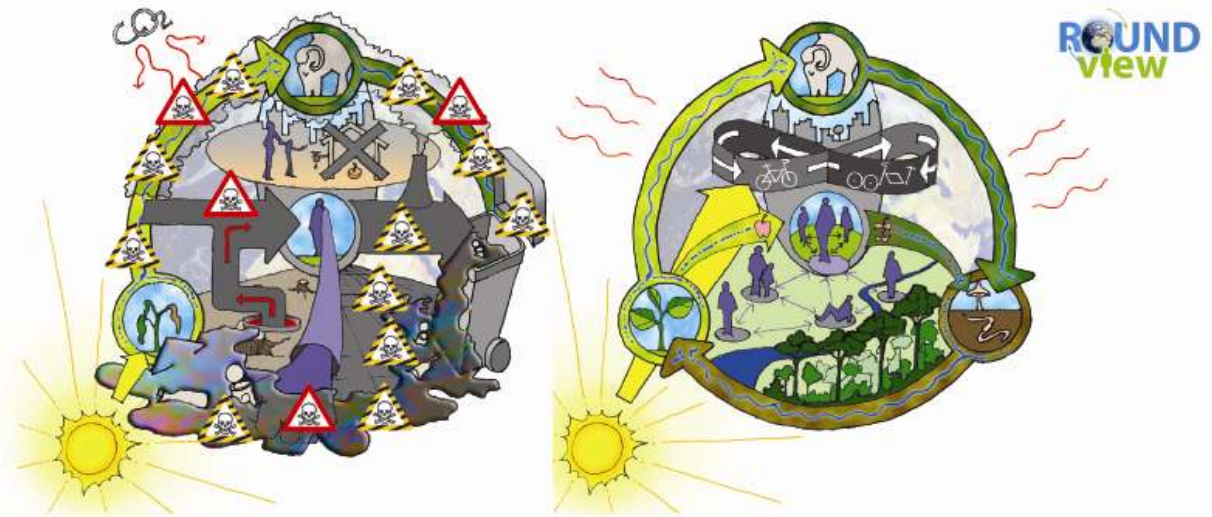
> *"This is why I've been so interested in the RoundView, because everything about sustainability is usually being told what we should stop doing, not what to do. As human beings we rile against that. This can be very powerful, especially as it says we can carry on living and enjoying ourselves but in a better and more clever way." (Tesco Champion in Head Office)*

A positive view

The RoundView enables a practical and accessible appraisal of the 'big picture' of sustainability to be included in decision-making at every level. Significantly, the RoundView provides a *positive* vision of sustainability. As the late systems thinker and member of the Club of Rome, Donella Meadows, (1996, 118) said:

> *"Environmentalists have failed perhaps more than any other set of advocates to project vision. Most people associate environmentalism with restriction, prohibition, regulation, and sacrifice... There may be motivation in escaping doom, but there is even more in creating a better world."*

The RoundView provides a positively articulated and scientifically grounded framework for a 'change in direction'. Put plainly, destroying the world more slowly is not a recipe for long-term success. This image of a 'change in direction' is used to inspire, inform and engage people in making changes that lead society towards a truly sustainable dynamic.



Misguided lines: Overwhelm, Poison,
Destroy & degrade ecosystems
Undermine people's capacity to meet their needs

RoundView Guidelines: Balance the eco-cycle, Keep it in the loop,
Restore & maintain diverse ecosystems,
Increase people's capacity to meet their needs worldwide, sustainably

Origins of the RoundView

This framework synthesises ground-breaking earlier work to articulate a positive description of sustainability at a whole system level (that of the Earth). Specifically it draws from The Natural Step, Cradle-to-Cradle, Industrial Ecology, PP4SD and earlier work of the Principal Investigator, Dr. Joanne Tippett. A core driver for the creation of this framework was the need for the concepts to be accessible to a wide range of people, in particular to both Head Office and Stores staff. Several rounds of review and development during this action research have helped to simplify the language, clarify the core concepts and improve the legibility of the graphics used to communicate the ideas.

Positive Guidelines for a sustainable future

The Round View defines sustainability as "All people thriving, now and into the future." It then looks at the conditions that need to be met on a whole system level for this to be possible, specifically including social as well as environmental considerations. These are described as a set of Guidelines, which can be used to help us see whether or not our actions and changes are moving in the right direction. The RoundView's Four Stage Model of Transformation clearly sets out our current trajectory and the change in direction that is needed to move towards fully sustainable practice.

Communication between people is clearly greatly enhanced by a shared language. The RoundView provides a vocabulary for evaluating and sharing ideas around sustainability. This can support effective communication between people in vastly different contexts or roles, which is likely to be needed in the task of re-designing the way we do business.

SHAPE - characteristics of effective sustainability learning initiatives

In addition to the learning content, the RoundView is also concerned with the learning process. During the Sustainability Skills project, a model of the characteristics of successful sustainability learning initiatives was developed and used (called the '4As'). In this project this was extended into what became known as the 'SHAPE' framework: **S**ocial, **H**olistic, **A**wareness-raising, **P**ositive and **E**xperience-led. These characteristics underpin the design of the RoundView learning processes and methodology.

A significant element in the RoundView approach is the use of hands-on tools and striking visual images. These bring the content to life by stimulating multiple intelligences and different ways of learning. These tools used a felt-based technology that enables coloured shapes (that may be pre-prepared images for educational purposes, or ideas contributed by participants themselves) to be placed on a workspace and moved around as the conversation evolves and the learning deepens. Participants can write on the coloured shapes, and thus everyone has a voice, and can contribute to the discussion.

An open framework

The RoundView is an open framework, encouraging dialogue and adaptation (whilst maintaining the core integrity of the underlying ideas). In this research, elements of the curriculum were adapted to suit the Tesco context (such as adding small competitions, incorporating Tesco language, such as 'Next Steps', BRAG and 'Know your stuff', whilst retaining the clarity of the core messages and principles.

Spreading and embedding the sustainability learning

> *"One of the things that really stood out for me ... is that it's not just slowing things down, it's actually changing direction. And I think that's something that's really powerful and I can take away and say to somebody and they'll sort of say 'oh, I need to listen now' 'cause it's not just 'well I do my bit so I'm ok I don't need to worry' it's actually more than doing a little bit—that's not enough—it will make a difference but it's not the big difference that we need to get to. I think that was ... really powerful, and something I can take away and say to everyone else." (Head Office Champion)*

This research explored ways to embed sustainability learning within the cultural DNA of a large organisation. This was done through analysis of the data gathered in both rounds of action research in Tesco, and a development of key themes from the literature.

Tesco context

Four tensions between the organisational culture of Tesco and the characteristics of the RoundView learning approach, which could impact on the scaling-up of the learning initiative, emerged from the analysis:

- Streamlined and standardised training with clear outcomes **vs.** open-ended reflective learning that encourages questioning
- An efficient company that gets things done **vs.** time for staff to explore and develop ideas without pre-defined or immediate outcomes
- Focused working units **vs.** cross-functional communication and cooperation
- Top-down dissemination of ideas and approaches **vs.** learning from all levels of the organisation

Ways to work with these dynamic tensions creatively, so as to align with the organisational strengths inherent within them, were developed. Perspectives from the literature on asset-based development, diffusion of innovation and transition management were synthesised. Further informed by insights from staff (particularly Champions), this led to a range of suggestions for how a programme to scale up sustainability learning within the organisation might be approached.

Scaling-up

Concepts that were seen as 'fundamental' to a successful wide-scale roll-out of a sustainability learning initiative, such as the RoundView, in the Tesco context were:

Clarify and legitimise the effort to re-think practice towards sustainability through 'top-down' communications, and make sure these cascade down through the organisation

Analysis has shown that core drivers for Tesco include an efficient 'central push', with reinforcement from the centre key to its ability to 'get things done'. One major suggestion, which emerged clearly from the analysis of the focus groups and interviews, was the need for a clear message from the top levels of the organisation that focussing on sustainability learning and re-thinking of the way we do business is considered a corporate priority. It was seen as important that this message was supported throughout the different levels of the organisation specifically including Store Directors and line managers.

Find ways to embed action towards sustainability (even if it is 'only' developmental, forward thinking and strategising) into measurement frameworks such as the all-important KPIs

Evidence from participants suggested that in Tesco, what is measured and rewarded gets done. It was suggested more than once by participants, that it would be useful to explore adding new indicators of performance within a KPI on 'strengthening sustainable practice' – these might include, for instance, items such as leading discussions on sustainability / getting sustainability on the agenda, or proposals for how to change practice towards greater alignment with sustainability.

Work with the willing

The need to work with people who are interested and who care about making change was highlighted in discussions with the Champions. It was seen as important to have enthusiasm for the ideas and for the changes needed in order to spread the ideas effectively. The concept of working with the willing has a long tradition in action learning, as emphasised by Revan's (1983) recognition of the importance of including people 'who care' in interventions for change.

Provide inclusive mechanisms to support, motivate and reward staff who contribute towards sustainability thinking or practice

Rewards for success could help reinforce the activities of the 'willing', and indeed all staff. This will require a related process of developing a wider pool from which the potential 'willing champions' can emerge—as there are more people who understand the RoundView and its possible applications in Tesco, there will likely be more people who come forward who are interested in taking it further.

Allow time for, and develop skills in, creative idea generation—then value, record and build upon these ideas

In order for the development of a diverse range of ideas for sustainability to be effective—transformational even—this will require staff to be given permission to spend time on such development. There is a clear need for a diverse range of new ideas and options in the many functions and operations of the organisation. It is an assumption within this approach—supported thus far by the results of these pilots—that with requisite training and development, staff throughout an organisation can contribute significantly to the task of 're-thinking' for sustainability.

Develop a system for capturing ideas and encouraging them to flow within the organisation, so that they are more likely to reach the people with the capacity to evaluate them, and the agency to implement them

It will also be necessary to develop (and maintain) a system to capture and channel these ideas to where they are needed. This system could be specifically for sustainability ideas, or these ideas could be included as part of a more general process. This is not an easy task, and could benefit from communication between organisations to learn from best practice.

Simplify application of key ideas through provision of tools designed to make this easier

During this initiative there has been considerable attention paid to how to make teaching the core ideas simpler through embedding the core concepts and facts into the hands-on learning tools. This idea received positive feedback from the Champions who viewed it as potentially a very helpful way to assist with learning and communicating the RoundView ideas. The new Sustainability Evaluation Tool is a simple tool for assessing ideas, products and systems against the RoundView Guidelines and the four-stage model of transformation, giving a clearer idea of the relative sustainability of different ideas.

A train-the-trainer approach

> *"What is brilliant about the RoundView is that we are also the potential answer."*
> *(from a Champion's ten minute presentation in the train-the-trainer session)*

A rapid increase in sustainability understanding, skills and practice is needed; therefore developing and increasing training capacity at all levels is a matter of urgency. A train-the-trainer approach was chosen due to its potential to enable the organisation to build internal capacity, which in turn would support wide-spread scaling up of the learning initiative.

The SHAPE of the pilot

This action research undertook a small scale pilot of 'trainer-training' with staff from Stores and Head Office acting as Champions. The pilot was informed by the SHAPE framework, and was thus **S**ocial, **H**olistic, **A**wareness-raising, **P**ositive and **E**xperience-led.

Champions were to be drawn from previous participants (though in Stores only one of the five Champions had attended the first learning initiative). The pilot had three stages:

- Pre-briefing/training session before the learning initiative
- Attending the learning initiative as 'apprentices'
- Train-the-trainer session after the course, design and deliver 10-15 minute presentation

Analysis of pilot (Stores and Head Office)

Analysis of this pilot demonstrated that the Champions in both Head Office and Stores gained in skills and confidence. The quality of the 10-15 minute presentations that the Champions delivered in the last training session of this pilot was generally high and provided useful evidence of the value of this approach. All of the Champions (Stores and Head Office) wished to do more with the RoundView in their work, showing a high level of motivation and interest. One person volunteered as a Champion in Stores during this pilot, and a further two came to the final session in Head Office.

There was a good deal of discussion about the value of the hands-on learning tools, especially the felt based graphics, and about the idea of embedding the key facts and concepts *into* the tools. This approach was viewed as useful by the Champions, supporting them as trainers, providing activities that lead them through key stages of the process. This reduces the facilitator pressure to stand up and 'perform'. Additional resources were requested by Champions, such as video clips of trainers dealing with common challenges and a 'Frequently Asked Questions' resource.

Stores Champion gives a RoundView presentation

An illustration of a presentation designed and given by a Stores Champion is indicative. She had attended only this round of training, said she was not comfortable with 'science' and initially had not felt able to give a talk. She set out activities that are already happening in Tesco, giving as examples recycling, car sharing, using public transport, being aware of the manufacturing processes of products (e.g. the FSC logo). She went on to say that these were not enough. She explained that we need to do this to benefit everyone in the long run, and that we will benefit from cleaner living, more green areas and benefits for our grandchildren. She then explained the eco-cycle, using the example of waste going into the ground and into the cycle, using the RoundView Misguided Lines images as a visual aid. This was followed by the positive RoundView picture with the commentary *'If everything is recycled, nothing is being wasted, and everything that can be reused is reused, for example food is not thrown away, it could be made into compost… people can thrive into the future."*

Indicative model for training

Experience gained through having delivered the training course 5 times and through this train-the-trainer pilot has enabled the development of a model for training. This comprises 5 categories, each representing a skill level. The 'foundation' level has been directly tried and tested through these pilots, as has the 'facilitator' level, which is the description given to the level of skill attained by the Champions who participated in this train-the-trainer pilot. The 'practitioner' and 'trainer' levels are extrapolations based on the experience of training during these initiatives and from experience of the research team in training in other contexts. This indicative model for training is shown in the following table:

Skill level	Training time required (rough estimate)
Foundation (competent to explore practice against the Guidelines and to generate ideas to move towards sustainability)	1 day total (2 x 3hr sessions + tasks in between as modelled in the Head Office pilots)
Practitioner (competent to evaluate practice against the Guidelines and systematically work towards greater alignment)	+1 day total (time allowed in work to apply ideas + follow up training session to review and consolidate skills
Facilitator (able to deliver introductions to the RoundView and support trainers during foundation training)	+ 2 days (1 further day training + participating on a foundation course as a trainee facilitator, as modelled in this pilot)
Trainer (able to deliver the RoundView practitioner training with support from facilitators)	+ 4 days (2 further days training + participating on 1 day foundation and 1 day practitioner course as a trainee trainer)
Trainer of trainers	It is difficult to ascertain the time requirement to achieve the next level i.e. RoundView 'trainer of trainers', having not yet tested the process beyond the facilitator level.

Next Steps

> *"I may also think more creatively, slightly longer term. What I will be looking for next is to be challenged - I want to go into a business plan / presentation / meeting with senior managers and as well as being asked about the cost, resources, supplier/customer impact of my proposal, someone should ask me what the RoundView / community / sustainability impact and thought process is." (Tesco participant on RoundView course)*

Applying the RoundView

At its most basic level, the overall strategy for change towards sustainability implicit within the RoundView curriculum might be described as…

1. Systematically evaluate practice against the RoundView Guidelines for Sustainability
2. Take steps to redesign and change practice so that it is increasingly aligned with the Guidelines
3. Repeat the process

Implementation of such a process would require:

- Clear, and widely communicated, organisational intent to engage with such a programme
- Widespread understanding of the RoundView Guidelines arising from training throughout the organisation: in diverse functions / roles / levels
- Clear tasks set out for roles throughout the organisation that inform and implement this continuous evaluation and redesign, and which are reflected in measures of staff performance
- Measures to increase the likelihood, speed, ease and effectiveness of adoption within the culture

Apply the RoundView in specific work contexts

It is proposed that the next stage of trialling the RoundView in Tesco would be to devote some resource to applying the Guidelines within particular functions. This would involve staff analysing and redesigning their work practice. This could be done with the Champions and keen participants from the previous RoundView training. Such a trial would provide further understanding of the potential value of using the RoundView framework within Tesco. Such a trial would help inform a business case for a wider-scale roll-out, and would provide valuable further information for such a roll-out.

To this end the main report describes:

- a systematic process for applying the RoundView Guidelines through systemic analysis and redesign of existing practice
- various options for how such a process could be deployed within the organisation

Training at senior levels

It would be difficult for anyone in a position of authority to evaluate the proposals that staff would develop in applying Guidelines if they did not have a clear understanding of the RoundView themselves. Thus in order for an organisation to really test the potential and relevance of this approach, it would be necessary to have a large enough sample of key decision makers trained in the core curriculum, including at the most senior levels.

Conclusions

> *"[This] restored confidence that Tesco is 'on the case' on developing a 'sustainability literate' workforce". (Tesco participant on RoundView course)*

Advantages of moving to long-term sustainability

A strategy that seeks long term sustainability clearly has advantages over one that does not. Attracting, retaining, and rewarding great staff is a vital business task. For many candidates, an organisation with a genuine and forward looking approach to sustainability will be a preferred place to work over one without. A forward-looking approach can also help to avoid investment in measures that appear on the surface to be beneficial, but which are locked into technology that may become obsolete and expensive in the long-run.

Any organisation that is able to show real leadership in sustainability stands to gain a great deal of respect and goodwill from society, which of course includes many existing and potential customers. This was recognised by a participant in Head Office: *"This is an unprecedented opportunity for Tesco to get ahead of the game."*

Possible reframing of sustainable consumption

> *"Doing the right things right. It's not as easy as it sounds. Working smart may be easy, but working smart without perspective or guiding principles can ultimately become an efficient pursuit of the wrong goals." (William McDonough et al. 2003, 434)*

The RoundView provides a potentially helpful perspective on *sustainable consumption.* Any consumption (and related production) that is *fully* aligned with *all of* the Guidelines is—within this framework—seen to be moving in a sustainable direction. Does this mean that *any amount* of consumption that is aligned with the Guidelines could be sustainable?

If this framework is the robust and complete description of sustainability that it is intended to be—and it must be recognised that this is still provisional—then the logical answer would be yes, any amount of consumption and production **carried out entirely in alignment with all four of the Guidelines** would be sustainable. How could that be, given that there are obviously limits within any finite system? The answer is that the requirement for full alignment with the Guidelines is simply a positive, practical and functional way of describing the need to navigate *within* those limits. It enables and frames the continued use of human ingenuity to find ways of consuming... sustainably.

> *"Common sense tells us that making a decision that is not in line with our values is illogical. But that is precisely what humans have done throughout history." (Savory & Butterfield 1999, p.91)*

If society is to contribute towards a world in which "All people thrive, now and into the future", the question is **not if** but **when** we will transform our ways of living and working so that they are compatible with the whole systems upon which all human activities ultimately rely. If such transformation is sought, there is much knowledge available to help and inform us. The RoundView framework described here represents an attempt to create a common language and set of understandings that synthesise the clear and grounded insights that are available—from The Natural Step, Cradle-to-Cradle, Industrial Ecology and many other contributions—in a way that is accessible and practical. It is a work-in-progress, one that has been greatly enhanced by the overwhelmingly positive response and input from the Tesco staff who have given their time and insights to this initiative.

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1 Introduction

> *"Every period of disruptive change brings winners and losers. The formula for business success during our era of great change will place a premium on innovation, collaboration and smart investments to shape a globally prosperous and sustainable future." (in forward to report signed by 14 CEOs,World Economic Forum and Deloitte Touche Tohmatsu 2010, 4)*

There is widespread agreement of the vital need for rapid progress towards a 'low-carbon' economy. As with all 'grand challenges', however, the issues constitute a complex and tangled web, which defies simple analysis and thwarts straightforward answers. A recent article in Nature, entitled *'A safe operating space for humanity'* reminds us that the carbon cycle is not the only bio-geological cycle that is being so altered by human actions that catastrophic ecological and social implications may result (Rockstrom et al. 2009).

The Millennium Ecosystem Assessment (2005a) painted a bleak picture of ecosystem decline over the last fifty plus years, with ecosystems degraded at a faster rate than during any prior five decades. This major scientific undertaking, bringing together thousands of scientists from a wide range of disciplines and countries, emphasises links between ecosystem services and human well-being—a point brought home by the human misery unfolding in the years since the report, such as major flooding in Bangladesh and England, and droughts in Australia and the Horn of Africa. These events affect people's health and well-being, as well as their livelihoods.

The subsequent Stern Review, exploring the economics of climate change, concluded that it would cost less to act now, than to wait and deal with the consequences later (Stern 2006). A recent UN report suggests that the costs of biodiversity loss could be even higher than the costs of climate change (TEEB, United Nations Environment Programme 2009).

The climate change agenda is driving innovation in an evolving continuum of response, with many solutions developed but yet to be effectively deployed. Simultaneously, there is widespread recognition that behavioural change is pivotal before real progress can be made (e.g. Kollmuss and Agyeman 2002). Meeting ambitious carbon reduction targets will require not only deployment of new technologies, but a significant change in human behaviour and attitude in terms of everyday practices and decision-making, for individuals as well as industries.

Sir Terry Leahy has expressed his goal to see Tesco as a world leader in sustainability:

> *"We now know that the implications of climate change are huge. I am not a scientist. But I listen when the scientists say that, if we fail to mitigate climate change, the environmental, social and economic consequences will be stark and severe… For Tesco this involves something much more than listing a series of environmentally friendly actions, although those do play their part. It demands that we transform our business model so that the reduction of our carbon footprint becomes a central business driver."(Leahy 2007)*

To this end, Tesco has established the Sustainable Consumption Institute, based at the University of Manchester. One of the projects funded by the SCI was 'Sustainability Skills in the Workplace' (Nov 2008 to July 2009). The research described in this report is developed from this previous action research, referred to as 'Sustainability Skills'.

1.1 Background to the Research

The earlier Sustainability Skills project (Tippett et al. 2009) had as its key objective:

To identify effective training and communication methods to enable people to understand sustainability issues and take action – and to implement and assess a learning pilot which delivers this in Tesco.

A learning initiative was developed and tested in three rounds of training in Tesco in this nine month project in 2008-2009, working with staff in Stores and Head Office. The aim was to develop a clear, engaging and open way to build skills and understanding in a whole-systems approach to sustainability. The key to this was to make the ideas accessible to staff at all levels. The hope was to increase not just participants' capacity to act, but also their motivation and enthusiasm for change.

To this end, development of that learning initiative built upon existing approaches to sustainability, in particular the scientific rigour and systems-approach of The Natural Step (Holmberg and Robèrt 2000); the clarity around the need to change direction towards a positive vision from Cradle-to-Cradle and Industrial Ecology (Bill McDonough and Braungart 2002; Tibbs 1993); and earlier work to develop open source, accessible visual representations of key principles of sustainability coordinated by the Principal Investigator (Tippett 2005). This work is aligned with the aim of Industrial Ecology, as stated by a key thinker in this field:

> *"Industrial ecology is—or at least aspires to be—the emerging field of knowledge that inter-relates the various environmental tools and management systems that have been devised so far. It generates an overall context and gives the whole set of tools and systems a coherent objective-aligning industry with geophysiology." (Tibbs 2000a, 213)*

A literature review looking at the main approaches to embedding sustainability in organisations covered four areas: quality management & measurement; change management; ecological design; and systems & science based frameworks. This led to the development of a framework of characteristics of effective sustainability learning initiatives, that was named the '4As' (Awareness-raising; Appreciative; Action-led and Associative). This was used as a basis for designing the learning initiative.

A key insight gained from this work was the need to develop a positive framing of sustainability, building on the Natural Step System Conditions. As Tibbs has commented: *"What we do not often see is any attempt to think about how we would like the future to be, what the optimistic outcome would be"* (2000b, 4). A curriculum was developed to provide participants with the knowledge, understanding, skills and attitudes needed to act more sustainability in their lives and work. New learning tools and approaches were developed through consideration of how to present this positive framing of sustainability in a clear and accessible way. This became known as the

RoundView. The RoundView is being stewarded by ThinkingWare, a Community Interest Company spin-off from research by the Principal Investigator at the University of Manchester[1].

The learning initiative was well received by the fifty-two staff members who attended the three pilots delivered between April and June 2009 at Cheetham Hill Eco-Store and at Tesco's Head Offices. Participants from the courses reported significant learning and increased motivation for making changes and tackling sustainability challenges.

The RoundView learning initiative builds skills and understanding such that a practical and accessible appraisal of the 'big picture' of sustainability can be included in decision-making at every level. The RoundView Guidelines provide a positive vision for a change in direction, a vision to inspire and engage people in the creation of solutions to our 'big' problems. The curriculum draws on best practice in learning and change initiatives, together with hands-on tools that support effective, collaborative learning.

Analysis of the data from the first round of training demonstrated the potential value of this new learning initiative. The reflective process of writing up the end-of-project report brought home the creative synthesis of this work, with its *potential* to support a paradigm shift in how we understand sustainability and apply this understanding within our work. A paradigm can be defined as:

> *"The shared idea in the minds of society, the great unstated assumptions—unstated because unnecessary to state; everyone knows them—constitute that society's deepest set of beliefs about how the world works." (Meadows 1997)*

Recent scholarship in human resource development has "*called for greater focus on social responsibility and ecological sustainability*" (Fenwick and Bierema 2008, 24). The current project, referred to as 'Scaling-up' in this report, responded to this challenge, sitting at the intersection of organisational learning and shifts in thinking about sustainability. It aimed to extend and deepen the impact of the approach developed in the earlier SCI funded research, by exploring mechanisms for 'scaling-up' this learning within the organisation, with a particular focus on 'train-the-trainer' approaches that would enable a rapid spread of learning. Scaling-up could be seen as both spreading the ideas, and embedding them so that they are incorporated into the practices and thinking of the organisation. A key concern was thus how to scale up learning, whilst maintaining the integrity of the ideas and the learning process, in a way that embeds the thinking in the DNA of the organisation? Integrity as it is used in this context means that the ideas retain their quality, their inter-connectedness and their validity—that they are not changed in a way that degrades the coherence of the concepts or ideas as a meaningful whole.

To explore these issues, the second research project focused upon three key areas. The first was on the RoundView curriculum itself: refining improving and adapting it to make it more amenable to scaling-up. The second was on better understanding of processes to support capacity-building of 'Champions' to enable the spreading and embedding of the learning within Tesco. ('Champion' is a term used in Tesco for people who have a leadership role in a particular area, such as energy. Champions could be working at any

[1] Copyright of the RoundView name and logo have been donated by Matthew Tippett and Countrsycape to ThinkingWare for the good of the community, in memory of Sheila Tippett, who died on May 12, 2009. www.roundview.org

level within the company, and in this report the term is used to denote people seen as having a role of championing sustainability learning.) The third was on gaining insights and resources, through working with Tesco staff, into strategic thinking to inform and guide this complex, systemic process.

1.2 Overview of Report

This report includes a summary of six month action research project in Tesco, with in-depth analysis of both the learning initiatives and concepts for scaling-up positioned within the literature. This scaling-up project followed on from an earlier action research project with Tesco. In addition, these two SCI action research projects have provided the opportunity to synthesise developmental work that has taken place over the last sixteen years. As such this piece of work could be seen as a report on the sustainability learning component of many cycles of action research over this time.

Each chapter is written such that it can be read on its own, so that the reader can focus on areas of interest to them. Key concepts are summarised in bullet points at the end of sections.

- **Key points are highlighted with this style.**

There are seven chapters in this report. This 'Introduction' sets the scene and places the this research project in the context of a previous SCI funded research project, 'Improving Sustainability Skills in the Workplace'.

In the second chapter, 'Project Aim and Methodology', the research questions and project interventions are set out for the current project. This is followed by a more detailed treatment of the data gathering and analysis tools and process, set in the context of the action research methodology.

The third chapter, 'Evolution of the Sustainability Curriculum', provides key background information, as well as a summary of the key concepts in the RoundView framework. It draws from the first action research project and from a parallel learning and development project funded by the Centre for Excellence in Enquiry Based Learning and the SCI, RoundView Online.

In the fourth chapter, 'Assessment of the Second Learning Initiatives', analysis of data gathered from this second round of action research is presented. This focuses upon an in-depth analysis of the learning design that underpins the RoundView curriculum.

This analysis included consideration of the key issues that needed to be taken into account for training others in how to deliver a RoundView learning initiative. These insights were further developed in the fifth chapter, 'Train-the-Trainers', which explains the design of the train-the-trainers pilot and explores participants' experience of this pilot in both Head Office and Stores in Tesco.

The sixth chapter, 'Scaling-up Sustainability Learning', develops a framework for spreading and embedding sustainability learning throughout a large organisation. This draws on data gathered throughout both related SCI research projects (conducted between 2008 – 2010) with Tesco, and also upon key areas of literature, in particular diffusion of innovation and transition management literature.

Suggestions drawn from this analysis are noted in the text in this style.

The seventh chapter, 'Conclusions and Recommendations', develops considerations for next steps for Tesco, including a process for practical application of the RoundView within roles and functions, and suggestions for trials to clarify the possible value for Tesco. Suggestions for further research are developed. Core concepts for a roll-out in Tesco, synthesising the thinking in Chapters 6 and 7, are summarised in Appendix One.

1.3 The Research Team

Principal Investigator

Dr. Joanne Tippett – Lecturer, School of Environment and Development, (SED) University of Manchester

Project Advisor

Dr. Pete Mann - formerly at SED, University of Manchester; Chair of The Stamford Forum

Researchers

Dr. Valerie Farnsworth - Research Associate, School of Education, University of Manchester

Fraser How - How Creative

Eben le Roux - Research Associate, SED, University of Manchester

Dr. Graeme Sherriff – Research Associate, SED, University of Manchester

Sustainable Consumption Institute Liaison Team

Prof. Colin Hughes - Dean of External Affairs, University of Manchester

Rachael Preece - International Personnel - Reward Team, Tesco (Liaison Team)

Richard Sullivan - Head of Pay and Rewards, UK, Tesco (Liaison Team)

Artistic and Graphic Input

Dr. Jorge Inzulza Contardo – SED, University of Manchester; Ministry of Housing, Chile

Matthew Brown – Countryscape

Buddy Williams AIA – artist for the original graphics adapted in the pilot

Magnus Quaife – Independent Artist

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We wish to thank the Expert Advisory Group from the Sustainability Skills project:

John Baines MBE - Professional Practice for Sustainable Development (PP4SD)
Prof. David Botham - Manchester Business School, University of Manchester
Jimmy Brannigan - ESD Consulting Ltd.
Dr. John Brooke - e-Science North-West – ESNW, University of Manchester
Dr. Davina Clarke - The Stamford Forum
Julie Crawshaw - Sustainable Consumption Institute, University of Manchester
Prof. Paul Jackson - Manchester Business School, University of Manchester
Paul Mahoney - Countryscape
Maureen Martin - Professional Practice for Sustainable Development
Prof. Stephen Martin - Professional Practice for Sustainable Development
Prof. Mike Pedler - Henley Business School, University of Reading
Dr. Ann Shacklady-Smith - Manchester Business School, University of Manchester
Etienne Wenger - Visiting Professor in School of Education, University of Manchester
Dr. Jennifer Wilby - Business School, University of Hull

Ideas from the last meeting of the Expert Advisory Group were influential in the design of the next pilots of the learning initiative and the overall Scaling-up project. Prof. Paul Jackson and Etienne Wenger have also provided invaluable input during the Scaling-Up project.

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Photographs were taken by the research team, unless otherwise noted. Participants were given consent forms. Copyright of training graphics rests with ThinkingWare CIC.

The views expressed in this report are the opinions of the authors, and not of the SCI, Tesco or the Expert Advisory Group. Any omissions or errors remain the responsibility of the authors.

2 Project Aim and Methodology

The key aim of this six-month 'Scaling-up' project was:

'To find effective ways to embed new thinking that maximises people's understanding of sustainability and changes in behaviour, in the context of 'training the trainers.'

This was to be achieved through exploring and testing mechanisms for scaling-up sustainability learning, to encourage rapid spread throughout a large organisation, whilst maintaining the quality of the learning.

The project used an action research approach, as a further developmental cycle following on from the earlier 'Sustainability Skills' project. The iterative nature of action research allows the initial goals and methods of a project to be refined through cycles of reflective learning and feedback on action.

The key aim was addressed by endeavouring to answer the following research questions:

1. What are the characteristics of the Round View curriculum, such that it is an effective response to the complex challenges of developing individual and organisational capacity for sustainability?

2. How might members of an organisation develop the capacities needed to scale up sustainability learning throughout the organisation?

3. How might a sustainability learning initiative be spread and embedded throughout a large organisation, such as Tesco?

2.1 Project actions and interventions

This section outlines the actions and interventions in the project. These are summarised in Table 1. Section 2.1.1. discusses the design of the project interventions, and Section 2.1.2 on pg. 27 discusses the data gathering and analysis enabled by these interventions in more detail.

Table 1 Project interventions timeline

Date	Project Intervention	Purpose of intervention	Participants
Oct. 28, 2009	Follow-up interviews with sample of participants from first learning initiative pilot (2009)	Gather research data to assess learning initiative pilot and improve for second round of action research	5 Head Office staff (attended previous learning initiative pilot)
Oct. 28, 2009	Initial focus groups with Champions in Head Office	Gather data: scaling-up from Head Office perspective Provide a train-the-trainer session for 'Champions'	3 Champions from previous learning initiative pilot
Nov. 4, 2009	Initial focus groups with Champions in Stores	Gather data: scaling-up from Stores perspective Provide a train-the-trainer session for 'Champions'	1 Champion from previous pilot and 3 Champions new to the process
Nov. 4, 2009	RoundView Learning Initiative Session 1 Stores	To test the new ideas developed in the first round of action research in practice, in particular a shorter course	13 participants from Stores, 1 member of Tesco Liaison team from Head Office
Nov. 6, 2009	RoundView Learning Initiative Session 1 Head Office	To test curriculum improvements and to provide an opportunity for 'Champions' to practice elements of training	13 participants from both Head Offices
Nov. 18, 2009	RoundView Learning Initiative Session 2 Stores	Same as the first session	6 participants from Stores
Nov, 20, 2009	RoundView Learning Initiative Session 2 Head Office	Same as the first session	11 participants from both Head Offices
Dec. 2, 2009	Post-training focus groups with Champions in Stores	Gather data: current Learning Initiative pilot; recommendations to inform scaling-up Provide a second train-the-trainer session for Champions	3 Champions 1 member of the Tesco Liaison team from Head Office
Dec, 9, 2009	Post-training focus groups with Champions in Head Office	Gather data: scaling-up from Head Office perspective; reactions to changes to the curriculum Provide a train-the-trainer session for 'Champions'	4 Champions (two new to the process in this round of training) 2 members Tesco Liaison team
Dec, 9, 2009	Follow-up interviews with a sample of participants from the second RoundView training	Gather data on the RoundView pilot for future improvements, gather data on cultural context	5 participants from this round, 2 members Tesco Liaison team

2.1.1 Design of project interventions

Participants for the learning initiative were invited by the Tesco Liaison team, and participation was voluntary. The research team asked for a wide range of participants to be invited, so as to involve a cross-section from different divisions, functions and experience levels within the corporation. This was exploratory action research, and as such the aim was to gain a wide range of perspectives.

The original aim was to have employees from higher levels of management attend (i.e. in Head Office Work Level 4[2] and above and in Stores Personnel Managers and Stores Directors), but there were no volunteers from these levels. The dates were chosen in conjunction with the Tesco team to fit in and around Tesco's schedule, and to allow for two sessions of training for the core RoundView pilot, with an additional train-the-trainer session with the Champions before and after these two core RoundView pilot sessions.

The Champions, whose enthusiasm from the first project had led to them taking part in the second project, were doing so in addition to their regular workload. They were there voluntarily, seeking involvement because they were keen to take their learning in sustainability further. They therefore did not constitute a representative 'sample' of the client system.

This project began with a clear intent to pilot a train-the-trainer programme within Tesco. A literature review was undertaken, and this, together with reflections upon the previous cycle of action research, allowed principles for an effective train-the-trainer programme to be distilled. These informed, and were tested by, the two train-the-trainers pilots (in Head Office and Stores). Working with the host organisation during the detailed design of the pilot, however, revealed the need for a change of approach and a revised project plan from the original bid (with less emphasis on training trainers).

In contrast to the expectation in the original bid for this project, the extra time made available to Tesco staff to act as 'Champions' was very limited. It was not possible to capitalise fully on the interest and willingness expressed by course participants from the first project to step forward in the second as advocates, leaders, and possibly trainers of the RoundView within Tesco. The train-the-trainer component was thus modified to allow us to work with 'Champions' in both Stores and Head Office as co-researchers and trainee facilitators, to explore the proposed changes to the curriculum and possible ways to spread and embed the learning initiatives within Tesco.

The Sustainability Skills project started with the intent to test the value of a whole-systems approach, in motivating staff to change behaviour. As described in the project report, the consolidation of ideas into what became known as the RoundView was an emergent output from the research. The particular arrangement and wording of the Guidelines for Sustainability crystallised towards the end of the first cycle of action research. New aspects of the RoundView curriculum continued to evolve and undergo clarification in between the end of the first project and the start of the action cycle of the second. Given the developments that emerged during analysis, it was necessary to update the training materials to reflect this latest version. There was also a request from participants on the

[2] Work levels (WL) in Tesco Head Office start at WL1 (administrative/analyst roles, which include graduates). There are 6 levels in total: WL1, WL2 (managers), WL3 (senior managers), WL4 (Director - leadership of a function), WL5 (Senior Director - business leader of their country or function) and WL6 (main board including chief executive).

first learning initiative pilot for tools and materials to be made available to support participants in communicating to others what they had learned. Before finalising the content for such materials, it seemed prudent to test the latest configuration of the curriculum. Another full iteration of the RoundView training course was therefore required before considering a more widespread roll-out. The opportunity in the second project to undertake a second round of training in both Stores and Head facilitated this refinement and allowed further testing.

Practical outputs from this train-the-trainer process included the fact that the Champions in both Stores and Head Offices were able to assist the researchers during the delivery of the second round of the learning initiative. They developed increased skills, and the confidence to be able to present a compelling, brief story of the RoundView, which was seen as a valuable skill to support a process of rapid raising of awareness for a wider audience within Tesco. Participants' experience, and evidence of this skills building, is discussed in the Section 'Findings from train-the-trainers pilot' on pg. 106.

The following section describes how the research interventions unfolded in practice.

2.1.2 Project interventions in more detail

2.1.2.1 Follow-up interviews with a sample of participants from the first learning initiative pilot

Five participants in Head Office who had attended the training in the initial Sustainability Skills course in 2009 were interviewed during the course of this second research project. A request for interviewees went out to all of the former participants on the Head Office training, and these five were the ones who were available for an interview. Whilst there was a degree of self-selection (those willing and able to spend a further half hour on the research project) this did enable the research team to broaden the perspectives outside of the Champions, who had a clear interest in furthering and spreading the learning initiative. The job roles of the people who were interviewed were:

- Trade Planning Manager
- Europe Resourcing Manager
- Trading Law and Technical Manager
- Trading Law and Technical Nutrition Manager
- Capability Manager - Group Ordering

All of the interviewees were Work Level 2 or 3. The person with the longest experience working in Tesco started in 1989, and with the least started in 2004.

The aim of this intervention was to find out, six months after the first learning pilot in the Sustainability Skills project, how did people feel that they had been affected by the course? What evidence was there regarding the efficacy and appropriateness of the curriculum after having time for the learning to 'settle in'? This data is analysed and discussed in the Section 'Summary of interviews with participants from the first RoundView pilot learning initiative (six months later)' on pg. 54.

2.1.2.2 Initial focus groups with Champions in both Head Office and Stores

The Tesco liaison team put out an invite to the people who had previously participated in the RoundView course, to see who would like to act as future 'Champions'. Champions is a term used in Tesco and is used in this report to refer to participants in the train-the-trainer component of this research (in Head Office and Stores). These sessions were designed to double as data gathering interventions as well as training sessions. They were called focus groups to make it clear that participants were actively engaged in the research, and to make a distinction between these sessions and the second round of the RoundView learning intervention.

These focus groups had two foci:

- to provide initial training and explore how the Champions could best use the opportunity presented by the second iteration of the RoundView course to build their training and 'change-agent' capacity; and
- for the Champions to anticipate and elaborate, from their point of view, what would be involved in, and required for, a wide-spread roll-out of the learning initiative throughout the organisation.

In Head Office, three clear 'Champions' emerged at the beginning of this project, all of whom had participated in the Sustainability Skills project (2009). Two other members of staff became involved as Champions as the programme progressed, one who had attended the first round of training and one who had not. These Head Office Champions were all at Work Levels 1 – 3. The Champions came from a range of functions: Customer Plan, Stores Order (supply systems), Retail Space Range and Merchandising, Ethical Trading and IT Finance. An additional interview was held before the course with the Champion who had not attended the first round of training, which was useful in calibrating reactions to the second round of training.

Four people identified as 'Champions' attended the initial Stores focus group. Despite being invited, participants who had attended the first RoundView training in Stores during the Sustainability Skills project, with one exception, were unable to join the second programme. It was unclear if they had all been asked, or were unable to attend. This was seen as symptomatic of a lack of understanding of the nature of the train-the-trainer initiative, and *possibly* as demonstrating a lack of support for it, on behalf of line managers. This issue is discussed in more detail in the analysis of the outcomes of this learning initiative. One of the Champions was a Team Leader, and several were engaged in training activity. None were managers. The job roles of the Champions included: Stock Control, Wage Clerk and Team Leader – Counters.

2.1.2.3 Learning initiative pilot (version 2) delivered in Stores and Head Office

Data that was used to make improvements to the RoundView course came from several sources: feedback forms and reflections from the first iteration of the training, and the initial interviews and focus group with Head Office staff in this round of action research. The training that was delivered to two cohorts of staff in this project allowed for testing of the changes made to the curriculum, provided further evidence of its appropriateness and effectiveness, and enabled more work to be done to adapt the material to the particular needs and culture of Tesco. The focus of this adaptation was to make the learning

intervention more able to be spread and embedded within Tesco in particular, and in large organisations in general.

The Principal Investigator carried out the training, assisted by the project team, and this time (in Head Office) by the Champions, who were involved as apprentice facilitator / trainers.

The Head Office training consisted of two sessions of three-hour duration. The first was attended by thirteen people, the second by eleven. The work levels were 1 to 3, with a range of employment start dates in Tesco between 1980 and 2007. Training took place at Cheshunt Head Office, with participants from both Cheshunt and Welwyn Garden City Head Offices. The participants are shown in Table 2.

Table 2 Participants on RoundView training in Head Office

Role	Role in research	6th Nov.	20th Nov.	Work level	Date of joining Tesco
Stores Order Manager- Supply Systems	**Champion**	yes	yes	2	21.07.2003
Stores Ordering Insight Analyst	**Champion**	yes	yes	2	08.10.2008
Marketing Manager- Clubcard	Participant	yes	yes	2	03.09.2001
Project Manager - Replenishment Productivity	Participant	yes	yes	2	02.10.2006
Buying Manager - Car Wash (Petrol & Tobacco Team)	Participant	yes	yes	2	27.03.2006
Operations Executive- Business Planning	Participant	yes	yes	1	21.11.2006
Buying Manager - Grocery	Participant	yes		2	06.02.2006
Print Operations Manager	Participant	yes		2	09.06.1980
Lead Project Manager - Service Productivity	Participant	yes		2	16.03.1996
Tesco Media Centre, Publishing Manager	Participant	yes		2	05.11.2007
Project Manager - Apprenticeships and Diversity	Participant	yes		2	12.02.2007
Store Ordering Manager - Impulse Drinks	Participant	yes		2	18.04.1998
Assistant Buyer - Sports & Energy Drinks / Impulse	Participant	yes		1	30.06.2008
Project Manager - Community plan	Participant		yes	3	03.09.2001
Project Manager - Customer Plan	**Champion**		yes	3	18.09.2000
Ethical Trading Manager	**Champion (after course)**		yes	3	13.09.2004
IT Finance Business Analyst	**Champion**		yes	2	?
Retail Space Range and Merchandising-Support Office Graduate	**Champion (after course)**		yes	1	01.09.2008

The Stores training consisted of two sessions of two-hour duration. The first was attended by thirteen people, the second by six people. Participants came from Failsworth and Cheetham Hill, and included one Service Manager, several Team leaders (the Champions), with the remainder from 'the shop floor'. One person from Head Office (from the Tesco Liaison Team) attended the first of the two training sessions. This training was held at the Cheetham Hill Eco-store in north Manchester.

2.1.2.4 Post-training focus groups with Champions in Stores and Head Office

The post-training focus groups continued and consolidated the processes begun in the first focus groups. Champions were mentored to design and present a short (10-15 minutes) introduction to the RoundView, as a significant first milestone in the building of their training capacity. Feedback was gathered from the Champions about the training (with particular emphasis on the changes from the first iteration), and about issues pertaining to the potential roll-out of the learning / curriculum within Tesco.

In Head Office, the three Champions who had attended the first focus group were joined by two others, one of whom had attended the first RoundView course (on the Sustainability Skills project 09), the other being a participant who attended only the second session of the current training, who had a strong background in sustainability. Both members of the Tesco liaison team were also present. In Stores, two of the three initial 'Champions' were present, and one additional course participant also emerged as a Champion, due to her interest in the course, and participated in the final focus group with the other Champions.

2.1.2.5 Follow-up interviews with a sample of participants from the second learning initiative pilot

Shortly after the conclusion of the second round of training, six participants were interviewed (three participants in Head Office who had attended the training, one Champion and both members of the Tesco liaison team). The discussion was about their experience of, and feedback about, the course itself, and also their thoughts about how such sustainability learning might be taken forward within Tesco. The sample was low in number as it was December, the busiest time of year for Tesco. The interviews, however, provided a useful opportunity to probe deeper into emerging questions and issues pertaining to scaling-up the learning initiative in Tesco. The Work Level of these interviewees was 1 – 4, with a range of length of experience in Tesco from two decades to two years, and their job roles were:

- Head of Pay and Rewards, UK
- International Personnel - Reward Team
- Stores order Manager- supply systems
- Assistant Buyer - Sports & Energy Drinks / Impulse
- Project Manager - replenishment productivity
- Assistant Buyer - Sports & Energy Drinks / Impulse

The following section provides a more in-depth discussion of the research methodology, data collection and analysis.

2.2 Methodology

Action research is explicit about undertaking active involvement in a real-world research project. It seeks to develop knowledge through a process of intervention in the system being studied. An action research approach was chosen for this project (as it was for Sustainability Skills) because the research aimed to explore and develop new approaches to employee learning. The process of intervening in the system in and of itself enables the uncovering of useful knowledge (Baskerville and Wood-Harper 1996). In this case, the two action research projects have enabled several rounds of the action research cycle, enabling analysis from the first interventions to feed into learning to be tested in the second intervention. In addition to this cycle between the two projects, there were shorter cycles of reflection and improvement (as in the changes in the learning intervention instigated due to participant feedback between the sessions in the Sustainability Skills project). Action research was justified because the SCI wanted to find out what happened (the research) when Tesco employees experienced a whole-systems sustainability learning initiative (the action).

Data gathering methods comprised:

- Semi-structured interviews (recorded and transcribed)
- Focus groups with Champions (recorded, researcher notes)
- Video recordings of training and focus groups (annotated notes in spreadsheets)
- Researcher observation of training process (researcher notes)
- Written feedback forms from participants from both sessions of the training (collated into tables)
- Ideas that reflected the learning of the participants on the course captured using the Ketso toolkit (transcribed into spreadsheets)
- Data recorded by Champions in focus groups using Ketso to explore embedding and spreading the RoundView (transcribed into spreadsheets)

The Ketso toolkit used in this research provides a concrete example of an action research method deployed purposefully for both development of learners (action) *and* collection and clustering of data (research).

Ketso is a hands-on tool for creative groupwork. Participants write their ideas on re-usable, coloured shapes ('leaves') and place them on a felt workspace to build a picture of the group's thinking. The 'leaves' that record people's ideas can be moved around on the felt under headings on 'branches' which can also be amended and re-clustered. Every participant has a pen and the opportunity to add their ideas, thus the process encourages *everyone* to have a voice.

Figure 1 Ketso– a tool for learning and for data gathering

Ketso can be used in a wide range of groupwork settings, from stakeholder engagement to training. It can also be used as a tool in research, and it enables the capture of a good deal of data quickly. From a research methodological standpoint, the Ketso toolkit supports the inductive character of action research, that of 'doing the particular' to generate 'understanding of the general'. This data is captured in a physical artefact, which can then be transcribed into spreadsheets and analysed in depth.

Figure 2 Data captured for later analysis

In this project, the Ketso method for learning respects the learner's voice; the Ketso method for research respects the employee's 'inner perspective'. Ketso thus legitimates the participation of the learner and facilitates capturing the view of the research participant.

2.2.1 Data analysis and the research questions

This section describes the way the data gathered in this action research was analysed to answer the research questions.

2.2.1.1 Research question 1 - Effective sustainability learning

Research question 1. What are the characteristics of the Round View curriculum, such that it is an effective response to the complex challenges of developing individual and organisational capacity for sustainability?

This second round of action research, following on from the initial development and testing of the learning initiative in the Sustainability Skills project, endeavoured to understand how to spread and embed sustainability learning throughout a large organisation. In the first round of action research, the focus was on analysing the outcomes and effectiveness of the new learning initiative. To this end, a framework for organising

the learning outcomes of the initiative, namely Knowledge, Understanding, Skills, Attitudes and Behaviours - KUSAB (A Rogers 2004) was used as the organising structure for analysis.

Data from this second round of action research, namely from the interviews with the participants from the Sustainability Skills course six months after the training, and feedback forms and interviews with participants from this round of the learning initiative, were analysed to further test and explore the usefulness and value of the RoundView curriculum. Part of this analysis looked at the learning outcomes of the course, as a supplement to the analysis of outcomes from the learning initiative that was carried out in the Sustainability Skills project.

In addition, the 4A characteristics of effective sustainability learning initiatives, (developed in the initial round of research and used to design the RoundView curriculum), was used as a conceptual framework to structure analysis. The 4A framework comprises the following characteristics: Appreciative, Awareness-raising, Action-led and Associative.

Data was analysed against the 4A framework, seeking to explore and understand the ways the curriculum enabled or hindered deep learning and behavioural change. It was seen as especially useful to have a researcher who was not involved in delivering the training to conduct this analysis. As such, the member of the research team from the School of Education took the full set of video footage from the training sessions and analysed the footage against the 4A framework, whilst considering the learning theory underpinning the design of the learning initiative.

Video footage of the training sessions in Head Office and Stores was annotated and coded, using Excel to create a spreadsheet indicating time stamps of the videos for the training in both Stores and Head Office. This was used to organise the following analysis:

- Summary of events for each section
- Comments on participants' learning
- Comments on the training process
- Identifying enactments of one or more of the 4As
- Comments on the 4A framework and its possible impact on learning
- Comments on the applicability of the section for train-the-trainers (e.g. if the section could be used to demonstrate a training issue or method, or illustrated considerations for trainers).

Figure 3 Using video to capture data in Stores

The spreadsheet was thus used to condense the video data into a manageable format for analysis. Feedback forms and focus group interviews completed after each session were also analysed against this framework and coded. These participant feedback forms provided insight into how participants recalled the training and what they found most, or least, helpful in their learning. As such, this provided a check of sorts, allowing us to compare what the researcher and the participants took note of during sessions.

Notes taken by researchers during the trainings (field note data) provided additional contextual information, which was sometimes needed to understand the significance of particular events. For example, field notes could improve our understanding of an interaction that took place during the training, but which referenced an event that happened prior to the start of the training session, and hence was not captured on camera.

Qualitative research software (NVivo, see Richards 2000, vol. 2) was used to code and sort written data, including the interview transcripts, researchers' notes and the feedback forms from participants. This allowed analytical reports to be generated, showing selections of text that had been marked up with particular codes. This allowed the researchers to examine patterns and to focus analysis on relevant areas of participant feedback.

This analysis has enabled an exploration of ways to improve the RoundView curriculum. This sits well with the recent suggestion by Snyder (2008, 159) that the focus of research into transformative learning should shift from *"assessing whether transformation has occurred… toward analyzing the transformative process for how it can inform curricular decision making and instruction"*.

This was accomplished through analysis of the interviews with participants from the first round of the research, and in discussion with the Champions, who acted as co-researchers. These changes were then tested in practice in the second round of the research. The Champions were asked to reflect on the changes to the curriculum, and the changes gave a lens through which to analyse feedback and outcomes from the training.

In a way, this whole report is an answer to this research question. A particular focus on the characteristics of the RoundView itself is answered in Chapters 3 'Evolution of the Sustainability Curriculum', Chapter 4 'Assessment of the Second Round of Learning Initiatives' provides analysis of participants' experience and the learning design. In Chapter 7 'Conclusions and considerations' the implications of the RoundView and its potential for helping re-framing the question of consumption are explored and a practical process for applying the Guidelines is developed, in the context of scaling-up.

2.2.1.2 Research question 2 - Building capacity to spread sustainability learning

Research question 2. How might members of an organisation develop the capacities needed to scale up sustainability learning throughout the organisation?

One aspect of answering this research question involved exploring how to bring the thinking underlying the learning process into a form of knowledge that was accessible to others, to facilitate a train-the-trainer process. A key difficulty with such a process is that the *"knowledge that serves as the foundation of skilful performance is in large measure tacit"* (Miettinen and Virkkunen 2005, 439 – 440). The difficulty of elucidating tacit knowledge has been highlighted in work on the nature of learning and the mind by Dreyfus and Dreyfus (2000) and in work on employee development and learning (Mann 1999). Early action research aimed to draw out the knowledge of expert practitioners and make it explicit (e.g. Argyris and Schon 1974; Argyris and Schon 1978).

The focus on training trainers points to the need to make the underlying thinking behind the research initiative explicit, brought into the open so that it can be understood and learned by others. The project interventions described above in on pg. 24 allowed the researchers to gather data that could then be analysed to turn tacit knowledge on the part of the researchers into explicit knowledge, accessible to future trainers. This analysis enabled the researchers to test and explore the underlying design of the initiative, so that its core principles could be elucidated and codified. This aim was to enable future spreading of the ideas, whilst maintaining the integrity of the underlying thinking. This analysis is elaborated in Chapter 4, in the Section 'Challenges and implications for trainers'.

This project aimed to explore how to build capacity to spread sustainability learning. This was achieved in party through developing and testing a train-the-trainer pilot with a small group of Champions in Tesco. The analysis of the tacit knowledge of the founders of RoundView, described above, led to a new, emergent framework as a development from the original 4A framework for effective sustainability learning initiatives. This new framework, called SHAPE (**S**ocial, **H**olistic, **A**wareness-raising, **P**ositive & **E**xperience-led), was used to structure the train-the-trainer pilot and the subsequent analysis of the Champions' experience. This was seen as the first round of action research into training trainers, and allowed for new insights to emerge into the conditions and processes that would support trainers in building their capacity.

Following the analysis of the learning initiative to uncover implications for trainers, answers to this research question are further developed in Chapter 5 'Train-the-trainers'.

2.2.1.3 Research question 3 - Scaling-up sustainability learning

Research question 3. How might a sustainability learning initiative be spread and embedded throughout a large organisation, such as Tesco?

This research question opens an exploration around wider processes and mechanisms that would support the scaling-up of a sustainability learning initiative, such as that developed in this research. The earlier analysis of barriers experienced by the participants in the first round of the research was combined with analysis of the full set of data collected from the two research projects, using NVivo to sort and collate the dataset. This revealed a set of tensions between the corporate culture and sustainability learning, which would need to be taken into account in designing a roll-out of the learning initiative.

Data were collected from focus groups, interviews and the use of Ketso tools with the Champions in the train-the-trainer process. The ideas for spreading and embedding the sustainability learning initiative generated during the research (from Champions, participants and researchers) were collated and sorted into broad categories in an initial inductive phase of analysis, seeking to find patterns within the data. These ideas were then further explored and tested against key areas of literature, in particular: asset-based development, diffusion of innovation and transition management. Each of these was seen to have important insights to offer in developing a scaling-up programme, as well as being consistent with the RoundView Curriculum in their underlying approach and philosophy. Recommendations for scaling-up the learning initiative were thus refined and developed through this iterative process of cycling between the data from participants and observation of the client system and theoretical perspectives from the literature.

These recommendations have been developed through investigation into a particular client system, and are ready to be tested and further explored in that organisation. Ideally they would also be tested in other contexts, to develop more generalised principles for scaling-up. Further rounds of testing and development should produce guidance not only on how to spread and embed sustainability learning, but on how to adapt the process of such spreading and embedding to different contexts and for different organisations.

This research has enabled us to learn more about what needs be taken into account in ‘spreading and embedding’ sustainability learning in Tesco. This research question is explored in Chapter 6 ‘Scaling-up Sustainability learning’ and in Chapter 7 ‘Conclusions and considerations’.

The action research process, project interventions, data collection and analysis have been described here in Chapter 3. The following chapter describes the development and key characteristics of the RoundView curriculum, the focus of the first research question.

3 Evolution of the Sustainability Curriculum

This chapter summarises the development of the sustainability curriculum that formed the core of this research and the Sustainability Skills project, its core learning content and the key ideas that influence the learning process. This is followed by an analysis of interviews of participants from the Sustainability Skills project. This analysis provided an opportunity to review the curriculum and its impact six months after the original pilots in Tesco. Changes to the RoundView curriculum, which were instigated following this analysis, ready to be tested in this round of action research, are then described.

3.1 Origins of the RoundView

This section describes the development of the sustainability curriculum and outlines major influences. The emergent RoundView framework is seen as an aid to sustainability learning and decision-making. In an attempt to 're-think the way we do business' the RoundView offers a set of Guidelines to help us see whether our actions and changes are moving in the right direction and processes for learning and applying them. The RoundView does not replace other environmental management tools, but is rather a supplement to offer guidance. It offers a practical way to assess whether or not decisions are actually moving towards sustainability. Its whole-system approach aims to engender a shared language, to enable collaboration within and across different contexts.

Significantly, the RoundView Guidelines provide a *positive* vision of sustainability. As the late systems thinker and member of the Club of Rome, Donella Meadows, (1996, 118) said:

> *"Environmentalists have failed perhaps more than any other set of advocates to project vision. Most people associate environmentalism with restriction, prohibition, regulation, and sacrifice... There may be motivation in escaping doom, but there is even more in creating a better world."*

The RoundView curriculum gives a positively articulated and scientifically grounded framework for a 'change in direction'—to inspire, inform and engage people in the creation of changes and practices that lead society towards a truly sustainable dynamic. This focus on the positive was inspired originally by the insight from permaculture design[3], that it was possible to copy natural systems and design a positive alternative to the destructive systems that abound (Mollison 1981; Mollison 1990; Holmgren 2003). It also builds upon work in the change-management and community planning literature, which suggests that a positive vision and approach inspires action and enhances motivation (e.g. Cooperrider and Whitney 1999; Kretzmann and McKnight 1993).

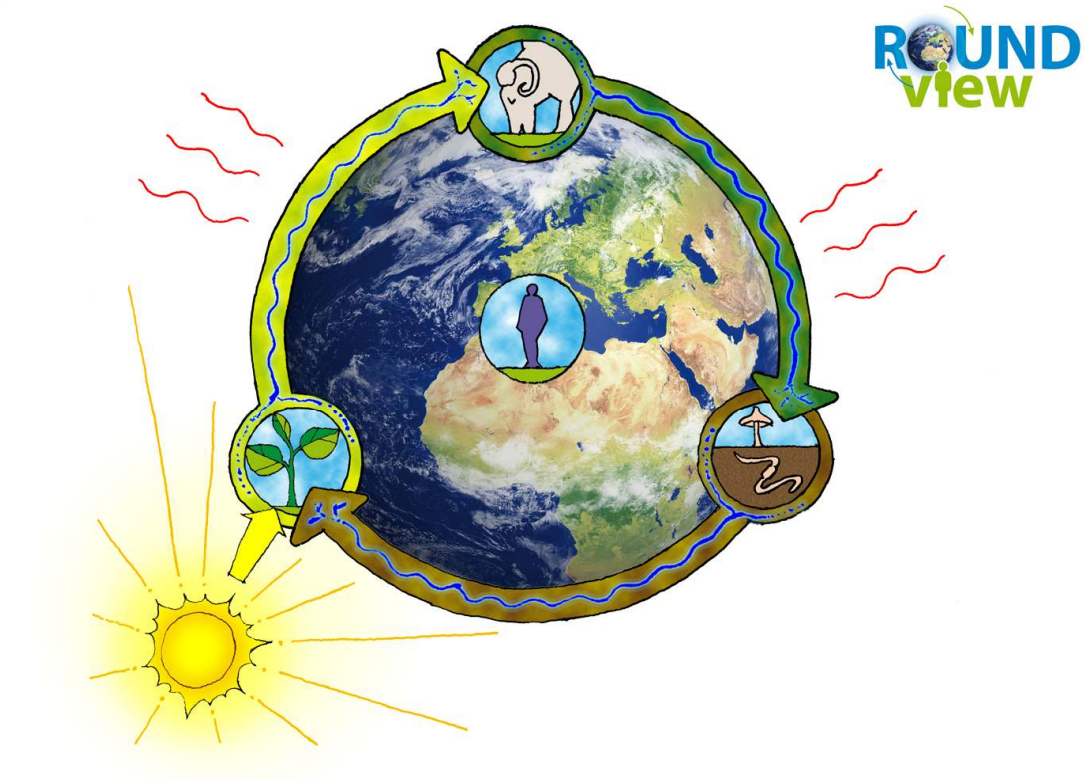
[3] Permaculture is a form of ecological design - http://www.permaculture.org.uk/

Following a literature review and several workshops with the Expert Advisory group the Sustainability Skills research took as its starting point 'The Natural Step[4]', a well established and science-based framework for understanding sustainability (see for example Robèrt 2000; Robèrt 2002; Robèrt et al. 2002; Holmberg 1995; Holmberg and Robèrt 2000). The Natural Step was seen to offer the clearest systems based view of sustainability available (Tippett 2002). In addition, it has benefited from several decades of scientific debate and rigorous analysis (see for example Everard, Monaghan, and Ray 2000; Nattrass and Altomare 1999; Wingspread 1997).

The RoundView Guidelines emerged during the action research from an endeavour to make the ideas of The Natural Step more accessible and engaging for a non-technical audience, and to develop a positive framing of this whole-systems view of sustainability.

An important aspect of endeavouring to make the ideas more accessible was developing clear, simple diagrams to explain the ideas.

Figure 4 Graphics for teaching core science



Considerable attention has also gone into the graphic representation of key ideas, the metaphors and the ways that they are conveyed. Several rounds of development of these graphics, with feedback from a wide range of people, have enabled clarification of the key points and relationships between the concepts. This clarity aids the trainer in conveying the concepts quickly and effectively, as the Principal Investigator found when using them in training for the first time in the Sustainability Skills project; she was surprised by the speed with which the core scientific ideas and guidelines were conveyed (in comparison to her

[4] The Natural Step - http://www.naturalstep.org/

experience of teaching similar concepts over the previous fifteen years). Despite this relatively quick introduction to the core ideas, they were still understood sufficiently well by the participants for them to engage in meaningful discussion.

The graphics were developed into felt-based graphics, which can be 'animated' by the facilitator in the training, so that a picture of the core scientific ideas is built up through several simple stages. This 'hands-on' and engaging approach is discussed in more depth in Section 4.4.1.2 'Holistic' on pg. 91.

Figure 5 Felt based 'animation' of key principles

Insights from Professional Practice for Sustainable Development (PP4SD), such as use of simpler words as headlines for the sustainability principles, were incorporated in this endeavour to simplify the core concepts accessible to a wide range of people. PP4SD had developed The Natural Step principles into professional training with several professional bodies in the UK (see Martin 2008).

The field of Industrial Ecology[5], which seeks to develop ways re-design the industrial system so that it can better fit within ecological systems, has been influential in the development of the RoundView Guidelines. A major influence on the RoundView Guidelines was 'Cradle-to-Cradle[6]'thinking, related to Industrial Ecology, which has clarified the need for a change of direction towards systems which do not cause environmental harm, but rather work in harmony with ecological cycles (Bill McDonough and Braungart 2002). Cradle-to-Cradle thinking has influenced the positive framing and articulation of the RoundView Guidelines. This research could be seen to respond to the call for more understanding of how to foster change, in the editorial to a Special Issue on 'Sustainable Consumption and Production' of *the Journal of Industrial Ecology*:

[5] International Society for Industrial Ecology - http://www.is4ie.org/

[6]Cradle-to-Cradle - http://www.c2ccertified.com/

> *"Research efforts that focus on assessing the factors responsible for the current impacts generated by an increasingly globalized consumer society are, without doubt, an important line of inquiry… In addition, issues of complex change, coevolution, and systemic resilience are directly consistent with the industrial ecology metaphor (especially the ecology part), and we encourage members of our community to reorient the focus of their work toward the challenges of fostering societal change toward more sustainable consumption and production" (Tukker et al. 2010, 3).*

From the beginning, development of the RoundView curriculum has been seen as an open process, inspired in part by the emergence of open source in the software domain. Case studies in the use of open source in software have demonstrated that it has encouraged wide scale knowledge exchange, harnessing of many people's creativity in solving problems, and adaptation of ideas to new contexts (Osterloh and Rota 2007). Applications of open source to areas outside of software, in fields ranging from product design to the provision of public services show potential benefits, especially in encouraging innovation and adoption of new ideas (Weber 2004). Open source is seen as a valuable organising framework for spreading the RoundView. A current SCI project (2010), looking at open source and knowledge exchange from research into sustainability, will explore this further. This project aims to develop guiding principles for such knowledge exchange.

The RoundView builds on earlier open source learning tools and materials developed by the Principal Investigator and others[7] (for a fuller discussion of the early development see Tippett, Handley, and Ravetz 2007), and is being developed in an 'open-source' manner, inviting feedback and contributions from people in many different contexts, from course participants to sustainability experts. The aim of the earlier work, in alignment with the ongoing development of the RoundView[8], was to create a robust global commons of learning resources to inform and support society's transformation to a low-carbon, equitable and truly sustainable future.

The core ideas behind the RoundView curriculum are elaborated below. The choice of the word curriculum is deliberate. Whilst often associated with formal schooling, it is a word with more general application to the design of learning initiatives.

Tyler's book *'Basic Principles of Curriculum and Instruction'* was first published in 1949 and is seen as a key text in curriculum studies. Tyler states that there are four basic questions that need to be considered in developing a curriculum. They are:

> *"1. What educational purposes should the [initiative] seek to attain?*
> *2. What educational experiences can be provided that are likely to attain these purposes?*

[7] In particular, Buddy Williams, AIA, who worked with the Principal Investigator to develop the graphics used as the starting point for the new RoundView graphics.

[8] Examples of ongoing development of the RoundView framework includes its use in several courses by the Principal Investigator (Settlement Project, International Development Management, Manchester Sustainable Cities Project) and the development of e-learning resources (May 2010 – Dec. 2010) in a project funded by the Centre for Enquiry Based Learning with the Sustainable Consumption Institute. This chapter draws from and summarises this ongoing curriculum development.

3. How can these educational experiences be effectively organized?
4. How can we determine whether these purposes are being attained?" (re-published in 2004, 51).

The term curriculum thus combines the idea of learning content *and* learning process.

Key points 1 Origins of the RoundView

- **The RoundView provides a science-based positive vision of sustainability**
- **Aim was to develop an accessible and engaging way to learn about sustainability**
- **Key influences and starting points were The Natural Step, Industrial Ecology and Cradle-to-Cradle (industrial design)**
- **Developed in an open source manner, drawing from earlier open source work by the Principal Investigator**
- **Aim is to develop a global commons of learning resources to promote shared understanding and communication about sustainability**

3.2 Development of Learning Content

This section introduces key ideas in the RoundView curriculum and sets them in the framework of their earlier development and key literature. This is not a comprehensive listing of the learning content, but rather an overview. The implications and possible value of these concepts are returned to in Chapter 7 'Conclusions and considerations'.

3.2.1 Definition of Sustainability

The RoundView begins with a simple working definition of sustainability:

> *"All people thriving, now and into the future."*

The core concepts are thus: this is about *people*; this is about *all* people; this is about more than mere survival; this is about present *and future* generations. This places people firmly at the centre of a definition of sustainability, recognising:

> *"Nature itself is beyond human threat. If the Earth is one day devastated then the processes of physical destruction and recovery will follow such natural laws, both those known by humans and those not... In this context 'conserving Nature' makes little if any sense." (Gough and Scott 2003a, 4)*

This insight from Gough and Scott provides a backdrop to the RoundView framing of sustainability, which is clearly about people; about meeting our needs and living well in ways that enrich, rather than harm, the greater systems of which we are a part. This is not, however, at the expense of other people—the RoundView is explicitly concerned with global and local 'equity', in the tradition of the well-known Brundtland concept of meeting human needs now and in the future (World Commission on Environment and Development 1987). The social aspect of the RoundView is concerned with creating a future *worth* working towards, in the broadest sense. Detailed discussions about justice and rights have to be worked out in cultural contexts, the Guidelines focus on the global picture and develop a concept of a broad direction to move towards.

3.2.2 Whole-system approach

From this starting point, the RoundView seeks to provide an enabling structure that exists to help people, organisations or societies to answer the difficult questions around how to move towards sustainability, recognising that:

> *"Without first defining a future "landing place" on the systems level, reaching sustainability is an unlikely outcome of any effort." (Robèrt 2000, 201)*

The RoundView accepts the notion that there is a non-negotiable ecological/systemic reality that is the vital context in which social actions take place. There is no other arena for life than the Earth (as far as we know at the moment). This does not mean that people cannot and do not construct their own meanings from the world, but that "*for all the social construction of reality, the laws which govern such biogeophysical processes are not negotiable by humans*" (Gough and Scott 2003a, 4).

The Natural Step framework aims to create a shared mental model of sustainability. Making use of the considerable rigour and peer review that informed this process, the RoundView presents a clear description of what humans are doing that is systemically unsustainable, given the ecological and physical conditions required for complex organisms, such as humans, to survive. In the RoundView vocabulary these ways of being systemically unsustainable are referred to as the 'Misguided Lines[9]', and will be described in more detail later in this overview.

Drawing on the Natural Step, the RoundView Guidelines are at the level of scale of the whole earth, the largest system upon which our activities have an impact, to allow us to consider overall sustainability at the level of the whole system. They are firmly rooted in a basic, and commonly agreed upon, understanding of the basic science of the Earth's cycles. This understanding is in turn based on the core scientific principles of the Natural Step, which were developed and tested in a wide-scale dialogue process amongst leading international scientists. The starting point for this work was to work out what could be agreed upon about the way the earth worked (the basic science), rather than focusing on the areas of disagreement (Robèrt et al. 1997). The Natural Step System Conditions have been agreed as both valid and useful in extensive rounds of dialogue amongst leading scientists and practitioners in Sweden, and subsequently in many of the countries in which TNS has been licensed (with large scale processes of review and dialogue in particular in the USA and, UK) (Wingspread 1997; Nattrass and Altomare 1999; Robèrt 2000).

3.2.3 The Story of the Earth

The Story of the Earth in the RoundView Curriculum sets out in a clear and accessible way[10] basic principles of how the various components of the Earth's eco-cycle[11] function,

[9] Thanks to Maureen Martin (PP4SD), who was a member of the Expert Advisory group on the Sustainability Skills project, for suggesting the name Misguided Lines.

[10] Thanks are due to Prof. Stephen Martin (PP4SD), also on Expert Advisory group on the Sustainability Skills project. He encouraged the Principal Investigator to think of turning the basic science principles underlying The Natural Step framework into a story of the earth, as being more accessible and memorable for the type of training we were undertaking.

in essence a description of a sustainable system, which has developed value over time in a way that has continued for millions of years. The key points of the Story of the Earth are summarised below:

- We are looking at the Earth as a whole, since in the big picture, **this is all we have.**
- Scientists estimate the Earth as approximately 4.5 billion years old.
- It weighs the same today as when it was first formed. A few meteorites have been added, and a few rockets leave. In other words, **nothing disappears.**
- The Earth is **bathed in light from the sun.** It gives off heat, even if we cannot see that.
- All living creatures rely on **plants' ability to take sunlight and turn it into food.** Without this photosynthesis, we would 'eat the cupboards bare' and they would not get refilled.
- What we (and all animals) do is eat and make 'waste'. Luckily for us, decomposers, like worms, bacteria and insects eat our 'wastes' and break them down into useful stuff for the plants to turn back into food. The **decomposers close the loop** for us.
- This is a **system based on cycling**, driven by the plants' ability to recharge the system from sunlight. It is sustainable. It has sustained on the Earth for millions of years and can continue to sustain it for many millions of years in the future.

3.2.4 Need for a Change in Direction

This story provides us with an understanding of a sustainable system. In the book 'Cradle-to-Cradle', McDonough and Braungart (2002) make a clear distinction between many current environmental improvements, which simply slow the damage caused by human activities, and a re-design of the system so that human activities are not inherently damaging to the eco-cycle, or to humans, in the first place. In their words; *'Less Bad is No Good'* (McDonough and Braungart 2002).

Within the RoundView curriculum this idea is taken as another core building block—the need to look beyond the (admittedly urgent and important) task of reducing the harmful impacts of human society on the eco-cycle and ourselves, towards establishing practices that are, in fact, 'good' (healthy, healing, restorative, beneficial). Thus, the simple yet profound metaphor of a 'Change in Direction' is elucidated. Put plainly, destroying the world more slowly is not a recipe for long-term success. Hardin Tibbs (1993, 7), an influential thinker in the field of Industrial Ecology stated the case for optimism in terms of human's ability to fit within the eco-cycle in a paper for the Global Business Network: *"With appropriate design, industrial activities can be brought into balance with nature, and industrial growth with low environmental impact is possible."*

Recalling Donella Meadows's call for a motivating, positive vision to inspire and guide our efforts towards sustainability, these ideas are brought together to form two contributions made by the RoundView:

First, an attempt is made to articulate a set of conditions that describe a logical, coherent 'opposite' to the conditions of unsustainability elucidated previously (which draw on The

[11] Eco-cycle refers to the bio-geo-chemical flows of materials through the atmosphere, hydrosphere, biosphere and land on a planetary scale, in short: the arena of life.

Natural Step system conditions). Mindful of the need to 'change direction'—what can we say about the direction we need to move towards? Can this be presented in contrast to the clear representation of the direction we need to turn away from? Viewed as a work-in-progress, a provisional set of answers to these questions is offered. They have already evolved through many rounds of discussion and critique from course participants, expert advisors and research associates. These are referred to as the RoundView Guidelines for Sustainability. They are set directly in contrast to the Misguided Lines (see the Section 3.2.6 'Guidelines for Sustainability' below on pg. 45).

Second, the question arises as to how best explain and present the idea of the need for a change in direction. A simple four stage model is developed that captures the essence of the ideas in an accessible way.

3.2.5 Four Stage Model of Transformation Towards Sustainable Practices

We start with:

'Business as Usual'. This is unsustainable activity. We progress to:

'Slowing the Damage'. This is eco-efficiency and reduces unsustainable activity. A good proportion of current 'going green' activities, energy reduction, etc. fall into this category. Next we consider:

'**Changing Direction'**. This is forward-looking decision making that creates the possibility of sustainable activity. Eventually (it is hoped) we arrive at a stage of:

'Sustainable Practices'. This is actual sustainable activity, and will require not just that any one organisation has practices that can be fully sustainable, but also that there are wider systems in place that enable this, such as alternative transport systems or mechanisms for large-scale composting of biodegradable waste.

Note that the stages are conceived as movements or changes rather than fixed conditions or states. Munasinghe (2007) has called for us to '*make development more sustainable*', recognising the urgent need to move in a more sustainable direction. The four stage model of transformation implies a focus on trajectories, rather than just targets, which may well measure change but not inform direction. The ecological economist, Daly (2007, 75) talks of navigating towards sustainability: *"As a north star, we may occasionally check our course by the principle that if we are reducing the capacity of the Earth to support life, then we are going the wrong way."*

Considerable time and energy can be spent on ascertaining whether targets have been met, without necessarily questioning whether they are measuring change in the desired direction. This problem is recognised in the planning literature, with a target-oriented approach described as *"colonisation… by the requirement that essential processes are undertaken in auditable ways… [which has tended to] over hasty measurement of the wrong things"* (Taylor 2000, 1024 - 1025).

The value of looking at directions rather than only measuring targets is discussed in a paper comparing top-down and bottom-up sustainability indicators (in the context of community planning):

> *"A community's goal may not always be to reach a defined target; it may be simply to move in a particular direction. An alternative to setting targets is, therefore, to establish baselines. In this way, it is possible to use sustainability indicators to determine the direction of change in relation to a reference condition. Targets may take longer to reach than anticipated, but this kind of approach values progress rather than simply assessing whether a target has been reached or missed" (Reed, Fraser, and Dougill 2006, 410).*

This section has established the core framework of the RoundView: its definition of sustainability; its grounding in a scientific understanding of the Earth's eco-cycle and unsustainability; the central metaphor of 'Changing Direction'; a provisional articulation of the characteristics of a more sustainable direction; and a simple model for presenting these. The next section describes the RoundView Guidelines.

3.2.6 Guidelines for Sustainability

Munasinghe (2010, 6) has highlighted the key importance of transdisciplinary analysis for achieving sustainable consumption and production, saying it *"will help producers find innovative solutions that cut across conventional disciplines".* The RoundView curriculum includes a simple set of Guidelines, which can act as a shared language to encourage and facilitate better communication, sharing of ideas and transdisciplinary analysis. These Guidelines are grounded in the Natural Step System Conditions. McDonough and Braungart's 'Cradle-to-Cradle' thinking was inspirational in both recognising the need, and possibility, of a positive formulation of whole-systems principles of sustainability. Industrial ecology principles were instrumental in clarifying the nature of the positive Guidelines of the RoundView.

The Natural Step framework was developed from asking what was it society was doing within the Earth's system to be unsustainable. By asking the question—what are we doing, in a system based on cycling and driven by the sun's energy, to disrupt the cycle?—the Natural Step was able to elucidate four non-overlapping system conditions that describe the root causes of unsustainability. Shown below are The Natural Step system conditions, followed by the RoundView Guidelines and Misguided Lines, which have built on this clear systems-based model.

The Natural Step System Conditions

"To become a sustainable society we must...

1. eliminate our contribution to the progressive build-up of substances extracted from the Earth's crust (for example, heavy metals and fossil fuels);

2. eliminate our contribution to the progressive build up of chemicals and compounds produced by society (for example, dioxins, PCBs, and DDT);

3. eliminate our contribution to the progressive physical degradation and destruction of nature and natural processes (for example, over-harvesting forests and paving over critical wildlife habitat);

4. eliminate our contribution to conditions that undermine people's capacity to meet their basic human needs (for example, unsafe working conditions and not enough pay to live on)" (The Natural Step 2009).

In an article comparing several different sustainability tools and processes, including ISO 14001, Life Cycle Assessment (LCA), Ecological Footprinting, Factor 4 , Factor 10, Sustainable Technology Development, Zero Emissions, Natural Capitalism and The Natural Step Framework, world-leading thinkers (and originators of several of these processes) developed a framework for understanding the relationships and possible synergies between them. They conclude: *"by integrating a systems perspective with clear objectives based on sound principles [provided by The Natural Step's System Conditions], specific decisions, actions and outcomes have been linked to the overall goal of sustainability"* (Robèrt et al. 2002, 213)(Robèrt 2000, 213). Thus The Natural Step provides a framework within which other sustainability processes and tools can be orientated.

In the two round of SCI action research the four system conditions of the Natural Step were developed into a set of Misguided lines (describing what we are doing 'wrong' in simple terms, based on the understanding of the Natural Step system conditions) and four related *positive* Guidelines, describing what we need to do in order to be sustainable (according to our best current understanding). These became known as The RoundView Guidelines, and are shown in Table 3.

Table 3 The RoundView Guidelines and Misguided Lines

The RoundView Misguided Lines	**RoundView Guidelines for Sustainability**
In an unsustainable society, we systematically:	In a sustainable society, we systematically:
Overwhelm the eco-cycle	**Balance** the eco-cycle
Poison ecosystems and ourselves (with 'un-cyclables')	**Keep it in the** technical **loop** - Anything that is not 'composted' is 'kept in the technical loop'
Destroy and degrade ecosystems (physically)	**Restore and maintain** resilient ecosystems
Undermine people's capacity to meet their needs sustainably, worldwide	**Increase people's capacity** to meet all of their needs sustainably, worldwide

Figure 6 Image depicting all four RoundView Misguided Lines

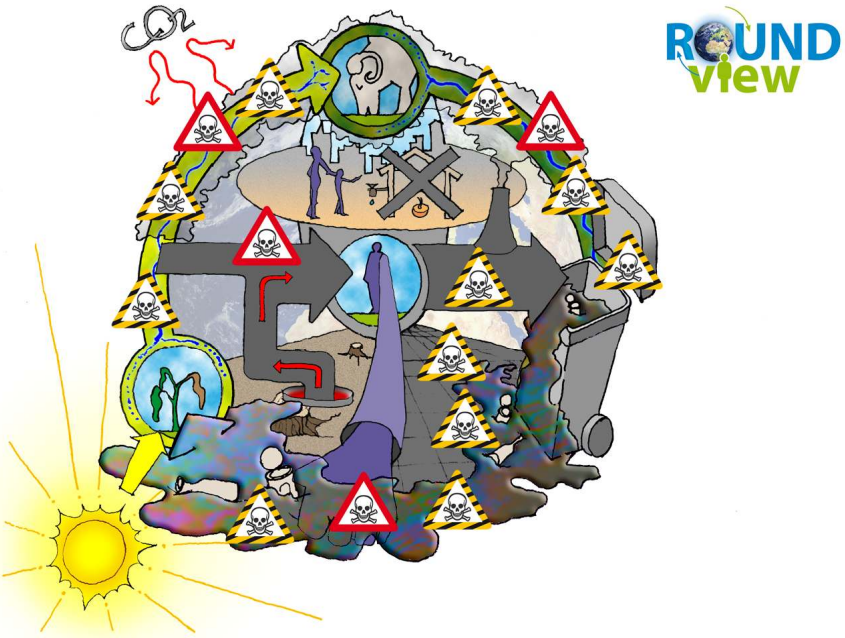
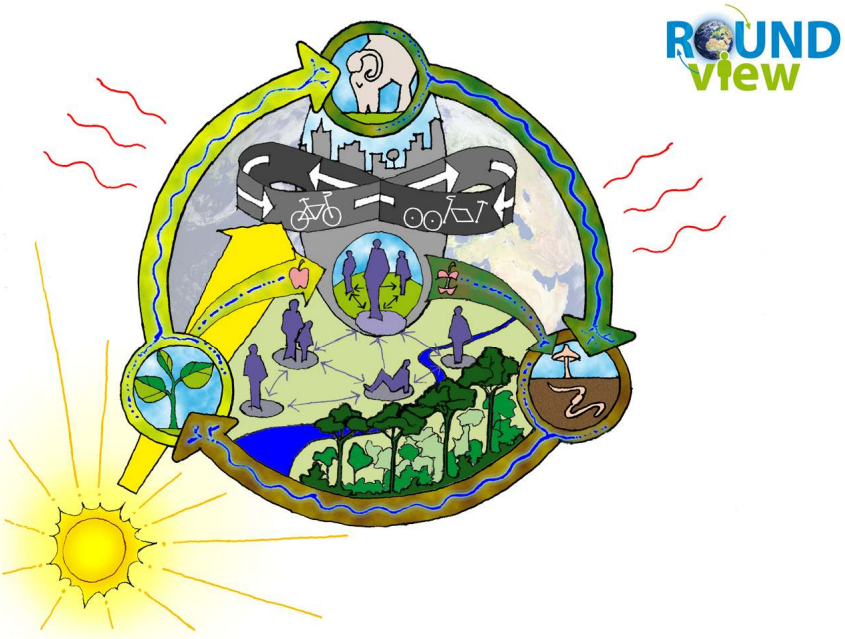


Figure 7 Image depicting all four RoundView Guidelines



The four RoundView Guidelines are intended to be simple and accessible. Considerable effort in their development has focused on the refinement and clarity of their wording, to make them able to be communicated in a wide range of contexts and to act as a shared language for collaboration.

Table 4 below shows and describes the four Guidelines and the four Misguided lines in more depth[12].

The first two Misguided lines are reformulations of the first two system conditions of The Natural Step[13], to attempt to improve accessibility, whilst maintaining the robustness of the links between the Guidelines and the underlying scientific principles. They focus more on the mechanism of harm than on the source of the materials, which is the way the Natural Step System conditions are conceptualised.

The design principles from Cradle-to-Cradle informed the development of the positive Guidelines of the RoundView, particularly the Guideline "Keep it in the technical loop".

Two versions of the positive reformulation of the Misguided lines were tested in the action research and through significant dialogue with the Champions in particular. In the subsequent analysis, the researchers considered the inter-relations between all of the Guidelines as an integrated system, in particular the mapping of the relationship between each Misguided line and its related positive Guideline. This led to the current formulation.

In the write up of this report, the researchers went back to the literature to re-test this formulation. The first two positive Guidelines map very closely to two of the core considerations for Industrial Ecology[14], as they were set out by Tibbs (1993, 11) in his influential paper *'Industrial Ecology: an Environmental Agenda for Business'*: 'Balance the eco-cycle' in the RoundView is very close to 'Balancing industrial input and output to natural ecosystem capacity', and 'Keep it in the technical loop' relates very closely to 'The creation of industrial ecosystems'–including understanding the difference between *biological* and *technical* 'nutrients'[15]. The inter-relations between these frameworks will be explored in more depth in forthcoming papers.

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[12] A detailed exposition of the way that The Natural Step System Conditions relate to the RoundView Guidelines is not developed here, further detail on this relationship will be written up in subsequent papers and made available as part of the development of RoundView Online.

[13] The terms Overwhelm and Poison were used by PP4SD to denote the first and second System Conditions of the Natural Step (in an expert advisory group meeting during the Sustainability Skills project PP4SD presented slides for discussion that included these terms). In the RoundView they are reformulated to correspond to the mechanism of harm to the eco-cycle, focusing on why they are a problem not how. In the original Natural Step teaching, each system condition has a quality and quantity aspect. In the RoundView these quality and quantity aspects are more central to the way the Guidelines are conceptualised; they are separated out into 'Overwhelm' (too much of substances that are not inherently toxic to the eco-cycle by their nature, such as CO2 or SOx) and 'Poison' (substances which do not 'belong' in the eco-cycle, and by their nature are likely to cause harm even in small quantities (such as DDT, PCB, phalates, mercury and cadmium).

[14] The six considerations for Industrial Ecology were formulated in this 1993 paper as:

1: The creation of industrial ecosystems

2: Balancing industrial input and output to natural ecosystem capacity

3: Dematerialization of industrial output

4: Improving the metabolic pathways of industrial processes and materials use

5: Systemic patterns of energy use

6: Policy alignment with a long-term perspective of industrial system evolution

[15] Note that the technical loop may include materials that could be assimilated into the eco-cycle, but which can be utilised again and again. The key distinction here is that if it does not 'belong' in the eco-cycle, it needs to be *kept* in the technical loop.

Table 4 The RoundView Guidelines in more depth

The RoundView Misguided Lines	RoundView Guidelines	Commentary
Overwhelm the eco-cycle	**Balance** the eco-cycle	This Guideline requires us to balance the flows of resources we use with ecosystems' capacity to assimilate them, so that substances that overwhelm the system do not systemically build up on a global level. This refers to substances that *could* cycle within the eco-cycle, i.e. be broken down and re-assimilated into new structures, but which are not fully assimilated into the cycle due to the sheer quantity produced. Examples of these substances are carbon, phosphorous and nitrogen.
Poison ecosystems and ourselves (with 'un-cyclables')	**Keep it in the** technical **loop** - Anything that is not 'composted' is 'kept in the technical loop'	This Guideline refers to 'un-cyclables': those substances which cannot be easily cycled within the eco-cycle (i.e. broken down into materials that can be readily re-assimilated) due to either their chemical nature (persistent synthetic compounds) or their rarity in the eco-cycle (such as heavy metals) and thus their *likely* eco-toxicity. The injunction is to 'keep them in the (technical) loop' – if we use them, we must ensure that they can be re-used (cycled) again and again, are kept in the technical loop, and are not 'down-cycled' in quality (such as the re-use of carpet tiles into park benches, a lower material quality). If such materials are 'down-cycled', they will eventually end up being 'thrown away' as they lose value and are not able to be used again. They will not break down and be re-used by the ecosystems, and as matter cannot disappear, they will accumulate in the ecosystem and are thus likely to eventually cause problems.
Destroy and degrade ecosystems (physically)	**Restore and maintain** resilient ecosystems	As ecosystems are the only providers of net total system value (the food we eat, the clean water we drink, and the concentrated materials that we use to make our settlements and products) there is an imperative to maintain these dynamic engines of quality provision. As there has been such significant destruction of key ecosystems as to already negatively impact upon human well being and the provision of ecosystem services to the economy (Millennium Ecosystem Assessment 2005b), this Guideline includes an injunction to restore *resilient* ecosystems.
Undermine people's capacity to meet their needs sustainably, worldwide	**Increase people's capacity** to meet all of their needs sustainably, worldwide	By focussing the discussion about people's *capacity* to meet their needs, as opposed to the meeting the needs, this Guideline opens up the space to talk about the boundaries of the systems that we are part of and our concomitant ability to act within these systems. For all of the people that we have an impact on, there is an injunction to increase their *capacity* to meet their needs, so that the ways of meeting these needs can be synergistically suited to different contexts, rather than providing a 'one size fits all' prescription for how to meet those needs.

If these Guidelines were met, we would be engaging in sustainable practice and moving towards a sustainable society. Like the Natural Step System Conditions from which they have been developed, we have endeavoured to ensure they are non-overlapping and sufficient to describe a state of sustainability. To be sustainable '*all'* you have to do is fully align your activities or the activities of your organisation with these Guidelines. The Guidelines are designed to be simple and accessible, and to act as a useful overview for decision making. The value of heuristics or simple 'rules of thumb' for setting strategic direction to complement the gathering of detailed data is discussed in a comprehensive overview of cognitive dimensions of shifts to sustainability:

> *"When firms start to integrate environmental concerns into their standard procedures, they do not need perfect knowledge on environmental constraints and impacts in relation to their activities. Rather they need simple heuristics that are able to increase their overall environmental performance."* *(Bleischwitz 2003, 452)*

More data does not necessarily enable new knowledge creation and innovation. So, less may be more when the goal is a systemic change of direction (rather than a measure of targets without necessarily questioning the underlying direction). Is straightforward guidance possibly more helpful than increasing quantities of data when the aim is innovation in sustainable practice?

The RoundView Guidelines describe conditions for a systemically sustainable system, and as such can help create a common language for understanding the nature of sustainability. Whilst these positive Guidelines set the conditions for sustainability, there is tremendous opportunity for creativity within them. There are nearly infinite ways that we could go about designing human activity to fit within these Guidelines. The possibility of creativity *within* ecological limits is recognised by Waage (2003, 12): *"Efforts to work with the ecological and social dynamics of vibrancy and resilience offer a new space for innovation."*

3.2.7 Backcasting process of planning for a sustainable future

Backcasting is a process of developing a plan and making decisions informed by a vision for the future, it is inherently normative (developing ideas of what should be, not just what might be or what is). As Robinson (the person who coined the term) says, *"the major distinguishing characteristic of backcasting is a concern with how desirable futures can be attained. It involves working backwards from a particular desired future end-point or set of goals to the present"* (Robinson 2003, 842).

This contracts with forecasting, which asks the questions – what are the current trends, and how might these be realised in the future? Backcasting is a suitable methodology for situations when (adapted from Dreborg 1996):

- the problems under study are complex;
- there is a need for a major change;
- dominant trends are part of the problem;
- the problem consists of or is affected by externalities, or factors with which the market cannot adequately deal;
- there is a long enough time horizon to allow for deliberate choice.

Backcasting is seen as central to the Natural Step, and is built into their model for applying the system conditions to a particular organisation. The nature of understanding what sustainability means is seen as key to successful future visioning:

> *"To have a clear view of the goal is a prerequisite for applying the term "strategy". In very complex systems, like the ecosphere with its societies, this can be a difficult task. For complex objectives, like achieving sustainability, it is even more difficult. However, if the goal is not described on the detailed level, but more generally, albeit completely, by a framework of principles, it is possible and highly advisable to achieve overall comprehension of the objectives, and to generate a strategically defined direction to the planning process." (Robèrt 2000, 212)*

Within the RoundView, backcasting is used as a way to work with—to operationalise—the four stage model of transformation described previously.

The RoundView curriculum has considered both the *content* and the *process* of learning—how to bring this content to life and enable learners to engage with it in a meaningful way. The following section moves to another part of the story, the learning process.

Key points 2 Development of Learning Content

- **RoundView's definition of sustainability - "All people thriving, now and into the future"**
- **Human activity is reliant on natural systems**
- **The RoundView Guidelines draw from our best understanding of how these natural systems work**
- **This builds on the considerable scientific dialogue instigated by The Natural Step over the last three decades**
- **The Natural Step built upon clear scientific principles to describe four basic ways in which we are being unsustainable, providing a systems view of sustainability**
- **The RoundView Guidelines took this and developed a positive description of what we would need to do in order to be moving in the direction of sustainability**
- **Destroying the world more slowly is not a recipe for long-term success – we need to change direction**
- **The Four Stage Model of Transformation clearly sets out our current trajectory and the change in direction that is needed to move to fully sustainable practice**
- **Determining trajectory can be more meaningful than only measuring targets – are we going in the right direction?**
- **Backcasting from a vision in which the Guidelines are met supports strategic decision making and planning**
- **There is enormous potential for creativity within the conditions of sustainability as set by the Guidelines**
- **To be sustainable '*all*' we have to do is fully align activities within these Guidelines – a simple guide for strategic decision making**

3.3 Development of the Learning Process

Key influences on the RoundView learning process are outlined in this section. The learning process is explored in more depth in the analysis of the learning intervention below in the Section 'Analysis of the 4A framework used in the curriculum design' on pg.73 and in the subsequent section introducing the new SHAPE framework.

The RoundView Guidelines can be seen as providing some clear 'rules of the game' for action towards sustainable practice. Part of the learning process is showing how these can be applied through systemic analysis. There is, however, a high degree of uncertainty as to what these Guidelines imply in any particular context, as these implications have to be explored and developed *in* that context. This is an ongoing process, it is not simply that the implications of the Guidelines have not yet been worked out; they need to be consistently re-worked *in situ* over time. They are simple in and of themselves, but their implications are profound and far reaching.

Learning these new skills opens up the possibility for tremendous innovation within an organisation. To make the most of this opportunity, analytical and design skills are essential. The learning processes of the RoundView are intended to allow participants the opportunity to learn new skills and apply their new thinking to their individual contexts, through the exercises and dialogue process of the course.

Several of the skills learned related to sustainability have broader economic value, in particular that of innovation and working as a team to explore and examine working practices critically. As the literature exploring new approaches to British Education for the 21st Century comments: *"creative capacity is an observable and valuable component of social and economic enterprise"* (McWilliam and Haukka 2008, 652).

In their seminal book, 'Philosophy in the Flesh', cognitive scientist Lakoff and linguist Johnson state (1999, 3):

> *"The mind is inherently embodied.*
>
> *Thought is mostly unconscious.*
>
> *Abstract concepts are largely metaphorical."*

Recent work in cognitive science has demonstrated the neurological pathways and biological connections that support our metaphorical reasoning are "*the result of biological evolution, embodied in neural and bodily mechanisms*" (Antal and Hukkinen 2010, 937). We think in metaphors, constructed from basic bodily movements and experiences, which are then linked through neurological connections to abstract concepts in our brains. The concept of 'embodied realism' implies that our mental constructs develop through bodily experiences. In turn, the structure of the environment can have a profound impact on mental development. The concept of *'pedagogy of place'* elucidated by Orr (1994) suggests that we need ecosystems, not just for health, but also for mental development. This suggests that we need to embody and reflect ecosystems in human settlements.

These advances in appreciating the bio-neurology of learning have influenced the learning approach and choice of learning tools in the RoundView. In this research tools have been developed to encourage deep learning, which support people applying the ideas to their

own domains. These tools are hands-on, highly visual, and are made cognitively resonant by embedding systemic and connective metaphors into the tools themselves. Antal and Hukkinen (2010, 941) discuss the need to reinforce the connections between people and ecosystems in order to inspire action:

> *"The belief node – the conceptual blend – establishing the direct connection between individual safety and system survival has to be simple, unambiguous, and credible. Obviously, there is little room for absolute injunctions in our scientifically enlightened culture. However, we argue that the ever more frightening environmental outcomes of the globalized consumer society could make the statement "We have to save our civilization" acceptable for many… This statement can function as a shortcut between socio-ecological safety and environmental behavior in belief systems. Since mental representations like the one we propose here are physically present in our brains (Lakoff and Johnson 1999), the proposal to save the civilization needs to be reinforced by repeating the statement and its underlying values across a wide range of issue areas."*

Each aspect of the learning content of the RoundView has a hands-on or visual learning tool associated with it. This approach has been influenced by Gardner's (2003, 4) theory of multiple intelligences, which draws on his assertion that *"humans possess a range of capacities and potentials"*. Gardner (2001, online) suggests that deliberately incorporating multiple intelligences into learning approaches means that lessons are *"much more likely to remain with us, embedded in our neural networks, and to be usable in flexible and innovative ways"*. The learning process of the RoundView includes visual, aural and kinaesthetic (or hands-on) learning.

The development of hands-on tools for each major component of the learning content has also drawn on the precept of activity theory; *"conscious learning emerges from activity (performance), not as a precursor to it"* (Jonassen and Rohrer-Murphy 1999, 62). There is a distinction between learning *whilst* doing and learning *before* doing. Much conventional training and formal education relies upon the latter: 'acquire in the classroom, apply on the job.' For many procedural shifts in work practice and minor corporate incremental changes, this can be sufficient.

Yet in learning sustainability practice, the level of complexity is higher. The need to develop new *'belief nodes'* (Antal and Hukkinen, (2010, 941) for joining up one's values with one's action requires learning of a deeper order. The design of RoundView learning activities, therefore, deliberately takes more account of the interplay and integrative connections amongst active engagement, reflective understanding and refined performance. Activity underpins each of the major building blocks of the RoundView learning content; learning is to become embodied not just within consciousness but embedded in practice as well. Such embedding can lead to more resilience in organisations:

> "The ability to self-organize is the strongest form of system resilience, the ability to survive change by changing" *(Meadows 1997 online).*

A challenge of the 21st Century is that we are awash in information. A major role of the educator is thus helping people develop the skills of critical reflection and synthesis to

differentiate and make sense of this information, and to become adaptable in transferring it within unfamiliar contexts. The RoundView core ideas and tools are only useful in as much as they are understood and applied in a context to achieve real change. New thinking and new adaptations of the thinking are what will help embed sustainability practice in the 'DNA' of an organisation, as people continue to learn about the ideas by testing and developing them within own contexts. The RoundView curriculum links together both content and a process for learning, applying science-based sustainability ideas as an integrated whole. The core elements of the RoundView process and a new framework that has emerged in this round of research are analysed in more detail later in chapter 4, 'Assessment of the Second Round of Learning Initiatives'.

Key points 3 Development of the Learning Process

- **RoundView learning process influenced by new understandings of how we think, developed in cognitive science**
- **Hands-on tools encourage deep learning and allow participants to apply the new learning to their own contexts**
- **Process designed to make the use of multiple intelligences**
- **Activity based learning encourages learning while doing**
- **RoundView curriculum links together both content and a process for learning, applying science-based sustainability ideas as an integrated whole**

3.4 Summary of interviews with participants from the first RoundView pilot learning initiative (six months later)

The previous section outlined the core concepts behind the Roundview curriculum. This section summarises feedback from the interviews conducted with participants from the first round of training of the RoundView in Head Offices (Sustainability Skills project), six months after that training. This can be seen as a supplement to the initial in-depth analysis of the first RoundView learning pilot, which was developed in the report for the Sustainability Skills project. This provides a further level of analysis of the effects of this learning design. It also provided new ideas for improving and enhancing the RoundView curriculum following the first round of action research, which were then tested in this round of action research.

All five of the interviewees commented that the course had changed their understanding of sustainability, with one interviewee noting that the timeline (of the story of the Earth) in particular had a strong impact on her, because it caused her to think about the *'grand scheme of things'*. The course as a whole helped her realise that she *'can have an impact and try to do more.'* Another interviewee felt that the course had helped to *"put lots of different strands together in the whole…It explained in my mind the inputs and outputs and how the system worked together, and where we are fitting in."*

A further interviewee said that she *had* been sceptical about environmental issues, presenting herself as having been *'one of those people that thinks it is humans first, before the environment'*. The course had caused her to reconsider this scepticism, and in the interview she demonstrated a questioning attitude, discussing her thinking on the relative merits of canvas versus plastic bags. The media had been her main source of information about environmental issues before this course. She was sufficiently motivated to raise sustainability issues with her manager after the course.

Indeed, all of the interviewees expressed an increase in motivation to make changes. They mentioned making changes in their personal lives, feeling they had a deeper engagement with sustainability issues. One interviewee had started using the Tesco shuttle bus instead of driving between the two Head Offices, one had always tended to recycle but had become more diligent about it, and another had started to buy loose products, to avoid unnecessary packaging. One had made a more conscious effort to separate her recycling and had stopped buying lunch, bringing packed lunches instead.

A consistent theme, however, was frustration with the lack of ability to make changes in their working practices, due to lack of agency and opportunity. Several of the interviewees expressed that it was not clear to them what they could do in the workplace. For example, a merchandise planner felt that:

"… we don't really have an opportunity to be that impactful at work. In terms of us sitting around doing our job we have got a paper bin, a plastic bin we have got can bins and people have been kind of using that but besides that… there isn't very much going on in the office to encourage it."

In particular, this member of staff referred to their lack of influence over the packaging of products, a key impact of her work area. To another, this lack of direct relevance to their job was unexpected, and she discussed the difficulty of spending time on such sustainability learning within her work role:

"My expectations were for me to take something out that I could fit into immediate practice with regard to my role... In terms of any schedule it felt difficult for me to [get] out of what I was doing… because there was no immediate benefit that I could then take back to the business."

Another consistent theme to emerge was the need for senior management to be on-board for real action to take place. One interviewee showed both commitment to change and the need for senior management involvement in this comment: *"The real change is if I can influence senior management and some next steps as to what we can do as a department."*

Several of these issues are returned to in the discussion on the organisational context in Section 6 'Scaling-up Sustainability learning' below. The following section details the changes made to the RoundView Curriculum in the early stages of the scaling-up action research project.

Key points 4 Summary of interviews with participants from the first RoundView pilot learning initiative (six months later)

- **All interviewees reported a greater understanding of sustainability**
- **Consistent increase in motivation for change and sustainable behaviour was reported**
- **General sense of frustration with perceived inability to make changes**
- **Need for senior management to be on-board for significant change to be possible**

3.5 Changes to the RoundView Curriculum

The RoundView curriculum was revised in response to the analysis and findings from the first round of action research (in the Sustainability Skills project), and was informed by the issues identified during the early round of data gathering (interviews and focus groups) in the Scaling-up project.

The changes to the learning content, tools and course structure of the RoundView learning initiative between Sustainability Skills and Scaling-up research projects are discussed below. These changes arose in response to two imperatives:

- to make the learning content clearer, more memorable and more able to be spread widely, based on feedback and analysis of the first round of research, and
- to adapt aspects of the language, learning process and programme to make the course more able to be spread both generally in a large organisation and specifically within Tesco.

Assessment of the impact of these changes, from the review of this round of action research, is detailed in the Section 'initiatives' on pg.66.

3.5.1 Increased clarity around, and focus on, change in direction

A key change between the first iteration of the learning initiative and this second round of action research was developing our understanding of the RoundView Four Stage Model of Transformation to Sustainable Practices (pg. 44). This included clarification of the concept of 'Changing Direction', away from 'Slowing the Damage' and towards 'Fully Sustainable Practices'. There were also parallel developments in how to teach this concept. In the initial training, this had been conceived as a three stage model. In the new teaching, however, it was re-cast as a four stage model, adding in a stage of 'Changing Direction' to complement that of 'Fully Sustainable Practices'. This enabled clearer teaching around the need for a change of direction and the value of designing artefacts and processes such that they *could* be fully sustainable *once the larger system supports that*, for example through provision of different fuel sources, changes in transport infrastructure or the ability to re-use technical nutrients in industrial processes.

3.5.2 An additional Guideline: Balance the eco-cycle

In the first round of training, there were four negative Guidelines and three positive Guidelines. This was seen as confusing. In the second round, one of the positive Guidelines (Cycle everything) was clarified and re-cast into two Guidelines (Live off solar income and Cycle everything). The Guidelines were further refined in the second round of action research and through dialogue with the Champions. The wording of all of the Guidelines has been refined and clarified through the process of the two rounds of action research and subsequent analysis. The current formulation (arrived at in the later stages of this research) of these two Guidelines is Balance the eco-cycle, and Keep it in the (technical) loop.

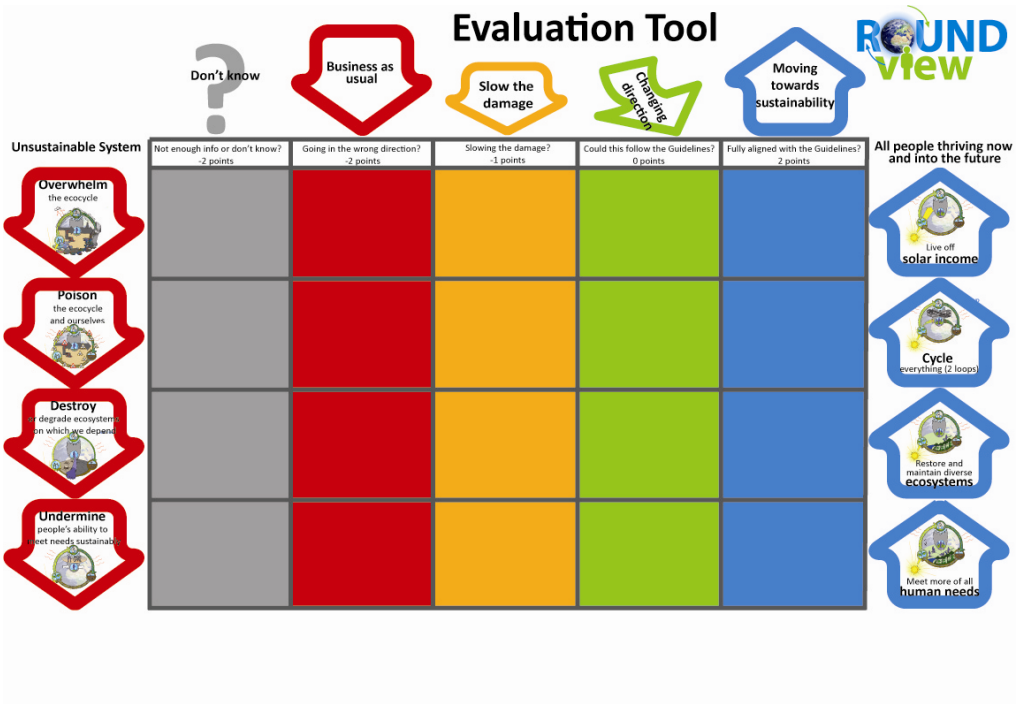
3.5.3 Developed ways to make the learning more directly related to people's roles

There was considerable discussion surrounding the need to make the training more directly relevant to employees' job roles in the feedback from the first round of training. In the second round, more time was made available to discuss what moves participants could make towards sustainable practice in the context of their job roles. This issue was given more prominence, introduced earlier and developed as a consistent strand throughout the course.

3.5.4 New learning tool: RoundView Sustainability Evaluation Tool

A new tool was developed for the second round of training: the RoundView Sustainability Evaluation Tool. This facilitates systematic and detailed assessment of a product, service, process, organisation or idea against the RoundView Guidelines. This tool provides a hands-on way for a small group of people to engage with the process, using a Ketso grid to physically move things around on a matrix, which represents the four stage model of transformation on one axis and the four Guidelines on the other. This tool could be extended to include Life Cycle Assessment[16], but its use within the RoundView to date has been on a more basic level, seeking to educate and inform about the Guidelines and the transformation model and enable an overall assessment to be made that considers each of the Guidelines.

Figure 8 RoundView Sustainability Evaluation Tool



This tool allows the element that is being evaluated to be considered from the perspective of each of the four Misguided Lines / Guidelines for Sustainability. These Guidelines are thus seen as a system—the element under consideration cannot be considered sustainable unless all four of the Guidelines have been taken into account. Without such a systemic analysis, narrowly focused investments in sustainability have the potential to actively cause problems in other areas. A classic example of this was the recent realisation that considering bio-fuels as the main answer for replacing carbon intensive fossil fuels (reducing Overwhelm) was creating serious problems in other dimensions of sustainability, namely reducing biodiversity (Destroy and degrade ecosystems) and food security (Undermining people's capacity to meet their needs).

[16] Life Cycle Assessment is a systematic set of procedures for compiling and examining the inputs and outputs of materials and energy and the associated environmental impacts directly attributable to the functioning of a product or service system throughout its life cycle (*ISO 14040.2 Draft: Life Cycle Assessment - Principles and Guidelines)*

For each of the Guidelines, the element under evaluation can be considered to be at one of four stages of the Model of Transformation towards sustainability ('Business as Usual', 'Slowing the Damage', 'Changing Direction', 'Fully Sustainable Practices'). To arrive at fully sustainable practice will often require changes in the wider system that is outside of the sphere of control of any one organisation. Thus, it is important to understand the stage of 'Changing Direction', where the element is designed such that it has the potential to be aligned with the Guidelines once the wider changes are made. The image below shows two participants in Stores using the Evaluation Tool.

Figure 9 Participants in Stores using the RoundView Evaluation Tool

A skill that would be seen as a core learning outcome of the RoundView process, following the development of this new tool, is the ability to assess products, processes and services against the RoundView Guidelines using this Evaluation Tool.

The tool was also designed to incorporate a commonly used metaphor within the Tesco culture, that of BRAG (Blue Red Amber Green) – a revised traffic light metaphor in which red stands for significant problem areas (business as usual), amber stands for areas to improve (slowing the damage), and green indicates successes (changing direction). Blue indicates areas of exceptionally good performance (in this tool used to signify fully sustainable practice). This metaphor was incorporated into the tools to help make the tools more compatible with Tesco language and culture. At the same time, it was seen as a more widely useful and accessible metaphor, as the concept of traffic lights is commonly understood – red for stop, amber for take care and green for go. This metaphor is used, for instance, in food labelling to show the relative health benefits and warnings for different foods. This would need wider testing for cultural compatibility (and consistency of message) in countries outside of the Western world. The use of the blue colour to signify fully sustainable practice is also appropriate outside of the Tesco context, as it could be seen as a metaphor for the blue earth, the whole system of which we are taking a 'round view'.

3.5.5 Framing the learning tools as aids for communication

Several participants commented in the first round of training that the tools used to introduce key concepts could be seen as a bit too 'primary school' and that people who were knowledgeable about sustainability might feel patronised by their simple visual nature. There is a fundamental paradox in this perception: it was a deliberate intention to make the tools and language accessible and easy to grasp by people at many levels and across different cultural backgrounds; however, this apparent simplicity belies the profound and significant nature of the concepts presented. The foundations of this approach are perhaps 'primary school' (in that the material is easily grasped and widely understood, in this respect this comment may be seen as a sign of success)—yet uncovering and responding to the implications is possibly the greatest challenge yet faced by society. The concepts are simple, the implications are profound. Meeting this challenge could be facilitated by a simple, shared language of sustainability.

In the second round of training, we had slightly different materials (printed felt rather than laminated plastic) and slightly revised images. These retained, however, their simple and colourful nature.

A more significant change was *how* the tools were introduced. To reduce any feeling in participants that they were being patronised, an addition was made to the early introductions to the course, requesting participants who had a good science knowledge base to consider two things whilst we were going through the training:

- for the material they already knew, to think of the significance of the ideas and re-examine why they might be important,
- to think how they could use these tools and ideas to communicate them to others (most people in this situation will have had some experience of how hard it is to communicate scientific and sustainability concepts to others).

This framing also helped introduce the idea that all participants will hopefully in some way act as agents for change and further spreading of the new ideas of sustainability throughout the organisation.

3.5.6 Adding elements of competition

An important aspect of Tesco's culture that emerged in the research was the emphasis on competition, which was seen as a helpful way to spur action and learning. Two learning processes which emphasised friendly competition between groups of learners were introduced in this second round.

The first was the addition of simple multiple choice quizzes. These tested people's knowledge on certain areas of the course, and allowed for comparison amongst participants as to their answers. The first quiz was integrated into the teaching of the Guidelines, so that the awareness-raising aspect of the more 'instructional' teaching was enlivened with a 'game' and further linked to participants' prior knowledge and understanding.

Several aspects of the hands-on learning were also framed as competitions, for example asking teams to put together a jigsaw puzzle of the Earth as a race, or to work out (using backcasting) what it would take to make a 'sustainable cup of tea' (whoever finished first got to go for a break first).

3.5.7 Change in the duration and number of sessions in Stores

Changes were made to the course structure to accommodate constraints on staff time. Meetings with the Tesco liaison team prior to commencement of the second round of action research revealed some pressure to reduce the duration of the course, especially in Stores. In the first round of training in Stores, the training was held over 6 sessions of one-hour duration. The hour long duration had been considered important to allow for ease of taking people away from the shop floor. In the second round, however, sessions of two-hour duration were trialled, and this did not raise adverse comments. The overall time spent was reduced, with 2 two-hour sessions the total of training in Stores. In Head Office, the duration of the sessions was kept at three hours, but there were only 2 sessions (the third review session in the first round of pilots, which had included elements of training, was dropped to reduce the overall length and number of sessions of the course).

3.5.8 Reducing emphasis on 'takeaway tasks' and allowing participants to choose the tasks

From the analysis of the Sustainability Skills pilots, the only element of the learning design that was consistently seen as 'not helpful' was the 'takeaway tasks' and forming action groups in-between sessions. This was largely due to the lack of time for participants to undertake these tasks in their normal working days. In the re-design, we made the takeaway tasks less intensive, and allowed participants themselves to decide what they would do, so it was more likely to fit in their work plan. In addition, we called these Next Steps, which was a suggestion to make them fit better with Tesco language.

3.6 Chapter Summary

This chapter has set out the evolution of the RoundView and the key components of the curriculum, describing its integrated approach to learning content and process. Analysis of participants' experience, six months on from the first pilot of the learning initiative, was then summarised. The eight key changes to the RoundView curriculum, which were instigated based on this analysis, were then explored.

During November 2009 a second round of RoundView training was carried out in both Stores and Head Office. This allowed for a further round of validation and testing the RoundView curriculum, and analysis of the effects of the changes made. It also enabled a process of drawing the tacit knowledge behind the learning process into focus, making it available for other trainers to learn from. The following chapter outlines the analysis of the second round of the learning initiative in Stores and Head Office.

4 Assessment of the Second Round of Learning Initiatives

This chapter focuses upon the sustainability training courses that were delivered in Stores and Head Office during this project—the second iteration of the RoundView Guidelines for Sustainability learning initiative. Considerable data were gathered from participants and reviewed for this assessment; feedback and evaluation forms from each session, researchers' notes from observations, video footage of group discussions during the course (which was later annotated in detailed spreadsheets), analysis of the ideas developed by the participants using the Ketso toolkit (which were later transcribed), additional follow up interviews and the focus groups with Champions before and after this second round of training.

Assessment of training has historically been seen as a problematic challenge (Hamblin 1974; Kirkpatrick 1976). In an assessment of a major multi-cultural training programme for tour guides, (a recent piece of research with some similarities to this scaling-up project as it also looked at a train-the-trainer approach), Weiler and Ham (2002) use Kirkpatrick's four-level hierarchy of outcomes to measure: trainees' reactions (level 1), trainees' learning (level 2), trainees' behaviour (level 3), and organisational results (level 4). The popular and simple (if not simplistic – cf Alliger and Janak 1994 discussion of 'Kirkpatrick's Levels of Training Criteria Thirty Years Later') four-levels-of-training-evaluation criteria model has proved helpful to thousands of trainers over the decades to pursue, locate and frame information which can illuminate the learning of the people whose development they enable.

Given the time limitations in this research project, a 6 month pilot in total, it was only possible to focus on the first three levels, and further data would need to be collected over a longer timescale to assess outcomes of organisational results. The data gathered and analysed so far, however, does allow a picture to be developed of the outcomes of this learning initiative for the first three levels of the hierarchy.

In the following section learners' reactions to, and reported outcomes from, this second iteration of the RoundView learning initiative are assessed (Levels 1 and 2, respectively, in the framework of evaluation of training). Level 3 (trainees' behaviour) has been touched upon above in the Section above, 'Summary of interviews with participants from the first RoundView pilot learning initiative (six months later)'. In the following section, a discussion of participants' experience of the Next Steps between the two pilots is also relevant to evaluation at Level 3.

A detailed analysis of the outcomes of the three original pilots of training in Sustainability Skills can be found in the report for that project (Tippett et al. 2009). The process of analysing learning outcomes is not repeated in the same depth here, given the focus in the current project on scaling-up and in support of this scaling-up, the ways in which the *design* of the learning initiative worked to support the learning process. While learning outcomes from the course are summarised, the emphasis in this report is on making the thinking behind the initiative explicit and therefore easier to spread throughout an organisation.

4.1 Outcomes of the second round of learning initiatives

This section explores learning outcomes for the eighteen participants in Head Office and thirteen participants in Stores, who attended the two sessions of training in November 2010 (six hours total training for Head Office, four hours total training for Stores).

4.1.1 Understanding and motivation

A clear sense emerged from the data that participants experienced a deeper understanding of sustainability from the learning initiatives. For example, on the evaluation forms from the second Head Office session five of the twelve replies to the question, 'what impact has the course had on you?,' referred to having developed a broader view of sustainability. Three reported that it had helped them understand how the elements fit together. For others it had *'increased and reinforced knowledge'* and '*help[ed] reflect not only the issues but how to plan for changes which can lead to a sustainable future.*' One participant commented that s/he *'gained a better and deeper understanding of present and future issues',* demonstrating an expanded awareness. Another participant commented they had *'learnt some startling facts to help illustrate points; four Guidelines is a useful framework to explain this coherently'*.

One participant suggested that s/he would *"Think about our current and any future environmental initiatives . . . in a different way, involving eco-cycles, and sustainability".* Another could see application in many spheres of her life, *"[It] made me think about the wider impact of my decisions, both at work and home, on our planet".* One participant clearly related the learning to their work role: *"packaging reduction has been one of my deliverables - and I may question the full implications further now than I would have this morning".'*

Analysis of interviews and focus groups with a wide range of staff during the first action research project highlighted that sustainability was not always clearly understood across the organisation. As such, the feedback from one participant that RoundView *'Educated me on the aims of sustainability'* represents a significant level of reported learning.

Some evidence in the analysis of group discussions in Stores pointed to a shallower level of understanding of the RoundView Guidelines in Stores than in the initial learning pilot. There was considerably less time (2 hours less, one third of the original total) spent in Stores than in the previous round of training, and the learning design is being reconsidered to see how to make more effective use of shorter sessions. Nevertheless, participants in the final Stores focus group commented that they appreciated having more awareness and understanding of the 'full picture'. One participant in Stores commented that the information was *not* too much – that people were *'not overloaded with information'*, an important consideration to keep in mind in future iterations.

The following quotes provide evidence that people's motivation to change had increased, in line with analysis of the learning intervention in the first project:

- *I think I will take a good personal benefit from this with a stronger attitude for recycling. Hopefully I can work smarter too*
- *Made me think of how I can influence*
- *Re-energised me*

There was also evidence of increased motivation in participants to carry on learning, for example the Next Steps recorded on feedback forms:

- *Read/ research more environmental issues*
- *Develop my knowledge and educate and influence those around me*
- *Push to continue being involved in training programme*

The second round of Next Steps recorded on feedback forms were characterised by an emphasis on talking to people, spreading the message and encouraging change, in both Head Office and Stores. The message about being creative in how to achieve sustainability may even have influenced this response: *'Educate my team and use creativity to get more senior management buy-in for the issue'*. Several participants focused on spreading the knowledge from the course, for example:

- *To give my colleagues the information to help make a change*
- *Try and pass on what is learned*

4.1.2 Ideas to action

A key aim for the course is to encourage participants to become agents of change, keen to 'spread' new ideas about sustainability. There were several Next Steps that related to taking action, and which showed a desire to apply the learning from the course directly to the job, for example:

- *Look at transport between offices - use the shuttle bus; look at suppliers' meeting - conference calls rather than visits*
- *Work with my suppliers to measure and plan to reduce our impact*

There was however a tendency for Next Steps to be focused on passing on knowledge. This might point to challenges in the transfer of the learning 'into the job' (level 3 of evaluation of training criteria). This is understandably challenging: the 'paradigm shifting' nature of the learning makes it complex to implement under many circumstances, and often desired changes are closely coupled with external factors and conditions over which there is limited influence. In the Stores context, the functional hierarchy within Tesco that naturally positions Head Office as determining many of the changes that Stores staff implement, may lead to an expectation or understanding in Stores staff that their job is to follow instructions, rather than to 'work out what to do'.

There was a similar level of discussion about the difficulty of making actual changes in the workplace, as reported in the Sustainability Skills project. In the feedback forms in the second session, participants were asked to reflect on what had made it difficult for them to implement their Next Steps. In the assessment forms from the Stores training, these difficulties centred on colleagues' lack of awareness:

- *Convincing others as they have no environmental knowledge*
- *Motivation. It was hard to talk to people when they didn't understand or believe what we were doing*
- *Getting people to buy in to the plans*

It should be noted that the difficulties reported with regard to communicating with others may have been heightened by the slightly anomalous position of the people who were giving this feedback. They had been identified as 'Champions' and told to go on this course in that role, but – significantly – this was the first time they had experienced the learning material. The original idea of the train-the-trainer process had been for the

Champions to be drawn from the pool of people who had attended the original learning pilot. It is therefore not surprising that they encountered challenges between the two sessions, as they might have been expected to go back to their work contexts as 'experts' and be able to explain the full benefits of the course. This would be a difficult task after just one session of learning the new material.

Feedback from participants in the Head Office session again suggested the difficulties of making real change, as these comments regarding the barriers to implementation indicate:

- *Complexity of supply chain management; environmental awareness and buy-in from management*
- *The fact that my Next Step need to be taken on by others too, and Tesco as a whole to make a positive impact*
- *Making Guidelines work in context of department*

In the second training session, several of the participants emphasised the need to include sustainability in their measurement systems, with a comment on one feedback form highlighting the importance of such inclusion for Tesco staff. The problem this person perceived with implementing any Next Steps was they were *'unclear how sustainability impacts team objectives'.*

There was also evidence, however, that not all participants felt powerless to make changes. One participant, who was interviewed several weeks after the course, gave an example of changing an administrative process to save a significant amount of paper since the course (although this was not confirmed as a direct result of having attended the course). This amounted to an 80% paper cut and involved an external organisation providing training; it therefore also had potential external influence. Another participant commented that s/he would look at *'load constraints, are we ordering the optimum number of pallets on each truck? Can I force more of the boxed chocolate rather than 'tins' to the stores?*'. In another specific area of work, a participant said that they would *'speak with [their] environment colleague in Trading Law department about how supply chain environmental and social standard should be integrated and managed'.*

In noting these observations above, it is worth keeping the higher level purpose of the RoundView learning initiative in mind: the challenge is how to increase people's agency and ability to make the sort of changes that could lead to a real *change in direction*. This is in addition to laudable and necessary steps, such as those described above, to reduce the damage of existing practices.

A core message of the learning initiative is the need for a fundamental change of direction and design of new systems that don't *cause* environmental and social damage in the first place. The frustration that was expressed by many participants about a lack of ability to make changes was not that they were being blocked from making improvements. Clearly, there is support within Tesco for 'going green' activities. Participants felt rather that they lacked agency to engage in a longer term, more fundamental re-think of the way of doing business, especially without higher level support. This strikes as an echo of exactly what Tesco's CEO suggests is required to make sustainable practice a reality in Tesco: *"We have to re-consider the very ways we do business."* This reported frustration is evidence of *success* in this learning initiative, as it suggests that at least some participants had an understanding of the need for change at this level, a desire to make such changes happen and ideas for how to proceed.

Conclusions from PhD research into application of The Natural Step's model of sustainability in its Pathfinder companies reflected a similar pattern, that whole-systems guidelines *could* be useful for redesign of the system, but only if people had agency to do such re-design: *"if people were in a position to design, or redesign, their policy, strategy, operations, supply relationships, services, and products, then the TNS' model provided them with high-level 'design parameters'… However, the extent to which people felt in a position to redesign such things varied."* (Meynell 2003, 229)

Analysis of the data from the Scaling-up project confirmed that the learning initiative increased people's knowledge, understanding and skills with regards to sustainability, and their motivation to 'change direction'. Below are further examples of the value of the message underlying the RoundView Guidelines emphasised in Next Steps from Head Office employees:

- *Consider more seriously, alternative methods of operating my business in order to help preserve natural resources*
- *Every time I make a decision, think about whether it can, in time, lead us to a sustainable future*
- *To review my plans and actions against the Sustainability Guidelines and make sure I consider the environmental impact of any planned activity and opt for sustainable choices wherever possible*

Key points 5 Outcomes of the second round of learning initiatives

- **Virtually all participants reported developing a broader view and better understanding of sustainability**
- **In training in Stores, understanding was less well developed compared with the previous pilot, likely due to reduced training time**
- **Increased motivation to make changes and continue to learn about sustainability was reported across the board**
- **Many 'Next Steps' that participants said they would do related to spreading the message and encouraging change, both in Stores and Head Office**
- **Expectations from colleagues of Stores Champions' capacity to communicate the new material after just one session may have been too high**
- **There was some evidence of making positive, practical changes in the workplace**
- **Significant challenges were identified in transferring the learning to the job, including Tesco's functional hierarchy and colleagues' lack of awareness**
- **A need to include sustainability in staff performance measurement systems was expressed**
- **Participants felt the need for more agency and opportunity to engage in a longer term re-think of ways of doing business**

4.2 Analysis of changes to curriculum in second initiatives

Responses to the changes in the curriculum, made for this round of the action research, are assessed below.

4.2.1 Increased clarity around, and focus on, change in direction

Emphasising and clarifying the concept that it is important to move towards 'turning it around' and 'changing direction', not simply 'slowing down the damage' was a key enhancement in the RoundView curriculum. For one person in particular, who had taken part in both rounds of training (Sustainability Skills and Scaling-up), and was a Champion, this change had a major impact in the second round of training. This statement was given, unprompted, by her at the end of one of the sessions:

"One of the things that really stood out for me, which I wrote down when you said it, which I think is a bit different, is that it's not just slowing things down, it's actually changing direction. And I think that's something that's really powerful and I can take away and say to somebody and they'll sort of say 'oh, I need to listen now' 'cause it's not just 'well I do my bit so I'm ok I don't need to worry' it's actually more than doing a little bit, that's not enough, it will make a difference but it's not the big difference that we need to get to. I think that was really something different from last time, really powerful, and something I can take away and say to everyone else."

In the Stores focus group with Champions after the training, a key message that was suggested by one Champion for inclusion in a ten minute introduction to the RoundView was the need to 'turn around' the current trajectory of environmental destruction, emphasised by observing the speed with which we are damaging the ecosystems. He also thought it was important to highlight the key fact that there is hope, because we can actually design human systems so they fit in with the eco-cycle. The value of including the message that we need to fundamentally change direction in the 10 minute presentation was also emphasised after the training in the Head Office focus group.

The ideas that emerged in the backcasting exercise (envisioning a sustainable future as the basis for strategic planning) in the group discussion in the Stores training, suggests that this metaphor had been understood. One participant said that if they were to follow these Guidelines, there would be world peace. This may suggest that they really had taken in the concept of a change in direction. When asked what Tesco would be like in this world, one Stores staff member said that Tesco would be a leader in the community. The depth of future thinking that these comments suggested was more pronounced than in the first round of training in Stores, suggesting that the concept of changing direction and the possibility of a positive, sustainable future, may have been more effectively communicated in this round of training.

4.2.2 An additional Guideline: Balance the eco-cycle

By the end of the first round of training, the research team had introduced an additional, yet still provisional, fourth Guideline – 'Live off solar income'. In the second round of training, the people who had been on both training sessions agreed that the training was clearer and easier to remember with Four Guidelines. The research team reflected that this

new Guideline made the training flow more easily from their perspective, and that it seemed clearer and easer to explain, as both the Misguided Lines and positive Guidelines had four components. They seemed better matched.

There was still some work to be done, however, and several of the Head Office Champions engaged deeply with the project team in deliberating the best way to express the concepts. In this round of training, the four Guidelines were positioned against the Misguided Lines in the new Evaluation tool. This prompted considerable discussion amongst the Champions and researchers as to the nature of the Guidelines and their inter-relations. This involvement by the Champions showed that they were engaging with the material and had a keen interest in learning more about it and helping to make the material as clear and useful as possible. There were two major questions:

- should each positive Guideline be contrasted on a clear axis with an associated negative Misguided Line?; and
- how to be sure that by following all of the positive Guidelines, it would automatically be the case that no damage would be caused in the areas of any of the Misguided Lines?

With regard to the first question addressed by the Champions and researchers, the main problem was that 'Live off solar income' did not seem to 'match' with Overwhelm—as an opposite pole. With regard to the second question, it was felt that even if you followed all of the Guidelines as they were formulated at the time, it would still be possible to Overwhelm the eco-cycle.

This caused the researchers to continue to debate and refine the Guidelines, revaluating the structure and the language of the Guidelines for internal consistency and clarity and ease of communication. This process of conceptual testing and exploration of the Guidelines led to their current formulation. Table 5 shows the three iterations of the positive Guidelines that were used in the training, to demonstrate the evolution of the ideas.

Table 5 RoundView Guidelines as they have changed through the action research

First round of training 2009	Second round of training 2010	Current version 2010
Composted *or* kept in the loop	Live off solar income	**Balance** the eco-cycle
	Cycle everything (two loops)	Keep it in the technical loop
Space for diverse ecosystems	Restore and maintain diverse ecosystems	**Restore and maintain** resilient ecosystems
All members of our community meeting more of their needs, whilst supporting such sustainability in other communities	Meet more of all human needs	**Increase people's capacity** to meet all of their needs sustainably, worldwide

The main difference between the original conception and the current one is that the concepts of the ecological cycle (and how our material flows fit into it), and the technical nutrient cycle, are dealt with in separate Guidelines, so that they are more clearly delineated. The concept of balance better represents the idea behind human systems fitting in with the ecological cycle and balancing our throughput of resources, a critical example being carbon. The concept of living off solar income is now seen as an example of *how* to 'Balance the eco-cycle'; it is a means to an end, not a Guideline in and of itself.

This latest refinement of the Guidelines needs to be tested further, but the discussions with the Champions, which led to their formulation, suggest that these should make learning and applying these ideas easier and simpler.

4.2.3 Developed ways to make the learning more directly related to people's roles

In this second round of research, more effort was made to explain that there would be time for people to discuss the relevance of the ideas to their roles, and that one of the aims of the course was for people to learn the skill of how to apply the ideas about sustainability to their own contexts, which is an ongoing process. There was some evidence in the feedback forms that participants recognised the possibility of taking the new skills and ideas into their work contexts, e.g. two comments about the 'Analysis of Flow' exercise are worthy of note: *'Makes the information relevant'* and '*can take away to personal circumstance'*.

Feedback on this improvement was, however, mixed. There were still comments in both Head Office and Stores that it was not clear what relevance the training had to people's job roles. In discussion with the Champions, it emerged that having a course where the participants were asked to work out the relevance of new ideas to their roles was very different to 'common practice' in Tesco training, where these issues tend to be worked out in advance, before the training is 'rolled out', with clear messages about the relevance of any training messages to job roles and related performance measures.

This dissonance was especially marked in the Stores context. One researcher noted, whilst observing the videos of the training, that the sense of uncertainty about what people were supposed to do with the new ideas may have been exacerbated by the open and appreciative nature of the process used in the training.

This analysis has prompted a further change to the design for the exercises running through the first session, to be trialled in a future iteration. This will involve still more explicit connection with practice, with a shared Ketso workspace being used to simultaneously explore three related aspects of the subject: the sustainability ideas themselves, Tesco (or the organisation under consideration) in relationship to the new learning, and how these relate to the roles of the people at each table. This would involve short exercises interspersed throughout the main session in which the Guidelines are introduced. This will hopefully not only frame the discussion more clearly in terms of the participants relating the new ideas to their own contexts, but also provide a physical artefact that is built through the session, as a reminder of this ongoing process.

It was suggested in the Head Office Focus Groups that there could be more clarity around how the RoundView Guidelines can be applied to the home, workplace, and job role. These different aspects need to be considered in designing exercises for relating the Guidelines to personal contexts. Consideration of these different contexts may be particularly helpful in encouraging people to feel they can make a difference.

4.2.4 New learning tool: RoundView Sustainability Evaluation Tool

The first use of the new Evaluation tool, in the second session in Stores, involved comparing the relative sustainability of several Tesco products against the RoundView Guidelines. This used an early paper version of the Evaluation Tool. The use of this tool

showed that people had not fully understood the distinctions between the different stages of change towards sustainable practice, thus this exercise provided a useful way for the trainers to assess the trainees' learning and to deepen understanding. This first use produced some confusion, and led to a re-think of how to introduce the stages of evaluation. Despite some difficulty in getting the exercise started, however, the discussion catalysed by the tool was productive. Observation of the video footage shows that the discussions helped people work through and integrate the ideas of the course. In addition to being a useful educational aid, initial experience suggests that using this new tool also offers a helpful indicator of people's levels of understanding.

This sense was reinforced with the second use of the tool in Head Office, where the discussion was in-depth, and enabled participants to explore their different perceptions of the Guidelines and the stages of the model of transformation. Significant improvements were made to the use of the Evaluation Tool between the Stores session and that held two days later in Head Office. The first change was the use of a Ketso grid to set out the stages of transformation towards sustainability, rather than a grid on an A3 sheet of paper. This meant that the products were physically moved around on the grid and compared in space, not just through discussion and adding up a 'score' as in the use of the tool in Stores.

Figure 10 Participants in Head Office comparing products using the Sustainability Evaluation Tool

Participants in both cases were asked to compare their assessments with each other, which generated discussion about the need for multi-faceted thinking and the types of questions that needed to be asked to determine how a product or practice could be evaluated. In Head Office, this was facilitated by the visual and spatial nature of the exercise, such that the participants could move around the tables to see where on the grid different groups had placed the products, rather than comparing their assessments of the products simply by sharing the scores, as had been the case in Stores. With the representations of the different products laid out on the felt according to their relative degrees of sustainability, it was

possible to make better comparisons between the evaluations. The ensuing discussion about similarities and differences helped clarify participants' understanding of the Guidelines, and provided the trainers with an opportunity to emphasise key aspects and clarify misconceptions.

Comments on the feedback form about this tool included: *"Interesting rather than helpful: felt I saw quite how complex it is, so many more questions than answers"*; *"Took a while to understand, but had lively discussion about the products;"* and *"Very helpful to get to understand the range between Guidelines"*.

In addition, in Head Office, participants had been asked to rate the products under discussion at the very beginning of the session, before using the tool, and were asked to compare their assessments with and without the tool, as a means of highlighting the value of going through a systematic process of assessing ideas against the Guidelines. The combination of these different processes helped deepen understanding. The comparison also demonstrated to participants that applying Sustainability Guidelines requires thought, debate, a questioning attitude and a willingness to explore deeper questions, such as where products are made, where they go after they leave the store, and how they could be re-used.

The experience of using the tool in this training has suggested possible further improvements. The first is to introduce one 'product' to start with and then introduce the comparison aspect later, to reduce the difficulty of the initial task. The second is to introduce the stages of using the tool more slowly, with one concept at a time (e.g. for one particular Guideline, where on the matrix would this product be?). This would be supplemented by a clear explanation, with examples, of why this product might be located in any of the categories, to reinforce the learning of the course and to provide a further opportunity to emphasise the difference between slowing the damage and changing direction. As an aid for future trainers, it may be useful to have crib sheets with facts about the products and suggestions as to where on the Evaluation Tool they should sit, so that the trainer can lead an informed discussion. A snapshot could be created of the best knowledge assessment of where the particular product sits, and this can be used to stimulate discussion about any differences between this assessment and what the group thought.

An additional idea for future development, and for deepening the learning and value of the tool in applying the RoundView to product and system design, is to develop images for the different stages of the life-cycle of the production, e.g. raw materials & production, distribution & retail, use, and end-of life, so that each of these stages is considered. This would give something of a feel of a board game – the aim is to move all of the pieces over the right, to fully sustainable practices, and each stage of the life cycle needs to be considered in this process, when applying the Guidelines in depth. Such work could form part of the next level of learning and application of the ideas to particular areas of the organisation, and would form part of a sustainable design process.

In the Head Office Focus Group, one of the Champions asked if the tool would be made available to them for use, saying, *"that would be interesting to bring to meetings, if we can use a process and matrix, that would be useful"*. It was suggested in the Head Office Focus Groups that it would be good to have a copy of the RoundView Evaluation Tool on the wall (and in use) in each team area and Store, which would help make assessment and scoring of different aspects of business practice more visible and tangible.

4.2.5 Framing the learning tools as aids for communication

The Champions in Head Office, who had been to both rounds of training, responded positively to the researchers' questions about the re-framing of the introduction of the learning tools. The general feeling was that this helped to circumvent some of the concerns that the material seeming patronising to people who had a good understanding of sustainability issues or the underlying science. In the feedback from course participants, the response to the felt animations and graphics was very positive, with ten out of eleven responding in the Head Office feedback (where most of the earlier concerns had been raised) that the use of the felt animations was 'helpful' or 'very helpful'. There was a comment from one participant that the tools should be made to look more like Tesco graphics, and some requests for a changing the felt background from black to blue to make the overall graphic less dark, especially for the image of the positive Guidelines.

4.2.6 Adding elements of competition

The elements of competition added to the course, such as the race to 'backcast' the steps required to make a cup of tea, or to put together the jigsaw puzzle of the Earth, seemed to work well in the training. On the whole the feedback about these elements was positive. The quiz that was used in the second session of training received some negative comments; whilst people liked the introduction of the case study material, the format of using a quiz for those particular issues was seen as a bit daunting, as the questions were not ones that were likely to be part of general knowledge. The Champions in Head Office thought that the initial quiz, which drew more on common knowledge and Tesco experience, worked better (this was developed in the time between the Store and Head Office sessions as a result of discussions with the Stores Champions about the need to find a way to catch people's attention about the magnitude of current environmental problems, so had not been tested in Stores).

4.2.7 Change in the duration and number of sessions in Stores

As discussed above, there was some evidence that people in Stores did not assimilate the core of the RoundView as well as first time around, which is perhaps not surprising given the vastly different level of time and number of cycles of engagement. In the first round of training, there was a 1-hour session each week for 6 weeks. This time, there were two 2-hour sessions, with two weeks in-between. There was some feedback in the Focus Group after the event that this was too long a gap between sessions, which meant that participants had forgotten the material. This had not been reported during the first round of training, when the gaps between sessions were only one week.

In line with the first round of action research, participants in Stores responded positively to the fact that there was more than one session, so that there was time to integrate the new ideas into their thinking and have an opportunity to consider the RoundView in relation to everyday work.

4.2.8 Reducing emphasis on 'takeaway tasks' and allowing participants to choose the tasks

In the feedback forms from the training in this round, no participants found the use of 'Next Steps' unhelpful, 3 participants rated it as neutral and 11 found it helpful. This contrasts with the wide range of opinion in the first round, in which 5 found the 'Takeaway Tasks' unhelpful or very unhelpful, 8 participants rated their use as neutral, and 10 said they had found it helpful or very helpful.

When participants were asked about the re-naming from Takeaway Tasks to Next Steps, there was a general appreciation of the way the name better fits in with the Tesco culture. In response to feedback that it had been very difficult for many of the participants during the first project to find the time to do the exercises, this time, the Next Steps were self-chosen. The lack of in-depth work on areas such as talking about 'Analysis of flow' with colleagues between the sessions (which had been a Takeaway Task in the first round) was noted by the researchers, as there was less information to work with in the visioning exercise (in the second session) than there had been in the first learning initiative. It is suggested that more effective learning would be engendered if the participants were given permission to spend some time on the exercises between the sessions, and that this would ideally include spending some time working with their colleagues on the new ideas. It would be interesting to explore different iterations of how to best use the Next Steps, and whether there is still scope for an 'Analysis of Flow' exercise between the two sessions.

Key points 6 Analysis of changes to curriculum in second initiatives

- **'Changing direction' rather than just 'slowing down the damage' was seen as a powerful concept, and came across more clearly than in the first course**
- **Training flowed more easily with the new formulation of the Guidelines**
- **Dissonance identified between participants working out the relevance of new ideas to their roles by themselves and 'standard' Tesco trainings of 'rolling out' clear messages about job roles and related performance measures**
- **The new Sustainability Evaluation Tool was seen as a useful educational aid and indicator of people's levels of understanding**
- **Virtually all participants considered the felt animations to be 'helpful' or 'very helpful' in training**
- **Re-framing of the introduction to the felt animations was seen as useful for communicating to a wide range of people and appeared to help people see them in a different light**
- **Adding elements of competition to the training process was well received**
- **Having more than one session enhanced learning, by providing time to integrate new ideas and provide time to reflect on the process**
- **Next Steps were considered significantly more helpful in this round than in the previous pilot**
- **It was suggested that more effective learning would be engendered if participants were 'given permission' to spend some time on exercises between the sessions**

4.3 Analysis of the 4A framework used in the curriculum design

As mentioned in Chapter 2 'Project Aim and Methodology', a framework of characteristics of effective sustainability learning initiatives was developed in the first round of action research, which informed the design of this learning intervention. This framework was known as the 'Four A's' (or '4As'): Appreciative, Awareness-raising, Associative and Action-led (see Tippett et al. 2009 for the theory behind the development of this framework; a key influence was Ballard 2005 and his model for change initiatives). The analysis in this section was built upon a detailed exploration of the ways in which the framework for effective learning initiatives impacted on the learning process.

The 4A framework was used to structure the overall curriculum and design each session. Each session was designed to ensure not just that elements of each characteristic were included, but also that they worked together practically to develop positive synergies. The following analysis was drawn largely from data from the current Scaling-up project, but also refers back to analysis from the Sustainability Skills project.

The 4As were described previously in the Sustainability Skills project as:

- **Awareness-raising** (recognising that change will require a broader and more scientifically informed perspective than is often seen in decision making)
- **Appreciative** (recognising that starting from an appreciation of the positive aspects of an organisation enables change to build on strengths, protect the aspects that *are* working well, and enhance motivation for further change)
- **Action-led** (influenced by theories of learning that emphasise the value of action, practical engagement, reflection on action, and repeated cycles of learning)
- **Associative** (recognising that learning is social and that effective change will require learning in social settings and the creation of shared understandings and meanings in groups)

An important perspective in the analysis of the learning initiative in this round of the action research was testing and validating the 4As as design criteria that inform the RoundView curriculum. In particular, we wanted to explore how these characteristics of experiential and systemic learning could be used to support spreading and embedding the learning initiative throughout the organisation, in particular looking at the key issues the design of the learning initiative raises for training future trainers. This would further enable an evidence-based approach towards how the learning initiative could be scaled up.

This analysis aimed to draw out areas of interest for training trainers. It aimed to explore what worked and how. The methodological reasoning was to use the action research to explore the underlying (and often unavoidably tacit) thinking and skills behind the course, to make the reasoning more available to other trainers. This could be seen as an endeavour to make the learning design explicit, based on bottom-up analysis of the way the learning worked in practice.

Detailed video footage was used to analyse sessions in the context of the 4As. This video footage of the four sessions (two in Head Office, two in Stores) was analysed by researchers not involved in delivering the training and organised in a spreadsheet by segments. Segments were seen as distinct units of activities, with a shift in activity marking the end of the segment. Notes were then made on each segment, seeking to identify the 4A

characteristics in an inductive approach to observation, and to observe their effects and interplay. Notes were also made for areas of particular interest for training trainers.

It was found that the 4As did not occur in isolation but were mutually supportive. It was difficult to identify clear examples of any one characteristic in isolation. This was a sign of success; the sessions were designed to incorporate all of the characteristics, but not in a linear or separated manner. Experience and evidence from the first Sustainability Skills project had led to a sense that these characteristics were both highly compatible, and mutually supportive. This analysis supported that impression, and led to further development and clarification of the framework into 'SHAPE'—introduced and explained towards the end of this chapter.

4.3.1 4A's and Facilitation of Learning

Awareness and understanding of the RoundView Guidelines for Sustainability is the ground upon which the sustainability skills proposed in this curriculum can be built. The skills lie in applying this understanding and re-considering practice in the light of the Guidelines, thus, sufficient knowledge and understanding of the Guidelines is a pre-requisite.

The 4A framework becomes a tool that helps to answer the question: how can this new awareness and information best be encountered and learned, such that it 'sticks' and becomes functional? According to this framework, an answer to that question might be: appreciatively; through cycles of action, reflection, learning and planning; and in association with colleagues. This section explores how this was borne out in practice during the learning interventions.

The pivotal element of the Awareness-raising in this initiative is establishing links between the earth, sustainability, world poverty, individual actions and the practices of a large corporation. The challenge that the RoundView seeks to meet is how to do this in a way that is simultaneously accessible, memorable, scientifically valid, and practical. Thus the key *information* that this curriculum seeks to impart is the Guidelines for Sustainability and a sufficient background for these to be understood, used and communicated. This is situated within a context of general awareness-raising about environmental, social or economic sustainability issues (note that these issues are not the primary focus of this curriculum, developing understanding of the Guidelines and their application is the main focus).

An early exercise in the course was a simple multiple choice quiz with questions relating to each of the Guidelines, for which participants were asked to write their answers down and save for later. The answers to the questions were revealed at the appropriate time in the teaching of the Guidelines. The questions included a mix of general knowledge questions and questions relating to Tesco's sustainability activities.

Figure 11 A quiz to raise awareness

This exercise demonstrated the Appreciative characteristic, as it highlighted examples of what Tesco is doing well, and allowed participants to explore their own knowledge. For the participants that did not already know of Tesco's sustainability related activities, or about other information related to sustainability, the use of a quiz and the sharing of examples from Tesco also represented a form of Awareness-raising. A striking example of the impact of this Awareness-raising was found in the Head Office plenary feedback, where one participant commented upon how shocked he had been by his realisation of the scale of poverty in the world. (One of the quiz questions had been about the number of people living in different degrees of poverty.)

An Appreciative learning context was often created by structuring activities and discussions that drew directly on participants' knowledge of the world and of sustainability issues. This involves, in the words of a Champion from Stores, *"thinking about things I already know, but thinking differently about them"*. Thus an Appreciative process can be seen more as prompting a re-formulation of things people already know than as introducing completely new information. This re-formulation builds positively upon what is going well, acknowledges people's different starting points, and enables these to come together in a new synthesis that itself has a positive frame. The value of taking a positive approach to sustainability has been noted by various participants during both learning interventions. For example, Head Office staff commented during the first session on the value of having guidelines that steer positive action towards a vision for sustainability, as opposed to a sustainability vision based on what we should *not* be doing.

The Appreciative characteristic was sometimes also applied through recognition and conscious reference to the context in which participants worked, with particular attention given to elements that were perceived to be successful. For example, this meant that the trainer would introduce examples specific to Tesco or draw on Tesco language and practices (e.g. using the BRAG traffic light metaphor for assessing sustainability, talking

about KPIs or 'Next Steps'). Attention was also given to what was going well specifically around sustainability in Tesco, which was reported to be encouraging and valuable for staff in both initiatives. This was exemplified in this comment about the impact of the course from a Head Office participant *"restored confidence that Tesco is 'on the case' on developing a 'sustainability literate' workforce"*.

An example of this approach to building on existing knowledge helps us to see the very subtle scaffolding[17] (Vygotsky 1978; Vygotsky 1962) that took place throughout the course. There was an activity early on in which participants were asked what Tesco does well with regards to sustainability. This was structured around what they knew about the Tesco Wheel (which is a central organising tool for Tesco's Values). This provided the first level of the structure for the learning tool which, when later combined with the RoundView Guidelines, provided the understanding needed to participate in the activity of evaluating the systemic sustainability of products and practice. By having the opportunity to restructure existing knowledge in an activity, learners were better able to assimilate new knowledge (namely, the RoundView Guidelines).

Figure 12 The Tesco Wheel used in the learning tool

The Associative characteristic underpinned the training sessions, which were almost always delivered through dialogue, either through participants working in pairs or small groups, or through plenary discussions. 'Associative' in this context is not simply about people getting together in the same room; rather, it refers to deeper levels of interaction, support, challenge and shared meaning-making. This has multiple aspects: learning together, working together, and deciding together what the learning experience means for each other, as individuals and as employees. This Associative characteristic is evidenced and reflected not only by the presence of dialogue, but in the content of that dialogue. For example, in discussing ideas about the value of having Guidelines, one participant said that

[17] Scaffolding refers to the provision of sufficient support to learners to enable them to take on new concepts and skills. Like a scaffold, this can be built over time to continue to support the learner.

it helps people find a common ground despite different agendas. This insight reflects the primary role of association in the training, in that it allows for collaborative pursuit of common goals by participants. Course dialogue recorded in the videos expresses the notion that sustainability must be addressed from a systems perspective. An important implication of this systems view is that collective action is needed to achieve sustainability; no one can do it alone.

The 'Next Steps' chosen by participants for their action between sessions typically incorporated some element of spreading the message. Spreading the message also emerged as a key issue in the focus groups conducted with Head Office and Stores Champions after the learning initiative. This provides further evidence of the perception that taking on these new ideas and new ways of thinking is not easy to accomplish alone—which implies the importance of an associative learning environment. There was evidence that in Stores a co-operative, associative attitude emerged and developed over time, seen for example in the constructive, enthusiastic and extended interaction between the Principal Investigator and the participants in the final focus group that lasted for well over an hour after the official end of the session.

The Action-led characteristic can be seen most easily by looking at the overall flow of the changing foci from one part (segment) of each training session to another. The Action-led characteristic recognises that learning—particularly that which includes cognitive skill acquisition—proceeds in cycles of action, reflection, deepening learning and planning (as developed by Kolb 1984a in the concept of the learning cycle). Different individuals and cultural (organisational) contexts can exhibit tendencies or bias towards favouring different 'stages' of the learning cycle, so it is important to support learners to engage with all of the stages if effective learning is to take place. For example, it was noted during the Sustainability Skills project, and again in this iteration of the initiative, that in the Tesco culture there is clearly permission and expectation for people to act and 'get stuff done'. There is, however, less attention or time—generally speaking—given to reflecting upon the processes used or the underlying assumptions that inform practice. This clearly works for Tesco (in that it is a very successful business), but creates a challenge for a learning initiative that seeks to prompt and support exactly such reflections.

An example of attention to learning cycles can be seen in the second session in Head Office, which followed the format: an opening to spark curiosity/cognitive conflict, time for groups to reflect on that activity (reflection), review of material learned in the last session (deepening learning), activity time (applying knowledge for understanding), group discussion to reformulate knowledge (reflection) and as an opportunity to introduce wider knowledge and thinking in relationship to the ideas developed so far (deepening learning).

A second clear example was the use of 'Next Steps' between sessions. These were (in this second initiative) chosen by participants, representing the stage of the learning cycle in which the next actions are planned in the light of new learning. Then, participants were responsible for acting on these Next Steps, before coming back to report and reflect upon them at the next session.

On a smaller scale, a learning cycle was also built into some of the exercises themselves. For instance, when using the Ketso toolkit, participants will typically start with active engagement (coming up with their own ideas, physically writing them and placing them in a shared space), which shifts seamlessly into reflection as participants look more closely at both their own and other people's thinking. Guided discussion deepens the learning through a structured series of questions, with new input from the facilitator and from

fellow participants throughout the process. Finally, attention is directed towards identifying goals and potential actions that arise. This will then lead to action, whether that is taking these actions and performing them, or, in the context of training, moving body and mind to the next exercise—or indeed simply to further iterations of the cycle within the Ketso exercise itself.

4.3.2 Inter-relationships between the 4A's

In practice these characteristics inform and support each other in a myriad of ways. There are many different connections and perspectives possible in their interplay. An illustrative example of such a pattern might be: How do we raise awareness, appreciatively? Through a social, sharing process. How do we use this awareness to build attitudes and skills needed for changes in practice? Through cycles that include action, reflection, learning and planning. And how do we engage in such learning cycles? Socially and appreciatively: sharing reflections, information, insight and new practice as we go. There are many examples of these types of connection between the 4A's suggested by our analysis of the learning initiatives. A selection is presented below.

An example of how the Appreciative and Awareness-raising characteristics worked together was found in the earth jigsaw puzzle activity. In this activity, participants were asked to compete against each other as teams to decide how the various elements of our ecosystem fit together. This was Appreciative because they were able to use what they know about the earth to identify the parts and make some guesses as to how they fit together. The trainer then used this jigsaw as a starting point for Awareness-raising about a new way of thinking – a systems view of sustainability. In Head Office Session 1 there was feedback indicating the effectiveness of this approach, for example with participants reflecting back on this jigsaw exercise as *'spending time thinking clearly about sustainability issues'* and *'learning further about the cycle.*'

Another example of how the Appreciative and Awareness-raising characteristics dovetailed is found in a quiz activity at the beginning of Session 1. In this quiz, questions that people were likely to be able to figure out or make an educated guess on were posed, hence drawing out what people already knew. One question was specifically about Tesco and the eco-stores, making this activity also act as an appreciation of what Tesco is doing well with regard to addressing sustainability.

Although there were some examples of the trainer giving information about Tesco, such as in giving the answers to this quiz, the main method used during the initiative of raising awareness about Tesco specific information was that of creating contexts and exercises—such as asking what Tesco does well—that drew upon people's own knowledge (Appreciative), whilst allowing them to learn from each other (Associative). Thus the Associative characteristic was used to enable the process of awareness-raising. A quote from the Sustainability Skills pilot in Head Office demonstrates this relationship: *'[I] learnt from others in the group about what we currently do that is sustainable and created many ideas of what else we can do.*'

This exercise also illustrates a dynamic within the Associative characteristic, between individual thinking and shared discussion and reflection. In the exercise participants were asked first to consider for themselves what Tesco is doing well with regards to sustainability, and only after some time to discuss and share this with the rest of their group. (This was in fact a common pattern in many of the exercises and activities.) Sharing

and interaction is central to the application of the Associative characteristic, but allowing people time to gather and process their own thoughts is also important to give the process depth and to allow everyone to get involved. This could be seen as another aspect of the inter-relationship between the Associative and Appreciative characteristics, as participants were guided to respect, acknowledge and build upon each other's contributions.

The use of hands-on tools for learning, which give each participant a means to provide input, supports this dynamic. If a facilitator simply asks participants to sit and think for themselves, the silence can be quite uncomfortable. If participants are given an activity that they can do to help them think, but still work on their own, a dynamic atmosphere can still be maintained despite the quiet. An advantage of using tangible objects (words, drawings, etc.) after this process is that these can then be built together into a group picture, further stimulating discussion, and ensuring that everyone's viewpoint is visible and 'on the table'.

Figure 13 Activity to encourage individual thought before discussion

The quiz was clearly an example of an Awareness-raising part of the session (with each question related to key aspects of the RoundView Guidelines) and the manner in which it was done also provides an illustration of Action-led learning cycles. The quiz was used to spark curiosity and engage the learners. Time was made for reflection by waiting to reveal the answers to the questions until later, with the trainer referring back to the questions and the answers at the point in the session when the Guideline relevant to the question was being taught. Once the answer had been revealed, time was given for participants to reflect on the answer and the new ideas that they were learning. Thus the Awareness-raising information (the answer) was able to be synthesised with new knowledge in a later 'deepening learning' part of the cycle.

In another part of the first session, participants were asked to consider the potential value of having a handful of guidelines for sustainability—based on their own current understanding. This was used as a starting point for Awareness-raising about the role and purpose of the RoundView Guidelines. The responses given were also referred back to in

the second session, indicating that the Appreciative approach was threaded through the sessions to link participants' early ideas and comments to new thinking later in the course. This helps create genuine acknowledgement and integration of participants' knowledge and understanding into the learning process.

As discussed, the Action-led characteristic refers broadly to the cycles of action and reflection. This forms an overall frame for the learning in the initiative. The action, or experience part of the cycle, can relate to both taking action in practice and to applying knowledge within a class-room setting. During the sessions of this learning initiative the skills and behaviours—actions—being learned were largely cognitive: evaluating, re-thinking, re-considering, and re-designing. Thus, in this context, such activity was considered to be active engagement—the 'doing' part of Action-led learning, and consequently the distinction between active and reflective phases of learning can be subtle. There can be several cycles between the active and reflective modes within any one session.

New phases of learning were generally introduced through hands-on activities, often using the Ketso toolkit (described in the methodology section). These learning activities were designed to be Associative (a characteristic—like Action-led—that provided a pervasive context for the whole learning experience). They employed an appropriate blend of Awareness-raising and Appreciative characteristics, which varied according to the particular focus.

Figure 14 Groups using Ketso toolkit to discuss what Tesco does well (with regards to sustainability)

An example of the inter-relationships between all of the characteristics can be seen in one of the specific activities from the first session in Head Office: the Analysis of Flow exercise. In this exercise participants are asked to systematically and comprehensively discuss and identify the 'flows' in and out of a house (flows of matter, energy, information, people or money, for example).

Figure 15 Analysis of flow exercise

This exercise was simultaneously: Associative (people working and learning together); active engagement and practice of a key skill in the curriculum (thus an active part of an Action-led cycle), and an Appreciative approach to Awareness-raising (as it built upon common knowledge and a familiar area of life—what comes into and goes out of a house). This offers an example of how all four of the characteristics were embedded into a single learning experience, and of the beneficial relationships and synergies that can result from this.

Key points 7 Analysis of the 4A framework used in the curriculum

- **Overall course and individual sessions were designed to include the following characteristics: Appreciative, Awareness-raising, Associative and Action-led**
- **Learning design aimed to promote positive synergies between these characteristics**
- **Detailed video footage was used to analyse sessions in the context of the 4As.**
- **It was found that the 4A's did not occur in isolation but were mutually supportive**
- **Appreciative learning could be seen as prompting a re-formulation of things people already know**
- **The Associative characteristic underpinned the training sessions, which were almost always delivered through dialogue and group work**
- **Learning cycles were incorporated into each session and in-between sessions**
- **Analysis of the Action-led characteristic shows the importance of covering all stages of the learning cycle**
- **Analysis explored what worked and how, drawing out key themes to help others to carry out the training (train-the-trainers)**

4.4 Challenges and implications for trainers

So far, this discussion has highlighted the strengths of the 4A framework underpinning a sustainability learning initiative, and has described how each of the 4As work together to support learning in the complex context of sustainability. This section more specifically addresses the skills involved in being the trainer or facilitator of a learning approach such as the one described here, specifically drawing from the analysis of the learning pilots structured around the 4As, the underlying design of the learning initiative.

In reviewing the videos of the training and focus groups, we noted areas of tension that demand skilled facilitation and an awareness of potential issues that may need to be addressed. These are presented as tensions rather than problems to solve, as a problem implies an expectation for a solution. These tensions, however, may be inherent in a learning and development initiative such as is proposed in this research. As such they cannot be eliminated, but they can be considered and dealt with creatively to foster an environment conducive to learning. This section explores these tensions and challenges, with a particular focus on considerations for trainers and facilitators.

The current project provides the beginning of a 'database' of such challenges and tensions that need to be taken into account and addressed in a sustainability learning initiative. In the midst of a training session these tensions are not always easy to spot or respond to appropriately. It is thus helpful to draw attention to them from an in-depth analysis of the data, and it is envisaged that these issues and concerns will be developed into guidance for trainers, possibly with video clips of the tensions in practice and commentary on them, as a resource for trainers in the future.

There is a potential tension within the Appreciative characteristic, between simply using it as a pedagogic strategy, and authentically asking about and appreciating participants' knowledge and experience. If the strategy of positively acknowledging participants' current understanding and knowledge is to be adopted, it must be done sensitively in a context in which there are also 'facts' to impart. The risks are that people might feel that

they are either 'wrong', or the provision of 'correct' answers and information from the trainer, might undermine efforts to engage and validate people's own starting points.

This tension is reflected, for example, in discussions during the first Stores focus group about the best way to begin the training:

- An activity that raises questions about the issues to do with the course (such as a quiz), *versus*
- some shocking facts or images of environmental destruction to spark a sense of urgency, *versus*
- directly presenting the key aims and objectives for the course, *versus*
- an appreciative exercise about what Tesco is doing well with regards to sustainability.

The use of the quiz, for example, as a way to introduce a cognitive conflict, was well-received by some when it was tested in Head Office, but others were resistant to the way this positioned the trainer as the expert. There was a concern that the questions would not do a good job of appreciating participants' knowledge levels. The quiz approach also set up a situation where an answer is to be given—a correct answer. This could be seen to conflict with a central tenet of the RoundView, that of developing creative solutions and ideas of one's own. Yet this is more a tension than a fundamental problem; the idea behind the RoundView is that, yes, people and organisations do need to develop their own thinking and solutions—but *within* a scientific and largely non-negotiable systems-based framework. That, in essence, is the *point* of the RoundView.

A new idea was developed in the focus groups after the learning initiative with Head Office Champions, which may combine both a way to spark interest and engender a sense of urgency and the Appreciative approach. This opening exercise would involve putting out eight pictures on each table, with a depiction of an issue relating to each of the RoundView Guidelines and Misguided Lines. Examples could be an image of the haze of sulphur dioxide over a city in the winter for 'Overwhelm', or a solar hot water panel for 'Balance the Eco-cycle'. Participants would be asked to discuss what these images make them think of, with each image then referred to in the later discussion of the Guidelines. It would be possible to collect context-specific examples, which would increase the Appreciative nature of the exercise. A further advantage of this approach would be that this exercise can allow for people to join in at slightly different times (a common problem in workshops when a few people arrive late) and thus give people who are already there something to do, without having started an exercise, such as the quiz, that would need repeating to catch up latecomers. This can therefore make the trainer's job easier at the start of the session.

Taking an Appreciative approach works most easily when what is being asked of participants clearly draws on something they know, or rather, upon something that they themselves perceive that they know. An example of when this did not seem to 'work' arose around a question in Stores Session 1 that related to the biofuels debate, when a silence ensued and very few participants felt they had anything to say. Finding the right degree of challenge in questions for the audience is the first obvious response to this issue; perhaps this particular question was misjudged. This may, however, also reflect a subtle dynamic in the intersection between the three characteristics of Awareness-raising, Appreciative and Associative. What could be an example of an unhelpful perception of an 'expert' trainer (who has all the answers to all the hard questions that no-one else knows), seems in some cases to actually help to build confidence through a supportive group learning

environment. Although an individual may personally not know an answer, if a *colleague* makes a useful contribution, then that can build a sense of *group* confidence from the experience that 'we' know the answer. (This is perhaps related to the dynamic boundary between 'me' and 'we', which changes as a group forms.).

A further consideration for trainers is to think in advance of some clues and hints that can be given if there is less understanding of an issue than expected. This could be a useful resource to develop to support trainers. In this case (bio-fuels), a hand out with a few newspaper headlines / clippings that related to the question may have solved the problem (e.g. Biofuels are the answer to world fuel crisis / Biofuels are destroying the world's rainforests / Food riots cause reconsideration of land used for biofuels). This could have been used to stimulate the discussion and subtly provide the information needed to answer the question in an Awareness-raising way that would be supportive to learning.

The Appreciative segments in the early Stores session also illustrate a possible difficulty for trainers, that of moments of silence (which can seem very long to the facilitator). The facilitator has to be able to be comfortable with such silence and allow people time to develop their ideas. It is important for trainers to realise, and remember, that silence on the part of participants is not necessarily a sign of 'failure'—rather it can be a sign of a successful intervention that has prompted the need for inner reflection. Calibrating whether or not such a period of silence is an example of useful reflection or of confusion or disengagement is part of the skill required in a trainer. It is recognised that learning how best to train in such a dynamic way, requires continuous learning and reflection over time—there is no set answer or best method to address these inherent tensions. Flexibility in format can help in such situations, such as changing to pairs or small groups discussing ideas, rather than staying in plenary. Supporting resources can help the trainer, but are no substitute for learning from experience.

Figure 16 Taking notes of people's comments to refer to later

An Appreciative approach works well when the facilitator is able to refer back to earlier points made by the participants as the training proceeds. This requires a certain skill in remembering key points, or at least remembering to look back at key points that have been noted in flip charts or facilitator's notes to jog the memory. Preparation for a second round of training benefits from re-reading the key points made by the group between sessions, so that these can be mentioned at appropriate times. Referring back to ideas that were developed in earlier sessions validates people's learning as well as acting as a useful review, aiding memory. The hands-on technique for capturing examples of current practice that is used early in the process provides a means for the trainers to gauge the current understanding of the learners, like a barometer of their 'entry knowledge'. This can be used to help tailor the rest of the training appropriately.

Thus far, the tension between the Appreciative and Awareness-raising characteristics has been presented in relation to the potential for participants' knowledge or input to be undermined by 'correct' answers given by an expert. In contrast to this, a contradictory aspect was also observed during the learning initiative. This was expressed clearly by a participant in the Stores training, who reported a perception that the trainer had not taught anything—that he had not received 'training' or learned anything—due to the lack of (perceived) presentation of new ideas. The language used by this participant, *'it seemed you just told us what we already knew'* (researcher's notes), recalls the notion of the Appreciative characteristic as a re-configuration of the already-known, rather than new information per se. For some participants, their expectations and conception of the nature of a training course meant that an approach that drew out and built upon participants' knowledge and perceptions as a primary method was not seen as valid training.

A related concern, expressed several times by Head Office staff during the two rounds of action research, was that one of the things that made the training so effective and credible *was* the presence of a clear expert, who 'knew her stuff' and could answer challenging questions concisely and clearly. Some felt that without such an expert, the course would perhaps not be as impactful or accepted so readily by participants, especially in Head Office, where many participants were already very knowledgeable about environmental issues and the science behind them.

These issues were explored with the Champions in the focus groups. On the whole, they felt that an Appreciative approach, as developed in this initiative, would make them feel more confident in delivering the training, as there would be less onus on them to stand up and deliver all the 'facts' and 'perform' for the whole session. The possible value of doing more to set expectations and to flag up this learning style in advance was discussed in both the Stores and Head Office focus groups. Whilst it was recognised by the Champions that this approach can take some of the pressure off the trainer, as they are not the only 'provider of information', there was also recognition that the trainer would still need to know the material. They would also need to exercise skill in drawing connections between the material that is being presented and participants' ideas, and in remembering and referring to earlier ideas from participants throughout the course, for this to have the maximum benefit. The Champions saw having access to supporting resources with key facts and figures and FAQs as being important.

The tension between building upon participants' knowledge and the need to cover key information and principles can be exacerbated in a short session. When there is ample time, it is more likely that the facilitator will easily be able to draw connections between the ideas generated by the participants and the framework that is being used for Awareness-raising. In a short time-frame, it may be necessary to move more quickly than feels

comfortable, in order to cover the material in the timeframe. This was seen as a particular tension in Stores, when the sessions were shorter (two hours as opposed to three) and there were more participants with less scientific background (although this was by no means universal; several participants in Stores were very well informed about current scientific debates).

A related challenge exists in connection with the Awareness-raising characteristic; making the curriculum simple enough to be accessible and understood by most people and giving people enough background and understanding of the material to enable *them* to communicate and share what they have learned.

There is an implicit aim in the RoundView learning initiative, that *all* participants are empowered to be informal 'trainers'. Being able to do this is a learning outcome for a participant in the training. The process of trying to explain new ideas to somebody else also often reveals any gaps or confusions in one's own understanding. Common sense recognises that there is a difference between understanding something, or being skilled at an activity, and being able to successfully teach or explain it to others. The aim for all participants to become informal trainers, therefore, places greater demands upon participants and 'formal' trainers alike.

Part of this challenge is to help all participants learn sufficient background about the 'why' behind the ideas in the curriculum (the Guidelines in particular) to support them in sharing and discussing the ideas with others with confidence and ease, without making the whole thing seem too complicated or inaccessible. A pointer for trainers would be to consider making *this* explicit—the 'why' behind the 'why', i.e. make explicit that it is important that people feel able to share and discuss this material with others who have not been on the training. As such, time spent going into the reasons behind the Guidelines will enable them to do this with more confidence as they will be more able to answer questions.

The desire to achieve a level of understanding in participants that is sufficient for them to share what they have learned is closely connected with the train-the-trainer strategies being developed in this pilot. These aim for swift and effective propagation of the learning—with integrity. This illuminates a tension that exists between short-term and longer-term efficiency in training for sustainability, one which was reflected in comments by several participants in the learning initiative. Some felt that it would be enough for their purposes to attend a brief (e.g. 30 minutes to an hour) introduction to this curriculum. Others, in contrast, appreciated the need for sufficient time to allow these ideas to really 'sink in'. A case in point would be one of the Champions from Head Office, who reported significantly increased clarity, understanding and confidence to communicate the RoundView ideas after having attended the *second* full course (which, for this participant, represented about 12 hours of training in total).

Shorter training sessions and less contact time would certainly not result in a learning experience that was devoid of value. Participants in such an initiative, however, would be less likely to be able to make a significant contribution to the spread of the learning through the organisation independently. There would simply not be enough time for them to learn enough, or to experience the Action-led cycles of engagement and reflection that these two initiatives have suggested are necessary for skills and confidence to develop. Thus, a reduced time input in the short term (via shorter training sessions) may lead to a much greater need for on-going 'expert' input over the longer-term. This could undermine the strategy of empowering people within the organisation to propagate and develop this

curriculum effectively, without ongoing external support. This would have an associated increase in costs (of time, money and opportunity) over the longer-term.

Drawing these themes together: both the Awareness-raising and Appreciative characteristics present challenges for trainers, which in both cases are likely to be exacerbated by attempting to deliver any training more quickly than was modelled in the learning initiatives during this programme. To use a culinary analogy, one cannot bake a cake in half the time simply by doubling the temperature. The evidence from analysis of these initiatives suggests that the time allocated in the second pilot should be viewed realistically as a minimum, rather than as something that might be reduced through streamlining or optimisation. Shorter introductions and even introductory training sessions may still be useful, but these need to be clearly framed as simple introductions.

Explaining to participants the reasons why it is important that they learn the curriculum differently and in more depth than they might naturally expect (as mentioned above), is an example of a broader pattern that analysis of this project suggests trainers would do well to bear in mind—management of expectations. This is important on various levels. Whilst outside the remit of a trainer, the framing of the whole learning initiative, (i.e. how participants are introduced to it and its purpose), has been identified as significant. It merits more attention than was given in this round of training, for example, several participants said they did not know what they hoped to get from the training and were not clear what its purpose was when they started.

For future training of trainers, it may be useful to note the range of patterns of activity-presentation-feedback that shaped each of the sessions, and the value of trainers introducing the fact that there will be several different types of activities at the outset, to engender an expectation amongst participants that there will be different learning processes and styles. When combined with periodic reminders of timing, the overall flow of the day, and key messages that need to be reinforced—for example, 'this is a time for you to consider how these ideas relate to your job roles and to Tesco'—can help manage participants' expectations and guide them smoothly through the learning process.

The example just given, of making explicit to participants that a particular exercise offers 'a time to consider how this relates to your role', might at first seem redundant or even patronising. There is a risk, however, that unless this connection between the exercises and participants' real work is emphasised in the introduction of the exercises it is quite possible for the connection to be lost. There is a parallel here with a common experience in University teaching. Students often say they don't receive feedback, as they have a somewhat fixed perception of what feedback is, i.e. formal, written feedback. It has been the Principal Investigators' experience that ensuring that instances of feedback are clearly framed as such, reduces students' sense that they are not given feedback on their work. Several participants commented that they would have liked to have had more opportunity to relate their ideas about sustainability to their work roles, despite frequent opportunities arising during sessions. The fact that these were not noticed by several participants supports the argument that pointing them out as they arise would help participants to better engage with these opportunities.

In making these links between the new ideas and the work context, the trainer needs to attend to a common reaction in the individual: a feeling that the problem is bigger than them (probably true) and that their actions are not going to make a difference (probably not true). This has been addressed in this initiative through a conscious attention to the role that each person plays in Tesco (their sphere of influence) and by emphasising that many

things can be done to 'change direction' and move towards a positive vision of sustainability. Further developments could include more explicit attention to the different roles that people play, in their home and community lives, and provide opportunities to discuss how to make a difference in these different domains.

There can be a tension between the Appreciative characteristic, which seeks to give recognition to people's existing knowledge, and the Associative characteristic, which seeks to give everyone a voice and include all participants in the conversation. There is a potential danger that participants who have more knowledge, experience or confidence could dominate the conversation when there are openings for information or opinions to be contributed by the learners. Other factors, such as gender or self-presentation, may also contribute to an 'unbalanced' distribution of time and attention between participants. An example of this could be seen in a few incidences in the Stores training, with one participant who came in with a high level of knowledge. In the first round of training in the Sustainability Skills Project, one of the training sessions had people with a very varied range of experience and knowledge of environmental issues. Several people were able to give detailed and technically astute answers to some of the early questions. Two observers of the workshop noted that the people with more knowledge tended to speak more, whilst the others were not as comfortable developing their ideas in plenary.

The Appreciative characteristic can thus create a tendency towards one voice or a small group dominating the discussion, as it gives ample opportunity for individuals to demonstrate their knowledge, at times to the detriment of others' voices and perceptions. A trainer needs to be sensitive to this, finding ways to manage the situation appropriately. For instance, an improvement to the training process that was trialled in this round of training was to include more time for people to discuss the key questions at their tables, and in pairs, which meant that which meant that all attendants had opportunities to contribute and may have developed more confidence to speak in the plenary sessions. A train-the-trainer programme needs to demonstrate these different modes, and show strategies for how to decide when to best deploy them, given the particular group dynamics.

The hands-on exercises, during which everyone had the opportunity to input ideas, such as using Ketso, were found to be a great asset in reducing dominant voices by giving everyone an opportunity to develop their thinking and add it to the group picture. From observing the videos, it was noted that trainers may need to model how to use the tools and encourage people to start using them effectively. An example of this was demonstrated in the Stores training, when one of the research team moved to help a quiet group, by putting out some 'leaves', and encouraging participants to use them to write their ideas, with some encouragement to coax out the first few ideas. The *way* of using the hands-on tools, particularly Ketso, is very significant if they are to have the desired impact of contributing positively towards the management of the group dynamics. There are 'guides' built into the process that go a long way towards ensuring everyone feels involved and able to participate. If these are not followed, however, a group can easily slip back into its natural pattern of dominant and passive participants, despite the presence of the tool.

The hands-on tools introduced in the training have a variety of positive aspects. They can take some of the pressure off the trainers, as they provide something for the participants to focus on and do, rather than the facilitator having to provide all of the facts and 'entertainment' (this was noted as a positive aspect by the Stores Champions). Perhaps more significantly, their very nature is conducive to learning: they appeal to a variety of learning styles, support coherence and integrity between learning interventions at different times and places, and can contribute usefully towards cultural change in their own right.

Figure 17 Facilitator modelling how to use the hands-on toolkit

During the first Sustainability Skills project, these qualities associated with the hands-on tools were thought to be best considered as part of the Action-led characteristic, being perceived to be most connected to the 'activity' phase of the learning cycle. During the analysis of this second learning intervention, however, it became apparent that these were sufficiently distinct characteristics that ideally they merited identification as a characteristic of effective sustainability learning initiatives in their own right, not just as part of the Action-led learning characteristic.

Furthermore, in thinking how this learning initiative could be scaled-up, we realised that we would need to pay attention to improving the ease with which key concepts can be remembered, particularly by trainers but also more generally. As people move from being learners of new materials to being able to spread their new learning to colleagues, customers and community members, we felt it was important to endeavour to encode key concepts, such as the 4As framework underpinning the learning process of the RoundView, into mnemonics that were easy to remember. Yet we found that was not the case with the 4As (even the research team got confused amongst the As). Additionally, some of the words in this original framework lack precision; their meanings are not clear enough at the outset for a lay audience. An example of this is the term Associative: its broadness creates ambiguity, obscuring the intended meaning (making associations between people) when divorced from the literature used to develop the concept. In keeping with the iterative nature of action research, we devised a new framework, which became known as SHAPE: **S**ocial, **H**olistic, **A**wareness-raising, **P**ositive & **E**xperience-led. This is developed below in the context of the RoundView learning process.

4.4.1 Developing the framework – Introducing SHAPE

The new framework SHAPE is directly derived from the 4As framework discussed above. Recognising the need to more clearly present the important characteristics associated with the 'hands-on' tools as distinct from the cycles of learning and reflection that were referred to by the term Action-led in the 4A framework, the SHAPE framework includes a fifth characteristic—that of Holistic learning, see Table 6. It also represents an attempt to use words that are easier to grasp on an immediate level than those in the original framework, but which still allow for depth and links to relevant theory once they are explored. The aim was to create a memorable mnemonic that was easy to understand intuitively.

Table 6 Relationship between SHAPE and 4A framework

SHAPE	4A equivalent
Social	**A**ssociative
Holistic	
Awareness-raising	**A**wareness-raising
Positive	**A**ppreciative
Experience-led	**A**ction-led

Each part of this new framework is described in the following sections, with reference to the relevant theories that have been used in clarifying and developing the framework during this round of the action research.

4.4.1.1 Social

The Social characteristic in this new framework is developed directly from the Associative characteristic in the earlier 4As model. The word social more clearly expresses the dynamic of people learning with and from each other than our original word, and clearly links this characteristic to the concept of social learning. The term social learning was first made popular by Bandura (1977), a psychologist who is widely seen to have changed the direction of psychology by focussing on the way that people learn based on the imitation of role models. Theories of learning are increasingly aware of the socially constructed nature of the learning process.

The RoundView learning initiative was designed from the start to encourage social learning and to encourage all participants to gain new skills and confidence in communicating about sustainability with others. A social learning orientation was integrated in the course in the learning activities, and was also encouraged though the action steps that participants were asked to carry out between sessions.

Research published in the 'British Educational Research Journal' highlights the important links between social processes of learning, termed connectivist theories, and creativity:

> *"Connectivist theories of learning are helping us rethink the dynamics of a creativity-enhancing learning environment by paying less attention to the sources of our information and more attention to processes through which knowledge and information are transferred and translated within and across our social networks." (McWilliam and Haukka 2008, 656)*

In the sustainability field, the process of creating new knowledge and new ways of doing business is seen as requiring social learning. Organisational learning for sustainability is seen to *"rely heavily on communication or, more precisely, on understanding the problem as well as on developing and testing new rules"* (Bleischwitz 2003, 460).

In addition, making changes in an organisation, especially changes such as those implied by re-thinking business models and processes, requires people to coordinate actions and work effectively both in their units and across teams. Effective learning initiatives for change encourage exchange of information between people who do not normally communicate, by deliberately engaging them in 'learning conversations,' especially between people 'in' the learning initiative and those not involved at the time. This encourages dialogue and learning to not just spread, but to be challenged and deepened.

The learning process of the RoundView aims to forge new social connections and learning between people at multiple levels of the organisation, across different work groups, teams, geographic locations and job levels. A key advantage of social learning is that new insights can emerge from the social process of discussing ideas from different perspectives, which in turn encourages questioning of taken-for-granted mental models. Numerous people at different levels of the organisation need to work together to make the changes necessary for sustainable action.

4.4.1.2 Holistic

In this new framework, the term holistic refers to the notion of 'wholes' and systems, on different scales. There is a particular emphasis on the 'whole brain', but also, in relation to spreading and embedding learning, looking at the 'whole system' of the organisation. Most importantly, the RoundView in its essence seeks to bring attention to the 'whole system' of the Earth, including its ecosystems and constant input of energy from the sun, as the central frame for the sustainability challenge.

The work of educationalist John Dewey (1925; 1933; 1938) has inspired the pedagogical approach of the RoundView. He *"focused on the whole complex circuit of organism and environment interactions that makes up our experience, and he showed how experience is at once bodily, social, intellectual, and emotional"* (Lakoff and Johnson 1999, 97). This work has been developed by cognitive scientists, in particular Lakoff and Johnson, into the concept of 'embodied realism' At the same time as implying a 'realism' based on the physical nature of the body and its interactions with its environment, embodied realism implies an active process of constructing meaning through this interaction. Meaning is literally embodied through the act of engagement. Mingers and Brocklesby (1997, 500) describe embodied cognition: *"as an individual confronts new situations, various experiences are gained through thinking, sensing and moving."*

The 'hands-on' tools used in the RoundView learning process represent an attempt to enable more accessible and effective 'whole-brain' learning for a wide variety of people with different learning styles and preferences, such as a tendency towards learning through visual, auditory or kinaesthetic means. This engages Gardner's (2001; 2003) multiple intelligences, creating a fertile and productive learning environment. Ways of knowing which become embodied in the self are then transferable to other contexts, for example, as individuals move between the training and their workplace.

The 'Holistic' aspects of the training design also support the Social characteristic, as the hands-on learning tools support learners in collectively developing an understanding of how their ideas relate to each other and to real world events, providing shared ground upon which diverse participants can stand and co-create a meaningful learning experience.

Ways of knowing which become embodied in the self are transferable to other contexts, as individuals move between the training and their workplace. The Holistic process of learning encourages participants to connect their ideas and emotions from the self to the whole, looking at the nested levels of self, for example, the self in a work role, the self in the organisation and the self as a member of a community and a member of the global community and ecological cycle.

4.4.1.3 Awareness-raising

The RoundView learning initiative deliberately sets out to raise awareness and to introduce Guidelines that are based on commonly understood and accepted scientific principles. As Karl-Henrik Robèrt says; *'you can't argue with the second law of thermodynamics'* (pers. comm., in workshop, Schumacher College, 1997). The Natural Step set out to create a framework of commonly agreed principles about what it would actually mean to move in a sustainable direction, building on commonly agreed scientific principles as a basis for action (Robèrt 2002; Robèrt et al. 1997).

As discussed above, The RoundView took this as a starting point, as a powerful tool for encouraging strategic action with a higher likelihood of moving towards sustainable practice in a systemic way. The need for Awareness-raising in a learning initiative orientated to change, was given further impetus from environmental change management literature, which stresses the need for consciousness-raising to motivate action (e.g. Ballard 2005).

Such a process is not without its tensions. Meppem (2000, 48) cautions that definitions of sustainability are contested:

> *"Any attempt to define sustainability in a positive, normative sense neglects the complexity that sustainability implies. Rather, a more appropriate strategy would be to open out the debate between development and environmental integrity in particular contexts."*

In the RoundView learning process, we contend it is valuable to raise awareness by introducing clear Guidelines at the global level that point to a change of direction, as well as by working out the implications for these Guidelines in particular contexts. Thus, it is possible to link together a process of creating and exploring meaning in a social context with teaching clear principles based in science, agreeing with Gough and Scott (2003b, 9) *"though this approach [to sustainable development and learning] is saying that the world is socially constructed, it is not saying the world can be any way we want it to be. It is not saying we can know nothing, only that we cannot know everything."*

If we need to go beyond current practices, Awareness-raising can help us to break out of our existing mental models and to see our current practices from a new angle. We posit that such 're-viewing' of the current situation is necessary to achieve the types and scale of change necessary for people to be able to thrive now and into the future.

As discussed in the analysis of changes to the RoundView curriculum in the Section 'Analysis of changes to curriculum in second initiatives', there is a possible tension between the apparent simplicity of the ideas and the profound nature of their implications. The graphics used to introduce the Guidelines are designed to be simple and appealing, and to draw on commonly understood metaphors, so that participants can 'locate' themselves in the picture of global sustainability. This is a conscious approach – the ideas are simultaneously common sense *and* profoundly challenging to our current worldview. The learning process is deliberately structured to cycle between these seemingly contradictory states. This is challenging work, a key factor to bear in mind in training trainers. The simple concepts and graphics of the RoundView can be (and sometimes are) dismissed as overly simple – the comment that this aspect of the training was 'patronising' was heard in the Sustainability Skills research project. At the same time, they challenge many 'commonly held', common sense views of the world. This is a fundamental tension – we need to draw on what makes us human, our common biological heritage, and often we have shortcuts in our mind that mean we think we know what these ideas mean, yet we have lost sight of the actual implications. In colloquial terms, often when something seems like common sense, you 'stop thinking'. Yet, it is only in 'common terms' that we can create a shared understanding of how we may be able to achieve a sustainable future.

4.4.1.4 Positive

This characteristic has been developed from the earlier concept of an Appreciative characteristic, partly because the word 'positive' is a commonly used term, which seems more accessible than the more academic term used initially, which came from work in appreciative inquiry (Cooperrider and Whitney 1999; Bushe and Coetzer 1995), and partly because it is more generally descriptive of the character of the learning approach used in the RoundView curriculum.

The term Positive in the RoundView learning context has three main aspects: first a general orientation towards taking a positive attitude towards learners' own perceptions and understandings; second the notion, akin to appreciative inquiry, of building upon what is going well as the foundation for change and learning; and third, the recognition of the need for positive conceptions and visions of a more sustainable future that can inspire and direct the changes in practice needed to create it.

The RoundView learning process starts with questions to draw out people's thoughts and then provides stepping stones and a process to link these perceptions to the wider framework that is being introduced. This approach recognises that *"we interpret new information and experiences in terms of our existing mental constructs"* (Jarvis, Holford, and Griffin 2005, 162). The linking of global principles to the local context (identified as an important goal in the above discussion of the Holistic characteristic) is enabled by taking a Positive approach. Attention is paid to sequencing and to the tone of inquiry. Starting by asking what is working well in the client system rather than by asking what is going badly allows new ideas to build upon, and make the most of, what is working well already in the organisation. Such a positive attitude also helps build motivation, especially when used as an ongoing process of exploration and review, by validating people's actions and maintaining their enthusiasm for further change.

The Positive characteristic is deliberately invoked in the early questions posed during the RoundView course, with the two questions framed from a negative perspective coming later in the sequence and followed by further questions with a positive framing:

- What does Tesco do well in terms of sustainability?
- Why is sustainability important to Tesco?
- What are some of the key challenges facing Tesco with regards to sustainability?
- What do we already know about the Earth? How does it work?
- Where do humans fit into the picture?
- What do we need as humans to keep going?
- What would be the advantages of having a handful of guidelines that showed us what we needed to do to be sustainable?
- What might these Guidelines be?

As discussed above, a core development of the RoundView has been in creating positive Guidelines for a sustainable future. Drawing on the literature about the value of a positive approach, we reconsidered and re-presented the Natural Step principles for sustainability, which are framed as 'things we needed to avoid doing' as a society. We have developed a set of Guidelines with the aim of having a similar rigour and comprehensive nature as the Natural Step's scientifically grounded principles, but that are framed in the positive—as something to strive towards. This approach is supported by recent research into the cognitive basis for sustainability change, which suggests the value of *"imagining long term sustainability: How to transform saving into maintaining our civilization"* (Antal and Hukkinen 2010, 942).

This third aspect of the Positive characteristic has proven to be particularly appealing to Tesco staff during initial pilots, as expressed for example in this comment by a Head Office participant *"this is why I've been so interested in the RoundView, because everything about sustainability is usually being told what we should stop doing, not what to do. As human beings we rile against that. This can be very powerful, especially as it says we can carry on living and enjoying ourselves but in a better and more clever way."*

The inclusion of Awareness-raising about a science-based framework for sustainability and a Positive approach towards people's knowledge development could seem to create a paradox within the curriculum. There is a dynamic tension between a requirement for adaptability and an educational philosophy of working with the learners' own ideas and processes, but at the same time, a need to raise awareness of key scientific knowledge and the core Sustainability Guidelines. As Waage (2003, 12) says, *"it takes a common understanding of sustainability and overarching principles to begin moving in the direction of sustainability"*.

This tension is recognised in the RoundView curriculum, and both attitudes are seen as important. A learning design which includes dynamic cycling between these modes is seen to generate a creative tension that can maximise the value of both characteristics. The aim is to do this in a way that a shared language and common framework is developed for people to use in working together.

4.4.1.5 Experience-led

Kolb's (1984b) concept of the learning cycle has had a deep influence on learning theories; in the RoundView learning process, each session is consciously designed to include cycles of action, reflection and deepening of learning, as a preparation for further action. There is also an attempt to generate action between the sessions, as food for further reflection in subsequent sessions.

In the original 4A framework, this characteristic was called Action-led. This terminology caused some confusion, however, as it was seen by some to refer only to the action part of the cycle, whereas the intention was for this term to refer to the whole cycle, with periods of reflection and planning for further action seen as part of this characteristic. This confusion led to re-naming this characteristic to Experience-led. This draws on John Dewey's (1925; 1938) focus on experience as the basis for learning, with participation seen as *"a core element in meaningful knowledge creation processes"* (Greenwood and Levin 2000, 95). The intention is for this new name for the characteristic to make clear the idea that the learning is based on experience, but requires cycles of reflection and learning from experience as well as the experience itself. Thus, the design of cycles of reflection, deepening learning and planning for further action, are part of the Experience-led learning cycle. The experience could have happened before the learning intervention, or could be during the learning intervention.

The need to clarify this concept has led to an idea for future development as part of the RoundView, namely the advantage of creating a tactile learning tool for each core element of the learning content. In this example, it would be a tool to represent the stages of the learning cycle, so that participants can become more aware of the learning process that forms part of the curriculum.

Any learning initiative about sustainability needs to be entwined with action:

> *"Both research and applied work within companies has shown that to create true, lasting, institutional change, both vision and action must be tightly intertwined and performed in tandem. Since the pursuit of sustainability generates major changes in an organization, this vision-action bond is critical." (Derek Smith 2003, 93)*

In order to embed change within an organisation, it is important that learning opportunities also open up spaces for people to question what they can do, and to develop new ideas for sustainability. The idea that learners need to actually translate new ideas into their own context, in order for it to be useful to that context (Jonassen and Rohrer-Murphy 1999) is echoed in research into the cognitive dimensions of moving toward eco-efficiency (Bleischwitz 2003, 459). This need for people to engage with ideas and see how they relate to their context needs to be born in mind in any future revisions of the RoundView curriculum. This is especially so, in light of the request from several learners on the course to be given clearer guidance on what they were supposed to do with the ideas, and to be told how these ideas related to their roles.

By encouraging people to pause and reflect on their practice and their wider environment and to think systemically about how the two interact, deeper learning can be encouraged, encouraging new ways of being and doing in a sustainable world.

It is important that learners challenge their underlying assumptions, a further prerequisite for the type of change envisioned in the need to *'rethink the way we live and work'*. Such questioning is supported by cycles of Experience-led learning that ensures stages of reflection, encouraging a questioning attitude.

Key points 8 Challenges and implications for trainers

- **There are dynamic tensions between the different characteristics of effective learning, which may be inherent in learning but can be mitigated by skilled facilitation**
- **Sensitive facilitation is required to create an Appreciative approach that validates participants' knowledge and experience in a context when it is also important to impart 'facts'**
- **Several participants commented that the perceived expertise of the (external) trainers helped give credibility to the new ideas introduced in the learning initiative (especially in Head Office)**
- **The Appreciative approach, which enables the facilitator to draw on people's existing knowledge and ideas, was seen as important in enabling non 'experts' to engage in the training**
- **Shorter sessions mean achieving the balance between an Appreciative and Awareness-raising approach is more difficult, as there is less time to develop ideas *and* cover the material**
- **The time allocated in the second pilot should be viewed realistically as a minimum for 'foundation level', rather than as something that might be reduced through streamlining or optimisation**
- **Shorter introductions and introductory training sessions are likely to be useful, but these need to be clearly framed as simple introductions**
- **Balancing a simple curriculum, which is easy to understand, yet with sufficient information for participants to be able to pass the ideas on to others, is a non-trivial task**
- **A good understanding of something does not necessarily imply being able to teach it well; consideration of the process of learning and skills in structuring the learning experience is also necessary**
- **It is important to clearly emphasise the connection between the exercises in the training and participants' work and job roles**
- **All participants to have a voice through the use of hands-on learning tools, which allow everyone to input ideas (everyone has a pen)**
- **Hands-on learning tools appeal to a variety of learning styles, as well as taking the pressure off trainers to 'perform'**
- **Analysis led to the development of a modified framework for effective sustainability learning initiatives, SHAPE (Social, Holistic, Awareness-raising, Positive & Experience-led)**

4.5 Chapter Summary

This Assessment of the Second Learning Initiative Pilots has provided further evidence of the value of the RoundView curriculum for learning. Key themes that need to be taken into consideration in a scaling-up process emerged.

Analysis of the participants' experience suggests an increase in their understanding and motivation to change, but also showed that they encountered difficulties in incorporating these new ideas and making changes in their work roles. With regard to the learning outcomes of the second round of this learning initiative, analysis of the data tells essentially the same story as it did in the first round. Participants reported seeing a 'bigger picture' and joining-up previously understood, but disconnected, ideas into a more coherent whole. Motivation to implement the ideas expressed through the RoundView Guidelines was demonstrated, along with an increase in positive attitude towards sustainability in general and within Tesco.

Frustrations or difficulties were largely around people's uncertainty about how and what they were learning or exploring could fit in with the day to day demands of work within a role, particularly without specific guidance or clarity on this matter from participants' line managers and higher work-levels. This curriculum has now been tested within Tesco with five cohorts of staff, and has been shown to be a solid platform upon which a 're-think' of business practice—to make it genuinely sustainable—could take place.

These changes were largely seen to achieve the desired purposes, making the curriculum easier to spread and embed. The new phrasing of the Guidelines and increased attention to, and clarity about, the metaphor of a 'change in direction' were well received and perceived to enhance the value of the ideas. The Sustainability Evaluation Tool proved to be a valuable addition to the curriculum, particularly in its second manifestation in Head Office using the Ketso grid to enable a more flexible and hands-on experience. The adaptations of the curriculum to the Tesco context (such as renaming Takeaway Tasks as 'Next Steps' and including elements of competition) worked well and received positive feedback. The only change for which there is any significant evidence of a negative impact on the curriculum was the reduced duration of the total training course in Stores.

The unexpected configuration of attendees during the Stores training (with pre-identified Champions who had not previously attended the training, as opposed to the intended Champions who had) added another consideration that makes it difficult to clearly attribute challenges within the Stores context to any one factor. With this in mind, the Stores training was considered to provide a supportive learning experience, especially given the significant progress that Champions made in their learning and communication by the final focus group, which will be described in the next chapter (5).

Overall, this analysis has shown that the '4As', Appreciative, Awareness-raising, Associative and Action-led characteristics of an effective learning initiative offer a useful framework for structuring learning activities, enabling reflection and supporting learning. The Action-led characteristic emerged as the most challenging to fully evoke in the current context and stage of the initiative, due to the need for real practical application of learning to take place in the work context, if full cycles of Action-led learning are to occur. The analysis inspires confidence that all four characteristics were necessary, and indeed that they work together in a synergistic way. This suggests that the 4As inform a system of learning that is most effective when all characteristics are considered and the course is designed in such a way as to maximise the beneficial connections between them, as in this learning initiative.

Analysis led also to the realisation that a fifth characteristic was required to adequately represent the RoundView learning approach. We identify this as a 'Holistic' characteristic, such that the learning initiative is developed with the whole system in mind, in a way that engages the whole body and whole mind. This characteristic also refers to relating learners' experience to nested levels of scale, from the individual through to the global. This new characteristic was incorporated into the 4As, which was then developed into the SHAPE framework (**S**ocial, **H**olistic, **A**wareness-raising, **P**ositive & **E**xperience-led). This provides a memorable and potentially useful way of representing the characteristics of effective sustainability learning initiatives. This framework now offers a heuristic for the adaptation of the RoundView learning initiative, and can be seen as a framework to be tested in developments of other learning initiatives for change. It is further explored in the discussion of the train-the-trainers pilot in the next chapter.

5 Train-the-trainers

This action research undertook a small scale pilot of 'trainer-training' with staff from Stores and Head Office acting as Champions. This allowed the researchers to experience and explore the wider contextual shaping any 'scaling-up' of this approach within Tesco would require. This exploration is the focus of this section of the report. First, drawing upon the evidence and analysis from both rounds of action research, likely characteristics and parameters for a successful train-the-trainer approach to 'spread' the RoundView curriculum are discussed. Second, the experience of the pilot train-the-trainer programme is assessed.

Some form of training or educational programme is likely to be needed in order to spread new learning throughout an organisation. A train-the-trainers approach can be described as one in which *"certain individuals within an [organization or] agency are trained in a designated set of skills and subsequently taught, and expected, to train the designated skills to other staff"* (Green and Reid 1994, 220). The approach is also known as 'cascading' (see for example Wedell 2005).

Previous research in many different fields suggests that train-the-trainer approaches have a number of benefits. A review of literature from the Health Care Sector (staff development in nursing, Bess, LaHaye, and O'Brien 2003), tour guide training (Weiler and Ham 2002), tobacco cessation (Corelli et al. 2007), breast cancer health work (Meneses and Yarbro 2008) and alcohol intervention work (Morleo, K. Hughes, and McVeigh 2007), the construction industry (Trabeau et al. 2008), special needs education (Green and Reid 1994), schools (Jones, Fremouw, and Carples 1977), a chain of bookmakers (Mangham 1995), young persons' computer literacy (Mutchler et al. 2006) and a programme about alternative fuels for vehicle technology workers (A. M. Smith et al. 1996), generated the following list of benefits from a train-the-trainer approach:

- Multiplier effect to maximise effect of training
- Efficient in terms of time and money
- Facilitating learning not only by the trainees, but also by the trainers
- Helpful in building up an in-house 'hierarchy of expertise'
- Able to benefit from local knowledge and therefore adapt information for a range of audiences
- Can be an equitable and inclusive approach
- Can potentially perform as well as 'expert' training in terms of the spread of technical information, whilst also being a way of spreading cultural and behavioural change alongside technical information.

A central challenge is learning how to enable 'spread' whilst maintaining the quality of learning, in a way that supports the adaptation of the ideas to different contexts without loss of coherence or integrity (for a discussion of this concern in the field of urban sustainability, see Bulkeley 2006; Owens, Petts, and Bulkeley 2006).

5.1 Overview of train-the-trainers pilot

'Train-the-trainers' seemed an appropriate and expedient approach to explore in this action research, bearing in mind the scale of the challenge of spreading sustainability learning throughout such a large organisation as Tesco, with the related goal of this learning spreading to stakeholders with whom Tesco interacts, its customers, suppliers and the communities in which it operates. A rapid increase in sustainability understanding, skills and practice is needed; therefore, developing and increasing training capacity at all levels is a matter of urgency.

A train-the-trainer pilot was conceived for this project to allow Champions from Tesco in Head Office and Stores to experience a level of training towards becoming trainers, able to assist in the training and deliver an introductory presentation about the RoundView to other Tesco staff. This pilot had dual purposes: as well as training, it would allow the Champions to participate as co-researchers, both in developing and shaping the learning initiative and future improvements, and in providing valuable data and reflections on mechanisms for spreading and embedding sustainability learning in Tesco.

The design of the train-the-trainer pilot involved participants who had attended the first round of the learning initiative attending a second time as assistant trainers. Additional train-the-trainer sessions were scheduled before and after this round of the core initiative (two in total in both Head Office and Stores) to provide an opportunity for the Champions to develop new skills, and to reflect on the training process in the context of exploring possible ways to spread and embed the learning in Tesco. The Champions would undertake new tasks such as explaining an element of the course, or facilitating exercises at the tables, so that they could gain in confidence and skills, a process known in pedagogical theory as scaffolding (see for example Halttunen 2003; Vygotsky 1962; Vygotsky 1978). This idea of having learners from the first round of training acting as 'faculty' in a subsequent round was used to good effect in a large action research project in cancer training (Meneses and Yarbro 2008).

The first train-the-trainer session was designed to allow the Champions time to reflect on their experiences of training (both in general and in their experience of the RoundView learning initiative), particularly on what had worked well. This was to build the foundation for them to develop their own style and approach, whilst at the same time providing pointers as to what to look for during the up-coming training sessions with their colleagues, and thus developing their observational and reflective capacities.

In the second train-the-trainer session—after having assisted during the second round of the learning initiative—Champions had an opportunity to reflect upon this second experience of the RoundView learning initiative and their observations of the learning design. In this session participants were also asked to plan and deliver a ten to fifteen minute introductory presentation about the RoundView. It was seen that this level of train-the-trainer development would enable participants to become more effective agents of change, able to spread high quality information through short presentations. This also represented a reasonable level of development, sitting between a full trainer (requiring more time and training than participants had available) and a course attendee. The need for such short presentations, aimed at a wide range of Tesco staff and able to be integrated into staff meetings, emerged as an important idea for spreading the learning of the RoundView during the course of this action research.

The pilot train-the-trainer plan can be summarised as:

Pre-requisite – trainee trainers need to have attended RoundView course already[18]

Pre-briefing/training session before the second round of course (1 – 2 hours)

Attend course as 'apprentice' (2 sessions in total), and engage in activities to include:

- Small group facilitation
- Explain parts of the curriculum to small groups
- Present short pieces of the curriculum (if participant feels comfortable with this)
- Answer questions
- Observe and reflect
- Give feedback for development to the course leader

Post-training reflections/de-brief (1 – 2 hours), including:

- Plan and deliver 10 minute presentation
- Gain feedback from the course leader on their performance
- Reflect on the course process and discuss how they would adapt it to suit their individual style
- Discuss core elements of the RoundView curriculum to reinforce learning and clarity of message

Key points 9 Overview of train-the-trainers pilot

- **A train-the-trainer approach was chosen for this initiative to test its potential to enable rapid spreading and embedding of the sustainability ideas throughout the organisation.**
- **Participants who had attended earlier training, and who wished to be more involved, were invited to attend second round of training as Champions**
- **Champions attended train-the-trainer sessions before and after the second iteration of the learning intervention**
- **These Champions undertook elements of training on the course, such as facilitating in small group discussions**
- **Champions were mentored to deliver a brief (10 minute) presentation to peers during the final session**

5.2 Design principles for train-the-trainers pilot

A logical starting point for the design of a RoundView trainer-training process is to apply the same principles in learning to train the RoundView that have been successfully trialled in teaching the RoundView itself. Thus, the SHAPE framework described previously has informed thinking about how to craft an effective 'RoundView trainer' learning initiative. It should be emphasised that this structure is emergent, and whilst tested in two rounds of the learning initiative training, is yet untested by research in a full train-the-trainer context.

[18] Note the Champions in Stores, with the exception of one participant, were new to the material. In Head Office, one person joined the groups of Champions having just attended one session of the new RoundView learning initiative, but he already had a strong degree of familiarity with similar materials and approaches (having been taught the Natural Step on a Masters degree).

Nevertheless, the framework provides a convenient and useful organising device through which the issues and ideas can be presented and explored, which is aligned with the core concepts informing the RoundView curriculum.

The principles underlying the approach are described below, under the five headings of **S**ocial, **H**olistic, **A**wareness-raising, **P**ositive & **E**xperience-led.

5.2.1 SHAPE in the train-the-trainer pilot

5.2.1.1 Social

Peer support was seen to be essential in building people's confidence to go into a challenging training environment as trainers. It was seen as important to ensure that social learning about the processes of training in this (culturally) new way was encouraged through the train-the-trainer process—ideally such that communities of practice would emerge to continue to support learning and exchange of information over time (Wenger, McDermott, and William M Snyder 2002). Thus, training the trainers was seen as being essentially a social process that encourages and requires people to challenge and support each other.

Rogers (2003) argues that a distinctive aspect of diffusion is that at least some degree of heterophily[19] is usually present in communication about innovations. In this context a consideration of heterophily is primarily reflected in the design of the RoundView programme, with its emphasis on bringing together learners from different levels and functions. This builds on recent research into multi-level interventions, which are seen to "*address change efforts at multiple social levels in the hope that effects at each level will forge synergistic links, facilitating movement toward desired change*" (Schensul 2009, 241). This principle also stands when considering the training of trainers, supporting the creation of rich learning environments that stimulate and assist the adoption and propagation of the new perspectives and methods in training.

This attention to including learners from different levels and functions in train-the-trainer initiatives relates to the identified need to adapt learning and ideas appropriately to the context of the learners, if they are to be taken up and used; "*The cultural relevance defined by the target population cannot be underestimated*" (Meneses and Yarbro 2008, 270). A training process that is mindful of this consideration is required, and any 'defining' of 'cultural relevance' must surely be a social process. The RoundView consciously seeks a 'relevant' shared language that enables meaningful communication about sustainability issues throughout a culture or organisation, created and propagated by both learners and 'trainers'.

[19] Heterophily is the degree to which two or more individuals who interact are different in certain attributes, such as beliefs, education, social status, and the like.

5.2.1.2 Holistic

The Holistic characteristic implies taking into account the whole mind and the whole body in learning. Several hands-on and visual learning tools have been developed to support this holistic approach as part of the RoundView learning process. A major component of the thinking behind making the RoundView easier to 'spread' through the organisation lies in the development and use of 'hands-on' tools that trainers can use to support learners. This has many advantages for trainers. For trainers, having activities in which the learners bring their ideas to the table, then together explore the inter-relationships between them, helps them to draw ideas out from learners. This can be less challenging than if they had to stand at the front and take feedback and ideas in a more traditional manner. This is an important consideration in the context of a train-the-trainer methodology, where 'trainers' are not necessarily professionals with prior experience or skill in training per se.

Figure 18 Felt tools for collecting participants ideas and felt based graphics

A further aim of developing the 'felt animations'[20] of the Guidelines and key principles in the curriculum was to embody the key concepts, ideas and processes into the tools themselves. The aim is to create an integrated, coherent teaching and learning system. This supports participants at every stage with tools that reduce the need for trainers to remember key facts and ideas, that also provide a series of 'stepping-stones' through the learning pathway. In addition to the support that these tools provide to the trainer, the creation and refinement of such tools is an important component of the strategy for maintaining integrity of the learning as it is 'rolled out'.

[20] Felt animations are made up of pieces with images on them akin to a jigsaw where the images can be arranged to make up the full graphics of the RoundView. These are called animations because the facilitator or participants 'animate them' by building the pictures up step by step and by moving the elements around.

With the core messages, ideas, facts, questions and processes embodied into tools, it is hoped that there will be a greater likelihood of a cascading training process that builds, rather than loses, quality and effectiveness over time.

5.2.1.3 Awareness-raising

In the RoundView curriculum, it is important that learners understand the cyclical nature of the whole Earth system, and the positive Guidelines for Sustainability that form a core component of the learning. A trainer clearly needs to understand what is being taught, but also needs to go further to be able to respond to the needs and questions of learners appropriately.

Gardner, the originator of the concept of multiple intelligences and a highly regarded theorist in education, suggests that thinking about mind change as a sudden epiphany is unhelpful, especially as this way of thinking limits conscious design to make mind changing more likely. In general, Gardner (2004) suggests that a shift in mind is likely to coalesce when we employ the seven levers of mind-change: when *reason* (often buttressed by *research*), reinforcement through multiple forms of *representation*, *real world events*, *resonance* and *resources* all push in one direction - and *resistances* can be identified and successfully countered. Gardner argues that mind changing is unlikely to occur – or to consolidate – when resistances are strong and most of the other points of leverage are not in place.

The Awareness-raising characteristic of the training connects to several aspects of Gardner's model. Bringing together supporting research and information about real-world events into a logical and coherent form is part of the job of a trainer. Thus, it is important that trainers themselves feel comfortable with, and understand, the factors and principles that are to be taught, and are able to ask questions about the material of more experienced trainers so that they can deepen their knowledge as needed. An idea that emerged in the focus groups with the Champions in Head Office was to provide a 'Frequently Asked Questions' resource for trainers, particularly to assist them with answering some of the more challenging or technical questions that inevitably arise during the course of a RoundView training event. This was supplemented by the idea of making available video clips of trainers being asked and answering such questions. Such learning resources for trainers represent a natural extension of the 'hands-on' tools for learners (which themselves provide some of the awareness-raising trainer support required, as noted earlier).

An emergent question about the train-the-trainer process is: how much does a trainer need to know and understand about the underlying framework or design principles upon which the curriculum was constructed to be an effective trainer themselves? Clearly this is related to the 'level' of the trainer, i.e. how much depth and detail of the curriculum they are expected to be able to train. Certainly some awareness of the reasons why elements or processes are used in the training would be necessary. An in-depth RoundView trainer-training would be likely to include explicit attention to the SHAPE framework, and would possibly need to include, for example, a discussion about the dynamic and creative tension between the Positive and Awareness-raising characteristics, as discussed in the analysis of the learning intervention in the previous chapter. Trainers could explore ways of maximising the value of this tension in the learning process. This should be done in such a way that trainees are better equipped to observe the learning design and principles in use, and build skill in thinking how they could use and adapt the ideas in their own context. This process would draw on the Experience-led characteristic of the SHAPE framework.

There needs to be an element of Awareness-raising about which elements of the learning design can be adapted (and to what degree), and which cannot be changed without negatively impacting upon the overall learning experience. This could be done, in accord with the principles articulated in this report, through a positive learning journey – asking trainees to discuss what they think are the key elements and then relating them to the core principles underlying the curriculum design. This requirement arises in part due to the decision to adopt an 'open-source' methodology for RoundView development. People will be free to take and use this material as they see fit (within certain constraints if it is to be called a RoundView process). This does not mean that it is advisable or wise to encourage anybody to take a part, or a variation, of the curriculum and present it as 'the RoundView'. Wide-scale propagation of these ideas with integrity is the goal. This would imply for example that the core ideas are taught and remain intact in transmission, and that the key underlying principles are included in training (when the aim is more than a basic introduction). The need to allow adaptation of ideas whilst maintaining the integrity of the ideas has recently been noted in the related field of ecological design and eco-efficiency:

> "Both firms and policy-makers (as well as other actors) are challenged to design appropriate institutions that facilitate knowledge creation and allow for a maximum of adaptation flexibility at the micro level while safeguarding the evolution of a framework at the macro level." *(Bleischwitz 2003, 465)*

5.2.1.4 Positive

An important skill that trainers need to learn in order to effectively propagate the RoundView is that of elucidating and drawing out connections between participants' thinking and the core learning that the trainer needs to ensure is understood and clear. This requires both good knowledge of the material (awareness-raising, 'know your stuff'), skill in making and drawing out connections, and a positive, appreciative approach towards input from learners.

The train-the-trainer process should incorporate the Positive characteristic by providing opportunities for trainees to remember what has worked well for them in learning and training, and ways for them to build upon these positive experiences when developing their own style of training. By working through the elements of the process that *can* be adapted, trainees should build experience in adapting the material (e.g. the style of delivery or particular examples used) to make it more relevant for the context and suited to their personal styles and stories. The ideal is for trainees to learn how to use the hands-on holistic tools to create a framework for participants to bring in their own ideas and content, and then to design the best way to use these ideas in relationship to the core principles and ideas that form the essence of the RoundView.

The process of adapting ideas to context is ongoing and necessary work to enable effective learning. If new knowledge is presented in too 'pre-packaged' a format, there is a danger that it will not become *'useful know-how'* through the work of adapting it and developing it in the context (Bleischwitz 2003, 465). This process of adaptation is important for both individual trainers and for the RoundView Curriculum overall. The process of adapting the curriculum to the Tesco context in this action research will inform future rounds of development, which it is envisaged will be spread widely in many different contexts, cultures and organisational settings. It will help develop a framework for clarifying what can be modified, and which core elements need to be present in the training for it to be called the RoundView.

5.2.1.5 Experience-led

In order to use a train-the-trainers model, the first necessary condition is for the trainers to be trained in the skills which they will be expected to teach to other staff (Green and Reid 1994). This was a key principle for the RoundView train-the-trainer pilot; staff members need to experience the full RoundView learning initiative before they can train others. This was highlighted during this round of action research by the experience in the first focus group in Stores, where only one of the four potential trainers had actually experienced the initial pilot. This created a clear limit to the degree to which it was possible to pilot 'trainer training' in Stores (though in actuality it was encouraging to observe the extent to which some of these staff members *were* able to engage with the design and presentation of a basic RoundView introduction by the end of the training).

This training process draws on the concepts of developing the reflective practitioner (as developed in Brockbank, McGill, and Beech 2002; Brown et al. 2005 etc.). Stages of the train-the-trainer process need to be designed so that trainees are supported in building reflective capacity, through deliberately designed cycles of action and reflection on the action.

Mann and Subas (1989) discuss the necessary characteristics of a 'trainer' and conclude that they should: flourish under pressure and uncertainty (emotional resilience); establish and make sense of data (analytic competence); reconcile contradictions at abstract levels (intellectual capability); and change themselves to help others achieve change (behavioural adaptability). They highlight three issues for trainer development in experiential learning: confidence, awareness and direction. A confident trainer knows that he or she is not responsible for another person's learning, but is rather the 'structurer' of the learning experience – both the trainer and learner share responsibility in managing the process of learning from experience. Confidence is a manifestation of emotional resilience. Awareness refers to the trainer's appreciation and understanding of the experience of the learner and their learning experience. 'Direction' refers to being able to effectively manage 'live' learning experiences. Learning from experience requires more than simply having experience; guiding trainees through appropriate cycles of experience and reflection is as important in the training of trainers as it is in the RoundView training itself.

Key points 10 Design principles for train-the-trainers pilot

- **Training of trainers was seen as essentially a social process that encourages and requires people to challenge and support each other**
- **Embedding key facts and ideas into the tools was seen as a way to support the trainers**
- **Such learning tools were seen to increase the likelihood of a cascading training process that builds, rather than loses, quality and effectiveness over time**
- **A trainer will need understanding of the principles and thinking behind the curriculum, including the SHAPE framework underpinning the training process**
- **The training process should build on trainees' experience of what has worked well for them in learning and development**
- **Some, but not all, elements of the curriculum can be adapted to suit the context and trainers' personal styles**
- **Trainees need to be supported in the train-the-trainer process to build reflective capacity, through deliberately designed cycles of action and reflection on the action**

5.3 Findings from train-the-trainers pilot

This section offers an analysis of this initial train-the-trainer pilot, starting with the experience in Head Office, then Stores. Possible Next Steps for Champions are then considered and this chapter concludes with an assessment of the SHAPE framework as the underlying design for the pilot.

5.3.1 Evidence of developing skills - Head Office

There were several instances during the training when Champions were observed to be displaying new skills of facilitation and training. During the hands-on activities sessions in Head Office, the Champions acted as facilitators at their tables (using the Ketso toolkit, which they had been introduced to in the first round of training). Their contribution to the groups was particularly noted during the second session, when participants were 'imagining Tesco in a fully sustainable future', which is a challenging exercise. Champions were observed to be keeping ideas flowing and assisting the other participants.

A further example demonstrating significant increased capacity was videoed in the break of the second training session, when one of the Champions in Head Office explained the RoundView Guidelines, effectively delivering an informal introduction. This Champion had attended the training six months previously, but had missed the first session of this second round of training. A participant had arrived late and needed to catch up on the general principles (having not been to the first training either). This Champion agreed to go through the Guidelines for the newcomer, and took down the RoundView components from the display at the front of the room, and began reassembling them on the felt. He went through the Misguided Lines and then the positive Guidelines, explaining the principles as he built up the visuals. This was delivered with minimal prompting from the team, and the video record shows that it was not only an accurate and comprehensive exposition of the RoundView principles, but was also confidently presented.

In the second of the Head Office focus groups, Champions gave presentations in pairs, the aim of the presentation being to stimulate interest in the RoundView amongst colleagues in Tesco. They worked out their presentations and decided how best to convey the information. The discussion that took place showed a clear understanding of the Guidelines and the key concepts of the course, and a sophisticated awareness of different possible ways of conveying the information and engaging the audience. Both pairs gave confident presentations with differing foci: one pair gave an exposition of the RoundView Guidelines and the other presented an image of a 'dying Earth' and evoked compelling images of environmental destruction against images of positive action recently taken by Tesco. One pair used the scaled-down felt animations in their presentation and delivered a clear, concise overview of the RoundView showing a deep understanding of the core principles. The ensuing discussion showed that they had grasped the deeper meaning behind the Guidelines and had given serious consideration to their implications.

One Champion talked of how he had already presented the ideas from the course to his colleagues in a twenty minute presentation, and described how he used the RoundView Guidelines *"to have a framework to talk about things... It is more something people can relate to".*

Figure 19 Head Office Champion demonstrating the RoundView Guidelines to a newcomer

5.3.2 Evidence of developing skills - Stores

Ten minute presentations were also given by the Stores Champions in the final focus group. As described previously, these 'Champions' had not actually attended the first RoundView training in Stores. We opted to go ahead with this train-the-trainer session after the course, but offered these Champions more mentoring than had been necessary in Head Office for this reason. The research team offered to do the presentation if the participants did not feel comfortable doing so, under the condition that the Champion was responsible for deciding both the content and the structure of the presentation. Thus the team relieved some of the pressure to actually stand up in front of the room (and two video cameras), but did not provide the content.

The discussion with the research team in preparation for these talks showed that not only had the Champions internalised many of the key concepts, they had engaged with the material. They discussed the key ideas of how to engage participants from a positive perspective, and how to use the graphics to convey key points. They showed an aptitude for thinking through the redesign of the presentation and the way of telling the story to engage interest.

Two participants opted to have their presentation given by a member of the research team, (but designed the presentations themselves and briefed the research team as to what to say and how to deliver it), and one opted to give the presentation herself. Of the former two, one said she was confident to do the presentation but had just given a presentation and did not want to do another on that day, whereas the other felt he would need a bit more notice to feel confident to do a presentation. After the presentation that he designed was delivered, he said he would now feel confident to give it as a presentation, given the opportunity in the future. Given that this particular participant had said at the start of the

training that he hoped to gain confidence in talking in groups from this course, this seemed a useful step forward.

The content of the presentations is presented in some detail below, illustrative of the capacity building that had occurred in a short period of time with Stores staff.

The Champion who gave her own presentation set out activities that are already happening in Tesco, giving as examples recycling, car sharing, using public transport, being aware of the manufacturing processes of products (e.g. the FSC logo). She went on to say that these were not enough. She explained that we need to do this to benefit everyone in the long run, and that we will benefit from cleaner living, more green areas and benefits to our grandchildren. She then explained the eco-cycle, using the example of waste going into the ground and into the cycle, with the RoundView Misguided Lines images as a visual aid. This was followed by the positive RoundView picture with the commentary *'If everything is recycled, nothing is being wasted, and everything that can be reused is reused, for example food is not thrown away, it could be made into compost… people can thrive into the future'*. The presentation evidenced a good understanding of the notion of cycling, core to the RoundView, and the need to go beyond the usual 'slowing the damage' sustainability actions, but did not explicitly include the concept of 'turning around'.

She indicated in the preparation with a member of the research team that she was not comfortable with 'the science'; given the clarity and accuracy of her presentation, this suggests that the training did indeed increase her capacity to communicate and engage with others about sustainability. In later discussions she said that she would not feel comfortable giving a RoundView presentation to a large group in Tesco, but that after this practice run felt she would be able to give a brief presentation to a small group. This Champion had not attended the first round of trainer-training, but had volunteered to come to the final focus group due to her interest following the learning pilot.

In the first of the two 'proxy' presentations, the focus was more on how to communicate these ideas within Tesco and to create change than on the RoundView itself. Ideas presented included: the importance of including positive examples of what Tesco is doing, the importance of appreciating people's points of view, using the Cheetham Hill store in particular, and the need to see the bigger picture and include Stores outside of the eco-stores range. The key points showed a good understanding of many of the core ideas behind the learning design of the RoundView. The most specific link to the RoundView Guidelines was that it is important not to focus only on carbon but also other environmental problems and social sustainability.

The second of the two presentations given by 'proxy' started with a clear definition of sustainability thriving now and into the future. Firstly, the RoundView image of the positive Guidelines was presented, and the eco-cycle explained, with an emphasis on how long it had taken to build up the cycle, followed by an explication of the image of all of the Misguided Lines, a fully unsustainable society. *'It's not all doom and gloom'* he continued, as there are ways of fitting in the eco-cycle, and he presented the Guidelines as the 'opposites' of what was mentioned before, providing a way that 'we can turn it around'. The fact that this was delivered by a member of the research team might imply that their previous knowledge enabled them to do the presentation. Analysis of the video of the briefing session, however, verifies that the member of the research team stuck closely to what the participant asked to be included in the presentation, and in the preparation challenged the participant for more information where it was needed to substantiate points.

5.3.3 Champion 'Next Steps'

A key sign of motivation and interest was that all of the Champions wished to do more with this work, and at least two in Head Office said they would like to make it a career direction. As one Head Office Champion commented:

"I would like to be an environmental manager. I would like to do it as a career really. In the interim I would like to be departmental champion and make people think about things... I'm keen and fired up about it and want to do more of it."

Several other participants on the Head Office course said they would like to move to a Champion role, and in one of the follow up interviews, a participant on the second round expressed her motivation and interest, and commented that she had changed job roles which she was pleased to say would make it easier for her to do more in her work towards sustainability.

The three Champions who were able to come to the final Stores focus group stayed for well over an hour after the focus group ended, continuing to give valuable suggestions about how to spread such sustainability learning throughout Tesco. Three of the Stores Champions said they wished to take this further in their career (if given support to do so).

A core concept for scaling-up that is related to the 'Positive' characteristics of effective learning interventions for change is the injunction to 'work with the willing'. Working with people who have enthusiasm and willingness to develop ideas builds support and enthusiasm for change (a factor discussed in early literature on The Natural Step, Robèrt 1991). There was a general agreement in the focus groups that it would be a shame to lose momentum and not to build upon the enthusiasm and capacity that had been generated through the pilot training. This was coupled with an awareness that pressures of time and busy jobs, along with a lack of a structure to support these emergent roles with a clear message from higher levels that it was permissible to take time to develop them, was likely to make such an ongoing process challenging.

5.3.4 Reactions to the SHAPE framework

Social learning in groups was seen as more effective than the classic teaching style of the trainer at the front. Both Stores and Head Office Champions commented on the value of the 'Social' aspects of the training—the ability to learn from each other and the many opportunities to ask questions. Several Champions commented that this had been important, and that a more traditional teaching style (teacher stands at front talking, everyone else listens) would not have been as appropriate or effective for this kind of subject.

There was a request for access to tools to aid communication with colleagues outside the course environment. Champions in both Head Office and Stores expressed the view that having access to the hands-on 'Holistic' tools would be useful, as they would be able to use these in the training and allow others to fill in ideas and be active in the training. Champions felt it would be useful for them to be able to use the images depicting examples of the Guidelines and Misguided lines, scaled-down versions of the felt animations and PowerPoint slides with key facts. There was general agreement that the visuals were helpful for understanding and would be useful in communicating the RoundView to others.

Highlighting the importance of the 'Awareness-raising' characteristic, one Champion in Head Office commented that it was hard to say that she would be confident to deliver the full training course yet, as she needs to really know the material, and was aware that the Guidelines had been modified between the two courses she had attended, as she said: *"It is changing and developing which is great, and positive, but it feels quite hard to then take it forward".* The oft repeated call for supporting material for trainers suggests that improved access to 'the facts and figures' will be a key enhancement for future trainers.

The Stores staff expressed their view of the importance of 'Positive' aspects of the initiative, noting that being aware of learners' expectations is important for a presentation to have an impact. In the Head Office presentations, there was a strong emphasis on what Tesco is doing well with regards to sustainability as a way of building motivation for more change. There was also appreciation for the positive nature of the RoundView Guidelines, as one Champion said in their presentation; *"what is brilliant about the RoundView is that we are also the potential answer"*. This was an aspect that, for this Champion at least, made the subject more able to be shared with enthusiasm, which on reflection is remarkable given the nature of the subject and its message of the need to fundamentally change corporate practices.

One Champion in Stores noted in the second focus group that the trainer could use questions participants ask in order to revise later versions of the training, showing a solid grasp of the 'Experience-led' nature of the learning for the trainer as well as the participants. The value of experiencing the training, then having an opportunity to reflect on it and practice new ideas in a 'safe' environment was emphasised in the discussions with Champions in both Stores and Head Office about the train-the-trainer pilot. The Champions' knowledge and skill development, particularly in Head Office, was the fruitful result of many cycles of experience-led learning across both projects.

Key points 11 Findings from train-the-trainers pilot

- **There was evidence in both Stores and Head Office that Champions had developed skills and confidence**
- **Champions in Head Office (who had been to a previous round of the learning initiative) were able to engage with participants as facilitators in the second round of training**
- **Head Office Champions disucssed using the Guidelines in their work and with their team members**
- **Head Office Champions engaged with developing the core messages for a brief introduction to the RoundView, showing a solid grasp of the core principles and underlying ideas**
- **Stores Champions, despite having only attended one round of training, demonstrated capacity to not only understand the core ideas of the RoundView, but to develop meaningful, brief presentations about the core ideas**
- **A key sign of motivation and interest was that all of the Champions wished to do more with the RoundView in their work**
- **The SHAPE framework was seen as useful in the design of the train-the-trainers pilot**

5.4 Chapter Summary

This analysis demonstrates that the Champions in both Head Office and Stores were able to gain in skills and confidence, such that they felt able to give a brief presentation about the RoundView. The quality of the 10-15 minute presentations that the Champions delivered in the last training session of this pilot was generally high and provided useful evidence of the value of this approach. All of the Champions (Stores and Head Office) showed a high level of motivation and interest to do more, given appropriate support to do so.

In Head Office, Champions were also able to take on several training roles during the second pilot. There was also a good deal of enthusiasm and interest in developing these skills further.

The above discussion suggests that SHAPE provided a valuable framework to inform the train-the-trainer pilot. The process of having a session before and after the learning initiative for Champions to develop their reflective capacity and to practice new skills was seen as valuable. This pilot has highlighted several key aspects of a train-the-trainer programme that could assist in spreading the ideas of the RoundView learning, in a way that can be adapted to the context and styles of the trainers, with integrity. It has demonstrated the need to develop supporting tools and resources for trainers.

6 Scaling-up Sustainability learning

The analysis above suggests that the RoundView learning initiative can provide important benefits for a client organisation. The next question that arises is then about spreading and embedding the RoundView learning initiative throughout the organisation: how to 'scale-up' sustainability learning. This focus is timely, as indicated by this recent quote from the head of the Sustainability Initiative at the World Economic Forum:

> *"The progressive dialogue is moving from why a consumption transformation in the world economy should take place to how to make it happen quickly and at scale." (Krantz 2010, 9)*

The question of spreading and embedding was addressed partly through the train-the-trainer pilot, explored above. Clearly, training trainers and developing internal capacity is a way of supporting the spread of ideas through an organisation. This section of the report develops the concept of spreading and embedding in more depth, illuminated by issues that arose during the 'action' stage of the research and from subsequent analysis.

The term 'spreading' implies that more people are learning and developing capacity, while 'embedding' suggests a deeper adoption or incorporation of what is being learnt. Both terms suggest that more and more learners are able to engage with the key ideas and to adapt their meaning and application to their particular roles and work contexts. Taken together, the outcome of these processes could be described as 'getting sustainability into the DNA' of the organisation. This inherently implies change, and therefore intrinsically requires learning to inform and respond to change. This suggests the need for a learning organisation, *"which facilitates the learning of all its members and continually transforms itself"* (Pedler, Boydell, and Burgoyne 1989, 2).

A recent book by complexity theorist Arthur (2009) notes that adoption of a domain of technologies, which can be applied across many industries, as opposed to singular components, can take decades. It could be argued that planning for sustainability as an innovation has been emerging for the last several decades, and is now reaching a level of maturity where it is more readily accepted as applicable across many different types of organisation. Arthur's book provides a timely reminder, however, that the process of adopting such a whole new domain of approaches is a slow process.

The following section reviews the impression which emerged in this research of the corporate culture of Tesco, in relation to spreading and embedding the RoundView sustainability learning within the organisation.

6.1 The Cultural Context - Implications for spreading and embedding the learning in Tesco

In the Sustainability Skills report, the learning culture of Tesco was described in some detail. Key strengths that struck the action research team from the outset in its contact with

the corporate context of Tesco included a perceived 'permission to learn' at the levels of the organisation represented in the project. This capacity was combined with a general willingness among employees to be challenged and stretched.

The previous description also included a discussion of tensions that could impede effective learning about sustainability. Several further tensions were illuminated in this research, in the context of spreading and embedding sustainability learning. These tensions flow from an overarching dynamic between the *ideal* of employee-led innovation and change and the *structural reality* of a highly coordinated, efficient and large organisation. Creative ways to work within these tensions will need to be considered if transformational change towards sustainability is to be possible within the company. These tensions can be summarised as:

- Streamlined and standardised training with clear outcomes **vs.** open-ended reflective learning that encourages questioning
- An efficient company that gets things done **vs.** time for staff to explore and develop ideas without pre-defined or immediate outcomes
- Focused working units **vs.** cross-functional communication and cooperation
- Top-down dissemination of ideas and approaches **vs.** learning from all levels of the organisation

Several potential barriers to effective implementation of new sustainability learning have already been identified in the analysis set out in the preceding chapters, including a perceived lack of support or clarity about the importance of sustainability from higher levels, and the need for more people to understand the basic concepts to enable learners to feel supported in discussing and applying them within their work contexts. In this section these barriers are discussed and related to the aspects of Tesco's cultural context that emerged as relevant for scaling-up the learning initiative during these two rounds of action research.

6.1.1 Standardised *vs.* open-ended training

The first tension identified relates to the nature of training, in particular efficient and standardised training, versus open-ended and reflective training. This emerged from evidence from the interviews with training providers and managers, as well as observations during the action research supplementary discussions with participants on the learning initiative. These data suggest that Tesco tends to deliver training in a way that gets the key points across rapidly and effectively to many employees, without necessarily encouraging reflection. There was a perception on the part of several of the participants in Head Office that the company was good at action and getting things done, but had less of a tendency towards reflection and allowing the time to learn from action.

The expectation that training will lead to clearly defined results is highlighted in the reactions to the train-the-trainer process from two of the Champions in Stores. One discussed the fact that his work involved training, and he expected to go on a training course in Tesco and come back able to give the core message to his team and to be able to translate it immediately to the shop floor. Between the two sessions of training in the RoundView he went back to his colleagues with a message of the need to consider options in a different light, and found his colleagues were not prepared for a message that did not have simple, practical steps that could be immediately implemented. In his words, he 'got shot down' and came to the next training questioning the purpose of the training if it was

not going to tell them what to do. A second staff member, who had been to the first round of training and had come back to the second round as a Champion, said that he had been enthused by the RoundView and the need to change, but found that in his work context he couldn't take it further, due to the pressures on him to meet immediate targets and deal with day to day situations.

In an integrative article looking at a range of 'sustainability-focused organisational learning', Edwards (2009, 197) suggests that such learning requires "*the questioning of 'core business values and basic assumptions' and the opportunity for employees to have input into the organisation's core values and long-term vision*". Argyris and Schon (1978) developed the concept of single and double loop learning. Learning that is mainly orientated towards achieving goals, and which does not question the underlying assumptions and goals of the organisation is seen as single loop. Learning takes place, but in a way that tends to preserve the existing structures and norms of the organisation. In double-loop learning by contrast, the underlying norms and assumptions of the organisation are questioned. Such learning enables it to learn from mistakes and to change its structure.

The nature of the RoundView curriculum highlights this dynamic tension. The fundamental characteristics of the skills and attitudes that are needed to confront the sustainability challenge require a reflective and occasionally open-ended approach, so that outcomes can be incorporated into different work contexts. A challenge (sustainability) that, as a society, we are struggling to reach consensus about or find workable solutions to, does not always lend itself to simple right/wrong answers or clearly defined tasks. In the words of a Head Office participant from this pilot:

"There is another problem that is not specific to Tesco but is for everyone in general, a sustainability argument. You don't really know whether what you are doing is the right thing. So there is a big argument about whether using recycled paper is actually more environmentally friendly than using virgin fibre because the process of recycling the fibre uses a lot of energy. So, if you measure the carbon it is not clear which is more sustainable. Do the means justify the ends?" (Tape 1 Scaling-up Head Office session 1 Nov. 6, 2010).

A core value and contribution of the RoundView is the provision of a scientifically robust framework to inform and explicate the underlying issues in exactly such debates, combined with practical tools to enable people to do this. It does not, however, provide the answers—only a powerful way to look for them. It became clear that there was a significant difference between the open type of experience-led learning tested in both pilots and found to be useful—if not essential—for participants to really understand the material, and the way that training is usually delivered in Tesco, where training is 'landed' in a relatively standard way once it has been developed and piloted. This was particularly evident in Stores, where there was a clear message from Stores participants that they expected to be told what to do in training, shown for example by the comment during one of the training sessions:

"...not sure what we are supposed to do with this (information). What are we being asked to do?"

Discomfort was expressed by several participants in both Stores and Head Office with being asked to work out the implications of the RoundView Guidelines for their roles, as opposed to being clearly told what the implications were. This clearly relates to this staff member's expectations of training, but also to issues around the clarity and positioning of the initiative from the participants' point of view, an issue discussed in more detail in Section 6.2.1.1 'Build on organisational strengths'.

6.1.2 Getting things done *vs.* time for open exploration

A further tension between employee-led innovation and the structural reality of the organisation lies in one of its major strengths. A concept that is deeply embedded in the narrative of the company and the expectations of its staff is that Tesco 'gets things done'. Tesco's practice of experimentation and development undertaken in a controlled manner, followed by changes being 'landed' in a coordinated, efficient and standardised way throughout the organisation became even more clear in this second round of action research.

From analysis of interviews and after considerable observation of the Tesco culture, it was also clear that this is a company that values staff development. The action research elucidated, however, structural barriers which impede open exploration of new ideas and thinking. A strong sense from the interviews and focus groups in both rounds of training was that staff members expect to have clear messages from the top as to priorities, which are then embedded firmly in KPIs. Something not seen as clearly measured in KPIs is something hard to be seen as relevant to one's work. This pervasive screening for relevance is supported by a very busy culture of doing; in the limited time available to people, they focus only on issues clearly stamped from above as relevant to their work process.

Discussing critical perspectives on the learning organisation, Jarvis, Holford and Griffin (2005, 154) suggest that a learning organisation requires *"evidence of formal and informal support of learning, and evidence of genuine support for, for example, the admission of mistakes"*. They suggest this may require questioning of '*managerial prerogative*'. It may require issues to be explored that have not come down as key messages from the top of the organisation.

There was a recurrent theme from participants in both Head Office and Stores about the need for people higher up in the organisation to understand and actively support change. An employee in a Head Office interviewed six months after the first training put it this way:

"The problem is the scale of influence of individual people to change. It's really good to have the knowledge but it's the application which is the problem. If we are going to do that, that needs someone a hell of a lot more senior to me to action it. It needs to be top down because unless we can demonstrate something core to our roles we don't have the flexibility to do anything different. We can't do anything completely different."

This strong sense of the need for validating and legitimating messages for action to come from above led one of the researchers to ask if discomfort with spending time exploring possible implications of an idea, with no clear outcomes, could be circumvented by having a message from the top come down that part of people's job was to do exactly that. Whilst this notion provoked some amusement, it underscores a serious concern for any large organisation wanting to release the exploration of new ways of working embedded within their employees' different job roles.

The RoundView curriculum combines a science-based and systemic focus with exploratory and reflective inquiry. These characteristics require an integrated, holistic learning process. This relates to Sir Terry Leahy's statement of the need *"to re-think the way we live and work."* Re-thinking requires reflecting and reconsidering – both things that Tesco staff have reported are not dominant 'modes of operation' within Tesco.

6.1.3 Focused working units *vs.* cross-functional communication and cooperation

A related aspect – and systemic downside – of the success at getting things done in Tesco is that there is sometimes a lack of cross-team and cross-functional communication. Is this exacerbated by the top-down hierarchy of the organisation and a productive culture of friendly competition? Discussing innovation in organizations, Rogers (2003, 412) explains that a lack of such cross-network communication can impede innovation;
"interconnectedness is the degree to which the units in a social system are linked by interpersonal networks. New ideas can flow more easily among an organization's members if it has a higher degree of network interconnectedness".

Evidence of a lack of cross-functional communication was suggested by the enthusiastic comments from people on the training that they had learned so much about Tesco's sustainability practices from being in the training with people from different teams and functions. This was not limited to Head Offices. In Stores, being in the RoundView training with people from different Stores was also seen as beneficial for learning; for instance, there were many comments that staff had not known about many of the efforts that Tesco was making to improve the environmental performance of Stores, which they had learned about from talking with their colleagues. This was accompanied by related comments in the discussions that such communication was relatively unusual for Tesco. Such a lack of communication was also mentioned as a possible problem to the researchers in several discussions with Tesco staff about how to spread and embed sustainability thinking.

Something valued positively in training may indicate that it is missing from the work context. This could be the case with the enthusiastic response to cross-team and cross-functional sharing.

6.1.4 Top-down dissemination *vs.* learning from all levels

Moving towards fully sustainable practices will require some deep reconsideration of existing practices. There are no clear answers. It is not even clear where the answers will come from. There is an increased awareness, however, that engaging the ingenuity of people at all levels of the organisation is more likely to produce new ideas and change than expecting ideas to be formed in the higher levels of an organisation only (seen as key for innovating for sustainability in The Natural Step Nattrass and Altomare 1999; and a key impetus for exploration of open source in domains outside of software in Weber 2004, as exemplified in the Rockefeller Foundation's Innocentive project, which aims to harness broader innovation input into solving the problems created by poverty). Rogers (2003, 412) suggests there is a strong correlation between centralisation and a lack of innovation, stating:

> *"the more that power is concentrated in an organization, the less innovative the organization is. The range of new ideas considered by an organization is restricted when only a few strong leaders dominate the system."*

Tesco prides itself on its flat structure, but there appears to be a strong reliance on messages from the top levels of the organisation. Such dependency on the top was

succinctly exemplified in the response to the question on a feedback form during the current research in Stores, which asked, 'What is your next step?' (with regard to sustainability). The answer was; *"Have yet to be informed."*

Tesco encourages people from Head Office to engage with Stores and to learn from the activities on the shop front through TWIST (Tesco Week in Stores Together). This practice was extolled in many interviews as a strong, beneficial part of the culture, with all Head Office staff expected to engage with Stores, with people up to Board level, even Sir Terry Leahy, also taking part.

Information emerging in the interviews and focus groups nevertheless uncovered a gap between the ideal of learning from all levels, and the reality of ideas and information flowing from lower levels to higher levels. An image emerged of the push to disseminate proven ideas from the centre, downwards, as opposed to clear mechanisms for allowing ideas to flow between different levels of the organisation. In action learning, a similar concept is the 'upward communication of doubt'. This is where ideas from lower layers of the institution are progressively elaborated upwards, releasing ingenuity and receptivity to new ideas from the highest, most strategic levels of the organisation.

An illustration of restricted upward communication was noted in the research through comments about 'Ideas Capture' which was mentioned by some staff in interviews as a way that Tesco employees could offer ideas for development to the company. In the focus groups and interviews with staff in the Sustainability Skills project, few of the people we talked to were familiar with Ideas Capture. One interviewee suggested that this process had been effective, but had fallen into abeyance, and was as yet to be replaced with an alternative, apart from informal meetings and personal development reviews.

6.1.5 From tensions to paradoxes?

These tensions might usefully be re-framed as paradoxes, such that a future direction in employee-led learning and development would build on current organisational strengths, at the same time as finding creative ways to transcend the apparent tensions elucidated above. The invitation is to cognitively and attitudinally go beyond 'either/or' limited thinking (as represented in a tension: 'this *vs.* that' – *either* one *or* the other) and to consider broader, deeper possibilities which require us to embrace more systemic, holistic thinking ('*both and*'). The literature on systems and scale suggests that often solving challenges requires a focus on a higher level of scale than the manifestation of the challenge (e.g. Gibson, Ostrom, and Ahn 2000; Savory 1991). Redesign at higher levels of scale may allow what appear to be tensions to be resolved. A shift of this nature in corporate mentality may help organisations to find ways forward when then are few precedents.

6.2 Spreading and embedding sustainability learning

This section looks at the overarching question—how can many more people be enabled to engage with the sustainability learning developed in these action research projects? It explores mechanisms and ideas for enabling a rapid and wide spread of the understanding and skills implied by the sustainability learning initiative throughout the organisation. One aspect of scaling-up is thus looking at how to accelerate and spread learning. Embedding

the learning implies ongoing adoption and incorporation of new practice. Changed practice in turn implies opportunities to further deepen learning.

Spreading sustainability skills-learning is likely to require a shift from the current dominant instructional mode in Tesco where 'projects land' and 'training is delivered' for subsequent transfer on the job. Such an emphasis on 'learning-*before*-doing' might be suitable for certain kinds of straightforward corporate improvements. But for the case of the spreading of sustainability skills-learning, such an emphasis erroneously *"assumes that the knowledge is already created, that the main intellectual work is done, and what is left is only a spread out. Our understanding of absorption ability and learning capacity, is not that passive"* (Laestadius 1995, 31 writing of another context (not retail) where tacit knowledge of staff was at a premium in a competitive market). Sustainability-skills learning demands 'learning-*while*-doing.'

Embedding of sustainability skills-learning in a context like Tesco can be considered to have two related aspects: the ability of learners to engage with their learning *within* their work role, and the extent to which the values, principles and processes of a sustainability curriculum are adopted into the language, procedures and culture of the organisation. Such 'embedding' would have effective learning as a prerequisite, but requires more. As Ballard (2005) emphasises, people need agency (the antithesis of Laestadius' passivity described above) to actually make changes within an organisation. They can thus *experientially* learn new sustainability ideas through trying to implement them. Within an organisation, issues such as permission, legitimacy and measurement would seem to have a clear bearing upon what is possible, likely or easy for staff to change or do.

The RoundView curriculum may help catalyse a paradigm shift in our understanding of sustainability. The late and highly respected systems thinker, Donella Meadows, has written an oft cited model of leverage points for inducing change in complex systems. She suggests that interventions at the level of the paradigm, or deep underlying beliefs about the system, "*hit a leverage point that totally transforms systems".* She goes on to caution, however, that *"individuals and societies do resist challenges to their paradigm harder than they resist any other kind of change"* (Meadows 1997). This is a well recognised phenomenon, as illustrated in the following quote from an editor of the Economist in the 19th century:

> *"One of the greatest pains to human nature is the pain of a new idea. It… makes you think after all, your favourite notions may be wrong, your firmest beliefs ill-founded… Naturally, therefore, common men hate a new idea, and are disposed more or less to ill-treat the original man who brings it." (Bagehot 1873, 169; quoted in E.M. Rogers 2003)*

Similarly, Rogers' (2003) 'Diffusion of Innovations' argues that: *"Getting a new idea adopted, even when it has obvious advantages, is difficult."* He also notes that many innovations require a lengthy period, often many years, from the time they become available to the time when they are widely adopted. Thus the challenge for many organizations; *"How to speed up the rate of diffusion of an innovation?"* He suggests that the characteristics of an innovation, as perceived by members of a social system, determine its rate of adoption. He goes on to specify five key characteristics that influence adoption: 1) relative advantage, 2) compatibility, 3) complexity, 4) trialability, and 5) observability.

Perceived through this lens, spreading an innovative approach towards building skill and capacity for more sustainable practice throughout an organisation would seem, in some respects, to pose a particular challenge. The *relative advantage* of sustainability practice is often not immediate. *Compatibility* with existing practices is potentially problematic, as by its nature, consideration of truly sustainable practices implies challenging the norms of existing operating procedures. The ideas and their application can be *complex*; and—as with any deep, systemic, multi-layered change—they can be hard to *trial* practically. Finally, it is a non trivial task to *observe* the subtle (or even dramatic) shifts in attitude and understanding that are the necessary precursors to more sustainable ideas and decisions. Yet the scale and nature of the sustainability challenge demand that we find ways to respond effectively and appropriately despite these challenges.

In recognition of these difficulties, the investigative process developed in this report combines analysis of the context and suggestions emerging from the research with an exploration of potentially useful literature and approaches that may help to achieve the ambitious aim of spreading and embedding sustainability learning in a large organisation. The emphasis is on Tesco as an example of a large organisation. The following sections are structured around key themes from the literature. General recommendations suggested by the analysis appear as sub-headers throughout the text.

The areas of literature explored below are:

- asset-based development (drawing from the early recognition within the RoundView of the value of starting from positive conceptions and working towards a positive vision for the future);
- diffusion of innovation (enabling learning from six decades of studies into how new ideas are spread and adopted); and
- transition management (learning in particular from transition management in policy in the Netherlands).

Additional insights are drawn from recent complexity literature and its managerial implications. These areas of literature were chosen as they look at areas relevant for scaling-up sustainability research and are empirically grounded through research into practice. A synthesis of these literatures along with the empirical analysis from this action research seemed likely to offer new insights for developing a plan for scaling-up an ambitious, potentially paradigm-shifting learning initiative. It must be recognised, however, that this is an initial exploratory work, which will need further testing in practice. Some of the literature used in the analysis below has its roots in decades of innovation studies; some is more recent, integrating insights from complexity and systems theories. Scholars have noted the need for caution in over-enthusiastic applications of the transition management model, for instance Shove and Walker (2007) caution that the model may not take sufficient heed of inherent power relations. Through an iterative process, principles are developed throughout the analysis below from engaging with the literature and the data from the action research interventions in this Scaling-up project.

From the beginning of this project, there was an awareness that any attempt to scale-up the initiative would need to take into account both the corporate context and principles of whole-system organisational change. The analysis below looks for leverage points and ways to effectively instigate whole-systems change in the context of Tesco. The primary focus of this analysis has been on developing principles for spreading and embedding the learning initiative. There is no clear boundary, however, between learning and doing (particularly when considering an 'experience-led' model of learning such as the

RoundView curriculum). As a constructive result, much of the following could be applied both to spreading the learning initiative, and to a potential broader programme of spreading and embedding actual change towards more sustainable practice within the organisation.

6.2.1 Asset-based development

A key insight of appreciative inquiry is that a deliberate focus on the positive aspects of a situation helps build motivation and enthusiasm for change (as explored in Amodeo et al. 2008; Cooperrider and Whitney 1999; and developed in asset-based approaches to community planning, e.g. Kretzmann and McKnight 1993). The value of focussing on the positive has been disucssed in depth in the above analysis of this round of action research, in particular in the discussions about the Positive aspect of the emerging SHAPE framework for effective sustainability learning initiatives. Thus this section only covers key aspects of this approach and recommendations relevant to scaling-up the learning initiative.

6.2.1.1 Build on organisational strengths

The approach of building upon assets and strengths as a foundation for further improvement is relevant when considering the 'tensions' identified above. The idea is to focus on the positive aspects inherent in these cultural dynamics and to find ways to bring out the creative possibilities within them. This is a theme that runs through the discussion of ways to scale up the learning, and is related to the concept of 'compatibility'—an attribute of an innovation that increases the likelihood of it being adopted (see discussion below).

Clarify and legitimise the effort to re-think practice towards sustainability through 'top-down' communications, and make sure these cascade down through the organisation

Analysis has shown that core drivers for Tesco include an efficient 'central push', with reinforcement from the centre key to its ability to 'get things done'. One major suggestion, which emerged clearly from the analysis of the focus groups and interviews, was the need for a clear message from the top levels of the organisation that focussing on sustainability learning and re-thinking of the way we do business is considered a corporate priority. This finding is echoed in the experience of Interface, a company that is widely recognised as being at the forefront of the move towards sustainability (Hawken, Amory Lovins, and Hunter Lovins 1999). A good deal of its success is attributed to the strong leadership and enthusiasm demonstrated by the CEO, Ray Anderson (Meynell 2003). His shift to sustainability, which he describes in a book entitled 'A Mid Course Correction' (Ray Anderson 1998) led to a decision to provide all staff members of the corporation with a 2-day training course in The Natural Step.

To an extent, there is already a clear message of support for sustainability in Tesco, with many speeches and messages about its importance from the CEO of the company. There was a strong recognition, however, that this message had not filtered down consistently to the next several tiers of management, including to middle management and line managers (a key element of organisational change which is often neglected, as disucssed in Sales 2002). There was a related emphasis on the need for managers at higher levels to better understand sustainability. Several participants felt it was important for the Board

themselves to understand the Guidelines, and thus to receive a degree of training in them, for the ideas to become fully embedded in the organisation. Champions in Head Office felt that if the learning initiative was to be rolled out, it would benefit from a bold, clear statement from Sir Terry Leahy that he's behind the initiative. One idea that emerged in the discussion was that a video clip of Sir Terry Leahy making such a statement could be used in presenting the RoundView.

The value of clear messages from line managers particularly, and of potential difficulties arising without them, were reported by Stores staff and many of the Head Office Work Levels 1 – 3 staff who took part in this learning initiative. This was particularly the case in Stores, where several participants expressed a sense that unless the Store Directors were aware and supportive of the perceived value and importance placed on the initiative, there was very little 'room for manoeuvre' at lower levels. A related question that emerged in a focus group in Head Office was, 'How to get a manager engaged if they are not already interested, without pressure from above them?'

This overarching issue of the need for clear communication 'from above' applies both to any sustainability training activity and to the potential drive to make real change towards more sustainable practice. This finding is borne out by analysis into endeavours to incorporate The Natural Step learning into Sainsbury; *"the conflicting signals of those at management board levels in Sainsbury's may have inhibited the speed with which TNS related conversational lineages developed"* (Meynell 2003, 226).

With regard to training, it is important that the message of the value of the training is consistent with the invite to attend the training. In this pilot, a finding from the Stores focus groups with Champions was that there was a distinct lack of clarity in the 'invite to participate'. Champions said they were unclear as to why they were there and what was expected of them. It emerged that there had been a similar pattern in the initial round of training. The Stores Champion who had attended the earlier training indicated that participants on that course had been given little information about the course before they came. He said that he had been told that it was about energy efficiency.

This highlights the need to clearly articulate roles and expectations in any training, stating that the course will likely be somewhat different from the usual training, and that part of the 'ask' for participants is for them to explore new ideas and to consider how these may work in their own contexts. A tension in the corporate culture identified above was:

- Efficient and standardised training with clear outcomes vs. open-ended reflective learning that encourages questioning

Whilst many options for adapting the training to make it more compatible with the context were explored and tested in this second round of action research, the open-ended and reflective nature of the process is central to the curriculum. It is suggested that this tension needs to be recognised and the different nature of the RoundView learning initiative to existing training provision needs to be clearly communicated. To achieve maximum impact, this would require a message from the top that this is an *acceptable* change from the more common training practice in the company.

A concept that emerged in the analysis of this research was the need for organisational congruence, seen in this case as an alignment between language indicating the importance of sustainability from the very top of the organisation, and messages to staff members from their line managers that allow space and time to learn and explore how this could be put

into practice. Such permission to explore ideas, and to develop skills in how to apply sustainability thinking in different areas of work, will be vital if real change towards sustainability is to be possible.

Find ways to embed action towards sustainability (even if that action is 'only' developmental, forward thinking and strategising) into measurement frameworks such as the all-important KPIs

A key strength of Tesco is an attitude of 'Just fix it', reflecting an ability to take decisive and efficient action once an objective or problem has been identified. This was reported as one of the strengths of the company by various staff, and also as a reason to be optimistic about the possibility of Tesco making real changes towards more sustainable practice. Evidence from participants suggested that in Tesco, what is measured and rewarded gets done. Again, taking an asset-based and positive approach, a suggestion is to ensure that any change initiative works with that powerful dynamic, and that action for sustainability is made a key priority for the company. It was suggested more than once by participants, that to enable this it would be useful to explore adding new indicators of performance within a KPI on 'strengthening sustainable practice' – these might include, for instance, items such as leading discussions on sustainability / getting sustainability on the agenda, or proposals for how to change practice towards greater alignment with sustainability.

There was a further suggestion that sustainability could be made explicit in the Tesco Steering Wheel, which is used to drive and frame decision making. At the moment, sustainability is seen as a component of the Community spoke of the Wheel, and several participants felt that sustainability itself was not given sufficient attention in KPIs and performance measures.

Allow time for, and develop skills in, creative idea generation—then value, record and build upon these ideas

A fundamental asset within any organisation is its people. The RoundView is designed around the idea of using this core asset as the driving force behind sustainable transformation. It is an assumption within this approach—supported thus far by the results of these pilots—that with requisite training and development, staff throughout an organisation can contribute significantly to the task of 're-thinking' for sustainability.

A key strength within Tesco is the fact that it not only endeavours to hire excellent people, it actively provides opportunities for them to develop their skills and potential. As one interviewee said, *"the quantity of our profit is indicated by the quality of our people".* There has been a push to value diversity (in terms of employees) throughout the company in the last few years for which a key message that has encouraged change has been the need to get the best talent, which means making sure that the best talent from each community and group of people feels that they are able to contribute.

This concept within the RoundView, of enabling all members of an organisation to develop new ideas, is related to the concept of resilience in socio-ecological systems. Resilience is the ability of a system to respond to change, to adapt, whilst maintaining its essential characteristics (Berkes, Colding, and Folke 2003). The concept of resilience is gaining increased attention in the literature on adapting to environmental change (e.g. Adger 2003; Tippett and Griffiths 2007). In natural systems, *diversity* is seen as a key element of resilience.

A variety of options enables new combinations to be formed and allows for a degree of redundancy, which may be called in to play under new conditions (Tippett, Handley, and Ravetz 2007). As de Bono (1998, 170) states, speaking of design; *"you can never improve the quality of your final choice by limiting the range of alternatives".* In her classic text on interventions in systems, Meadows (1997) acknowledges that such diversity can be seen as threatening: *"Encouraging diversity means losing control. Let a thousand flowers bloom and ANYTHING could happen!"*

In the context of moving a large retail organisation towards sustainability, there is a clear need for a diverse range of new ideas and options in the many functions and operations of the organisation. A tension identified in this research was:

- [Tesco is] an efficient company that gets things done vs. time for staff to explore and develop ideas without pre-defined or immediate outcomes

The RoundView curriculum has been designed to allow people time to develop new ideas for achieving sustainability within the course structure, at the same time as providing tools and developing skills to be able to do so.

Develop a system for capturing ideas and encouraging them to flow within the organisation, so that they are more likely to reach the people with the capacity to evaluate them and the agency to implement them

In order for the development of a diverse range of ideas for sustainability to be effective—transformational even—this will require staff to be given permission to spend time on such development. It will also be necessary to develop (and maintain) a system to capture and channel these ideas to where they are needed. This system could be specifically for sustainability ideas, or these ideas could be included as part of a more general process such as a rejuvenated 'Ideas Capture'. This is not an easy task, and could benefit from learning between organisations to learn from best practice.

A need to engage staff in sustainability learning across the organisation is recognised within Tesco, especially as a means of engaging and retaining talented staff, as evidenced in this comment on project proposal to SCI for the Sustainability Skills project from the Head of HR International:

"This project is critical to the success of Tesco as a major global employer. We need to find ways to educate about sustainability issues to over 500,000 staff, who will serve over 25 million customers every week. We know expectations of staff will change and we need to be ahead of the game in order to attract and retain the talent to meet our continued growth."

6.2.1.2 Work with the willing

The concept of working with the willing has a long tradition in action learning, as emphasised by Revan's (1983) recognition of the importance of including people 'who care' in interventions for change. The value of working with the willing is echoed in the Natural Step's experience of spreading sustainability learning in organisations (Robèrt 1991).

Provide inclusive mechanisms to support, motivate and reward staff who contribute towards sustainability thinking or practice

The need to work with people who are interested and who care about making change was highlighted in discussions with the Champions, who were in and of themselves 'willing'. It was seen as important to have enthusiasm for the ideas and for the changes needed in order to spread the ideas effectively. Thus, a recommendation is to devise a process whereby Trainers and other potential Champions are able to identify themselves and volunteer, both in Stores and Head Office. Such a process fits well in the Tesco context, and is seen as important for scaling-up sustainability learning as well as other change initiatives within the company. Rewards for success could help reinforce and encourage the activities of the 'willing', and indeed all staff. This will require a related process of developing a wider pool from which the potential 'willing champions' can emerge—as there are more people who understand the RoundView and its possible applications in Tesco, there will likely be more people who come forward who are interested in taking it further, particularly if they are supported and rewarded for doing so. It is important in any roll-out not to lose sight of the early adopters, the Champions as well as the other trainees who have already shown considerable enthusiasm and motivation.

6.2.1.3 Maintain momentum by celebrating success

Maintaining momentum and enthusiasm for a long-term change process is a challenging proposition. Research into the governance of sustainability, along with decades of experience in environmental management and change, has shown the value of ensuring a parallel process of encouraging small projects that allow for more immediate gains (Tippett and Handley 2005; Tippett, Handley, and Ravetz 2007; Handley et al. 1998; Handley and Wood 1999; Wood and Handley 2001). This can help maintain enthusiasm, but only if the successes are *communicated* to participants and wider stakeholders.

Seek and gain 'small wins' in parallel with sustained focus upon longer term change, and communicate about these successes

An important recommendation for any long-term change programme is to ensure that there is a parallel focus on 'low hanging fruits' (Holmberg, Robèrt, and Eriksson 1996)—that is, achievable, small projects—as well as upon achieving the longer term goals of the programme. The achievement and celebration of successes and small wins, as the journey progresses, will increase the likelihood of sustained enthusiasm and effort in the face of difficult long-term challenges.

6.2.2 Diffusion of innovations

The late Everett Rogers is widely seen as the founder of diffusion of innovation research, and his work draws on six decades of international study into the spread of new ideas. His definition of the diffusion of innovation indicates why this body of literature has been used to structure thinking about spreading and embedding of sustainability learning:

> *"Diffusion is the process through which an innovation, defined as an idea perceived as new, spreads via certain communication channels over time among the members of a social system." (E.M. Rogers 2004, 13)*

His model of diffusion has clarified five attributes of innovations that impact on their rate of adoption, namely: relative advantage, compatibility, complexity, observability and trialability. The nature of sustainability learning can make it difficult to diffuse, as disucssed with reference to these attributes in the beginning of this chapter. This very difficulty, however, implies the value of considering the attributes of innovations that diffusion of innovation research has suggested impact on rate of adoption in designing a scaling-up programme.

Consideration of diffusion of innovation calls into question the nature of the innovation itself. In this project, there are four different, yet inter-related, types of innovation. The first, and most obvious for consideration of diffusion in this report, is the innovation of the learning initiative itself. The second is the particular kind of the sustainability thinking advocated, which will not only be diffused through a training programme, but also through artefacts, cultural interventions and informal situations in which the ideas are spread. The third type is that of actual sustainability innovations in specific areas, such as technologies, new approaches, new products, etc., developed through the application of the RoundView Guidelines in different contexts. An example of such an innovation might be a new way to package a product in a bio-degradable material that is made from agricultural 'waste'. The fourth type of innovation considered is the deeper, structural innovation required to change the nature of organisations and economies—Sir Terry Leahy's concept of 'rethinking the way we do business'.

The following discussion around diffusion of innovation relates to all four types of innovation identified above, with an emphasis on the first two, (the learning initiative and the thinking behind the RoundView), as they have been the main focus of this research.

6.2.2.1 Relative advantage

Relative advantage is the degree to which an innovation is perceived as better than existing practices. A key point for a scaling-up programme is to consider what the advantages of the innovation are, but also to communicate about them. As Rogers (2003, 233) says, *"relative advantage is often an important part of the message content about an innovation. The exchange of such innovation information among peers lies at the heart of the diffusion process."*

Promote the advantages of sustainability thinking through introductory presentations and diverse internal communications

As described previously, in the final focus groups with Champions, participants in both Head Office and Stores prepared ten minute presentations about sustainability and the RoundView. These included messages about the advantages of a clear framework for sustainability and of having a positive vision. A recommendation is to ensure that any 'formal' communications include information about the key benefits of the approach. This would apply to, for instance, the ten minute presentations envisioned as a means of spreading awareness and building support for the learning initiative, or to any broad-scale (internal) communications.

Describe and frame such advantages appropriately for different audiences within the organisation

For different elements of the organisation, and for different levels, the message as to advantages may need to be tailored, so that the message is one that makes sense to that

audience. For instance, a message about the relative advantage of making well-informed long-term strategic investment could be important for people in Head Office who are involved in investment decisions, whereas the ability to talk of a positive vision for sustainability and the way it can inspire people may be more appropriate for people whose main role in sustainability may be communicating with customers and community members. This process of adapting the message may be an ongoing part of capacity building, so that people who are presenting and talking about the RoundView are actively engaged in tailoring the message (within certain parameters to ensure quality and accuracy).

Relative advantage is seen as having economic and social dimensions. Advantages of the RoundView that emerged in the discussions with Champions and from the plenary sessions of the training included:

- Gives guidance as to whether we are actually going in the right direction (towards sustainability)
- Shared language enhances communication
- Sense of shared vision
- Inspires people to change, positive vision
- Training process enhances team-building
- Company seen to be promoting real leadership, seen to be taking sustainability more seriously than competitors
- Company seen to be taking sustainability literacy amongst staff seriously
- Allows for better long-term investments

Developing an understanding of the relative advantage of an innovation, and crafting messages appropriate to the culture and context requires ongoing attention. As Gladwell (2001) has identified in his study of how ideas spread, it is important to develop a *'sticky'* message, one that remains active in people's minds. It is likely that developing a 'sticky' message will require a few rounds of experimentation and testing. As discussed in the next section, compatibility with the culture and context is a key element in adoption of innovations, and the messages about the relative advantage of an innovation may need to vary between different levels or functions within an organisation, in different cultural contexts in which the organisation works, and over time.

6.2.2.2 Compatibility

Rogers (2003, 241) describes compatibility as *"the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters."*

The section above describing tensions in the context of scaling-up in Tesco shows several elements of the RoundView learning process which could seem to be incompatible with the Tesco culture, especially the need for open-ended, reflective learning. It is possible, however, to adapt many elements of the tools, language and process to be compatible with the organisation.

Tailor the presentation of the sustainability curriculum to the organisational culture

Examples of this in the RoundView curriculum included developing competitive elements in the group learning exercises, such as a competition as to which team could put together a jigsaw of the Earth the quickest. Within a larger scaling-up process, this aspect of the

corporate culture could be elaborated upon, with different functions and Stores possibly competing to develop the most sustainable ideas, or to save the most energy. This could be seen as 'sculpting competition' to encourage new behaviours. It would be interesting to explore how this might relate to the RoundView Sustainability Evaluation tool developed during the course of this project, as this could be used to measure success in judging competitions.

Within this round of action research there was a conscious development of language to suit the corporate context, such as using the common Tesco term 'Know your stuff' to introduce the section on learning about the Earth as a system as the basis for the Guidelines for sustainability. A further example was re-naming the 'takeaway tasks' between sessions to 'Next Steps', which is a common Tesco term designed to focus attention on what people will take from meetings. The evidence suggests that this simple change actually had quite a significant effect in terms of how the 'request for action' was perceived—from being rather a burdensome 'extra requirement' to something that 'you just do'.

Maximise opportunity for learners to relate new perspectives and learning about sustainability to their job roles while they learn

A key component of compatibility in this context was that of designing training to be relevant to people and their job roles. A key learning outcome of the RoundView curriculum is developing skills in analysis, in particular the ability to work out what is important with regard to sustainability in different contexts.

Through the two action research cycles, the RoundView curriculum was developed to include a series of questions that allowed the learners to follow a journey, exploring new ideas and building on their own knowledge. Participants are able to see and develop the learning in relationship to their own ideas and contexts, which can help make the ideas more compatible. Having a clear set of questions, and developing ways to link participants' answers to the core content of the learning curriculum, were seen as important developments that would enable Tesco Champions to feel more confident in delivering the training.

In addition, many of the sessions which sought to draw positively on people's understanding of what is currently working well in Tesco, and those which ask participants to apply their new knowledge to their jobs, provided an opportunity to develop more understanding of how these new ideas relate to people's job roles. This aspect could be further developed; for instance, a new way to introduce this is being considered, in which each participant writes their own job role on a shared (Ketso) workspace, so that new ideas are built up and explored in an *explicit* context of their job roles. This could be extended to include reference to other roles in the home and community, to provide participants with opportunities to better integrate their new knowledge into different aspects of their lives.

Explore ways to include key parts of the curriculum within existing practice in parallel with more in depth sustainability training opportunities

The 'Champions' engaged in this action research emphasised the value of fitting elements of any new training in with existing structures, such the bronze, silver and gold levels of training in Stores, or the "Core Skills" training programme in Head Office. Building the training into existing processes was seen as important to help make it more compatible with the organisation. Champions on this course also noted the possible impact of high staff turnover, especially in Stores, and suggested that training would need to be ongoing in order to reach all staff effectively; this could clearly not be just a one-off training campaign.

Harnessing the efficient 'machinery' of existing Tesco processes and training could enable spreading the learning throughout the organisation. Specific examples mentioned by participants of processes that could be adapted to include elements of the RoundView curriculum included:

- Get consideration of, and presentations about, RoundView into Retail Council, Town Meetings, Company Conference, Strategy Conference (and seek further advice on which other meetings it should be included in)
- Dedicating regular time to discussing sustainability, and progress towards it, in team meetings
- Integrate consideration of the RoundView into TWIST (Tesco Week in Stores) when Head Office staff spend a week participating in activities in Stores
- Include report on RoundView activities in report back from TWIST
- Integrate elements of the training (and the reflective learning as part of the experience-led learning cycle) into existing processes, e.g. Magic Monday, Core Skills Training – this can act as a taster of the full-blown course, and provide a wider group of people from which to draw the 'willing' for more in-depth learning
- Ensure regular communication and feedback about progress, (e.g. use the internal news letter, the One). In Stores it was suggested that updates should be at least annual, and in Head Office, Champions felt that there should be monthly updates
- Include a section for discussing the sustainability implications of new ideas and proposals in the papers that are presented for consideration (Ask and Discuss papers)
- Connect RoundView Guidelines to discussions of budget, showing links with the bottom line, "*need make people 'bothered'"*
- Tesco pay for people to go on training (then RoundView would be validated to managers as it is in the training budget)
- Make most of the 'Community' segment in the Tesco Steering Wheel
- Consider how progress towards the RoundView Guidelines could be integrated into BRAG assessment of staff activities

In addition to training, it is of course important to consider the RoundView in actual decision making and evaluation of ideas and practice—that is the 'raison d'être' of the curriculum in the first place. The ideas presented above reflect the blurred line between learning and practice; this is necessarily so in a complex scenario such as this for which tried and tested solutions are largely not yet in existence. Rogers (2003, 249) suggests that innovations are often seen as *"interrelated bundles of ideas"*, going on to suggest that it can help with adoption to promote *"a cluster or package of innovations to clients, rather than to treat each new idea separately"*. This is reflected in the approach adopted in this initiative, in which new *learning content* is introduced with new *learning processes* using new *hands-on tools*, simultaneously.

Recognise the characteristics of the sustainability training that give it its value—maintain integrity in the process

Rogers (2003, 245) also cautions, however, about innovations which are *too* compatible with the existing context, saying:

> *"The more compatible an innovation is, the less of a change in behaviour it represents."*

A fine balance needs to be sought between adapting to the context and maintaining the key features of the learning process that encourage and enable new thinking and behaviour. It is also important to maintain integrity in the core language and messages that enable the development of shared language and communication between disparate groups. Thus, it is important to maintain elements of the RoundView curriculum, in particular the learning process, such that they are not simply adapted to the clearly defined and target driven training that is typical in the Tesco context.

The analysis of the learning process above has shown, for example, the value of social, group processes in learning, and of reflective time. These important characteristics are elucidated and codified in the SHAPE framework for effective sustainability learning initiatives described in earlier chapters. Spreading of the RoundView curriculum would need to maintain these characteristics if the learning is be as effective as possible in encouraging change in behaviour and thinking.

Seek synergies with other programmes

There was a caution from Head Office Champions, that it was important to avoid 'competition' with other change programmes, and a suggestion that it would be helpful to map all related campaigns and awareness-raising activities as part of a roll-out of the learning initiative. There is currently, for example, significant investment in a Six Sigma change programme. It is important to think how the new thinking implied by the RoundView learning curriculum can be configured so that it is seen as complementary to, and not competing with, this initiative. Certainly the relationship between such a major change programme and a new sustainability learning initiative needs to be considered and positive synergies developed where possible.

Rogers suggests, that innovations that are relatively more compatible with existing practice can be seen as the first step in preparing the ground for further innovations 'paving the way' for the less compatible innovations. For instance, perhaps the network of people who have encountered the current Six Sigma change initiative in Tesco might be a fruitful starting place to recruit possible Champions and willing participants early in any roll-out of a sustainability learning initiative?

A potential synergy between approaches such as Six Sigma and science-based approaches to sustainability such as the RoundView was discussed in the project report from the previous Sustainability Skills project (Tippett et al 2009); the value of becoming more efficient may be amplified—in the sustainability context—when aligned with a clear and functional strategic direction that *defines* more sustainable practice.

6.2.2.3 Simplicity

Rogers (2003, 257) describes one attribute of innovations that is *negatively* correlated with adoption – complexity. He defines complexity as *"the degree to which an innovation is perceived as relatively difficult to understand and use".* Here, we have re-phrased this attribute to a positive one, namely **simplicity**, partly to fit in with the 'positive' framing that has been a consistent and useful theme in this research, and partly to have the list of the five attributes of innovations aligned in the same way, with a positive correlation.

This has been influenced by De Bono's (1998) work arguing for the importance of 'simplicity', which he suggests may be as important as understanding ecology for

improving society. This change in language fits with recent applications of Rogers' model of diffusion of innovations, which finds that innovations that are *"relatively easy to comprehend and adapt"* (E.M. Rogers et al. 2008, 3) are more readily adopted.

A key aspect of the development of the RoundView has been an attempt to simplify and clarify the language and expression of the Natural Step framework of sustainability—itself seen by the authors, and confirmed by a literature search of available sustainability frameworks, as the most clear and comprehensive science-based framework guiding efforts towards sustainability available. The RoundView features simpler and more accessible language, with engaging graphics that convey concepts of sustainability. In this round of research, there was a strong focus on clarifying the connections between the positive and negative Guidelines, so that they were easier to remember, to teach and to apply to the evaluation of products and practice. The SHAPE framework, designed to also be a mnemonic, represents a further attempt to simplify the subtle and complex array of considerations that have informed the design of the RoundView curriculum.

Establish and maintain understandable 'rules of the game'—allowing people to develop skills—at different levels of scale

The RoundView Guidelines offer a simple framework for understanding both the nature of what it is we as a society are doing to interfere with the sustainable functioning of the Earth's eco-cycle and systems, and also for understanding that we would need to do, *on a whole-systems level*, to be sustainable. This could be seen as clarifying the 'rules of the game'. De Bono (1998, 10) suggests *"once a game is laid out in a clear manner, people become very good at playing that game".* The hope is that by laying out the rules of the game, and enabling more people to understand them, we will become better at playing the game of moving towards fully sustainable practices. This thinking builds on Karl-Henrik Robèrt's insight in the Natural Step of the value of creating a shared mental model of sustainability, which could act as the 'rules of the game'. He has developed this analogy in discussions about sports, pointing out that everyone knows the rules in a sports game—and these rules don't change—yet each game, in practice, is different (described in his story of the evolution of the Natural Step, Robèrt 2002, and a regular message in training he offers as experienced by the Principal Investigator). Agreeing with Robèrt, we contend that knowing the 'rules of the game' for sustainability is by no means an inhibitor of creativity, rather it can set the frame for truly creative thinking, as there are many possible ways to move towards sustainability.

Similar logic applies to the creation of frameworks, procedures or processes within an organisation that themselves become 'game rules'—a context that supports the development of thinking and skills in the application of the RoundView Guidelines to the business. This way, just as noted above by de Bono, people will become skilled at playing the 'game'. This metaphor provides a different way of thinking about some of the suggestions in the previous 'Compatibility' section; how can this thinking be integrated into the organisational context, such that staff can 'play the game' of re-inventing practice sustainably? How can it be made simple and easy for all staff members to contribute to this process?

Several suggestions were made by participants during these pilots for embedding thinking about the RoundView Guidelines into normal working practice. These included: having a section in reports on new projects specifically for consideration of the RoundView implications (thus having an expectation that the sustainability aspects of all new projects will be considered and put forward as part of the business case), and including

sustainability concerns—both in terms of decision making and in terms of measurable targets and performance evaluation criteria for staff members—along with time to discuss them, in regular performance development reviews. As staff become acquainted and familiar with the questions and thinking required by this kind of sustainability analysis through regular experience of it, particularly in more formal contexts, their skills and competencies will naturally increase.

Simplify application of key ideas through provision of tools designed to make this easier, and include use of these tools in 'core skills' training

Development of the new Sustainability Evaluation Tool was motivated by the need to make application of the Guidelines easier, thus simplifying the message about how they relate to people's contexts and work. It is a simple tool for assessing ideas, products and systems against the RoundView Guidelines and the four-stage model of transformation, giving a clearer idea of the relative sustainability of different ideas. A challenge will be working out how to include training in the use of this tool in, for instance, the core skills training, which could be difficult if the time allocated to training is too short.

During this initiative there has been considerable attention paid to how to make teaching the core ideas simpler through embedding the core concepts and facts into the hands-on learning tools. This idea received positive feedback from the Champions who viewed it as potentially a very helpful way to assist with learning and communicating the RoundView ideas. This addition of core facts and concepts into the current prototype learning tools needs to be refined and tested, so that the learning tools are made as simple to use as possible.

The feedback elicited during this round of training has enabled us to become clearer about the core messages in the curriculum. Several of the Champions expressed concern that they didn't feel ready to teach the course while the content was changing. The analysis developed in this report from this second round of action research has now enabled the core ideas to be further clarified, such that they can be better embedded in the tools. Developing these new physical artefacts may engender more of a feeling that the ideas are sufficiently stable and settled to enable trainers or other potential Champions, to proceed with confidence.

6.2.2.4 Trialability

Rogers (2003, 258) defines trialability *as "the degree to which an innovation may be experimented with on a limited basis"*. He goes on to suggest that "*innovations that can be tried on the instalment plan are generally adopted more readily than innovations that are not divisible"*.

Introduce and spread the curriculum through a range of options or 'entry-points' that enable staff to engage with the process gradually and appropriately

An important idea to emerge in this round of action research has been to offer a range of training options for the RoundView: a ten or fifteen minute introduction, a 1.5 hour 'core skills' training, and the full 'RoundView course' as piloted in this initiative. More training could then be made available for those who are interested in taking the ideas further, such as the process envisioned for training trainers, the first stage of which was trialled and developed in part in this action research.

As an example, an introduction might simply present the core concepts, such as the need for a change in direction and the notion of a positive framework with Guidelines to inform practice and decision-making, probably using the visual representations and introducing the actual Guidelines briefly for familiarity. The train-the-trainers process should offer different tiers of training, such that trainers are able to try out training at different levels, and build skills over time, with the option to stop at any level they feel most comfortable with. The 'tiers' within the learning process are currently seen as:

1. '*Foundation'* – has an understanding of basic ideas, language and approach, starting to develop skills to be able to apply Guidelines in own work

2. '*Practitioner'* – able to apply the ideas to own area of work, with a deeper level of understanding than at the foundation level that enables a more rigorous evaluation of practice against the RoundView Guidelines to be undertaken competently.

Champions on this action research felt that any new sustainability training would benefit from refresher sessions, which may be built into the practitioner level of training, perhaps embedded in other ongoing training or review processes that staff are already engaged in, e.g. as a supplement to existing training modules.

3. '*Facilitator'* - an initial train-the-trainers approach, such as was tested in this research, that enables participants to support their colleagues and teams in the learning, especially feeling comfortable to bring the tools into their work, and perhaps to give a 10 – 15 minutes awareness-raising introduction. This would likely involve a second round of training at which 'facilitators' are able to take on new roles, test and extend their knowledge and start to act in a training role. Skills may also be developed by the trainers offering 'refresher' sessions. The value of having the first trial of doing training in a relatively 'safe' environment, with people who already knew something of the material, was mooted by Champions in this action research.

4. '*Trainer'* – at this level, the trainer can deliver the full learning initiative (i.e. a programme to take participants to level 2 or Practitioner level) to colleagues.

5. '*Trainer of trainers'* – at this level, the trainer is competent to train trainers. The principles underlying the learning initiative are be sufficiently well understood (and experienced and tested in practice) that they can be introduced to new learners through a social and positive approach. The 'trainer of trainers' understands the deeper thinking behind the ideas and processes, and is able to make them more visible to learners through a reflective approach. Mechanisms need to be explored to help maintain quality of training and integrity of the core ideas over time. Accreditation and continuing professional development may promote such effective replication.

There may also be a *'friend'* level, recognised as someone who has done a basic introduction and is aware of and comfortable with the basic ideas, language and approach. This process of developing skills and testing them out in new contexts, to consolidate the skills, enabling further development, is akin to the Experience-led characteristic of the SHAPE framework. The process is envisioned as a series of experience-led learning cycles, which include opportunities for reflection on the experience.

Further action research could develop understanding of what support and training would be necessary for people to move to the fourth and fifth tiers. If internal capacity is to be built in a train-the-trainer approach, to enable the company to rapidly spread this learning, there will need to be permission to release time from the daily job for staff trainers. This key aspect has been disucssed in evaluations of train-the-trainer programmes, including Green

and Reid (1994). They noted that consideration must be given to providing sufficient time for staff to function as trainers for other staff. Such provision of time and permission is also directly related to innovation, as discussed in Rogers (2003, 412):

> *"Organizational slack is the degree to which uncommitted resources are available to an organization. This variable is positively related to organizational innovativeness."*

6.2.2.5 Observability

Rogers (2003, 258) defines observability as *"the degree to which the results of an innovation are visible to others"*. In developing the idea of observability, he goes on to distinguish between the hardware and software[21] aspects of an innovation, with the hardware aspect consisting of *"the tool that embodies the technology in the form of a material or physical object"*. The software aspect, is the *"information base for the tool"*. This is much harder to see, and he suggests that *"innovations in which the software aspect is the dominant posses less observability, and usually have a relatively slower rate of adoption".*

Use the sustainability tools, artefacts and images to increase the presence and observability of the shift towards more sustainable practice

The development of highly visible, tangible learning tools in the RoundView can thus be seen to have a further advantage to those elucidated previously—namely that the physical objects that embody the ideas of the RoundView increase its *observability*.

Vygotsky (1962) developed an understanding of mediated action, upon which activity theory of learning was built. This highlights the importance of the embodiment of ideas in representations and tools: *"Consciousness does not exist as situated inside the head of the individual, but is rooted in the constant interaction between individuals and the world of objectified cultural artefacts"* (Miettinen and Virkkunen 2005, 443). In their article 'The Epistemology of the Object', Miettinen & Virkkunen go on to discuss the importance of surfacing ideas and assumptions into objects that can be represented. Talking of ways of changing habits and behaviours, they say; *"the activity-theoretical approach regards retooling, the shared creation of artefacts used as means of reflecting and practical transformation of activity, as a key to changing practices"* (ibid.). Thus the use of interactive hands-on tools in this learning initiative may, by their very nature, encourage changes in practice in an organisation.

For example, as people develop and add their own knowledge and ideas to a shared Ketso workspace, it can be seen as an epistemic object, that by its very nature encourages enquiry into new ways of thinking and knowing. Its incompleteness is an invitation to develop new connections:

> *"Epistemic objects are abstract in nature: they are the objects of inquiry and pursuit. Hence, they are characterized by lack and incompleteness. As they appear in temporary instantiations, they are defined at once by what they are and what they are not (or not yet)" (Ewenstein and Whyte 2009, 9).*

[21] In the ongoing action research developed by the Principal Investigator, the term thinkingware has been coined for this concept, to distinguish it from actual software.

As well as allowing for dynamic interaction and re-tooling, the hands-on, felt-based RoundView visual tools embody a clear and striking visual representation of the core concepts that are used to develop a shared language and understanding amongst participants, and across different groups of participants. The core learning content of the RoundView draws on commonly understood and widely agreed upon scientific principles. As such, it acts as both an epistemic object and a boundary object, *"stable enough to enable coordination across communities of practice"* (Ewenstein and Whyte 2009, 10)

A further way to increase the *observability* of this innovation in the organisation would therefore be to have RoundView graphics visible, for instance hanging on the wall in offices and in Stores, giving the RoundView process a physical presence in the space. If these graphics used a felt base (such as that used in the Ketso toolkit during these pilots), there could be an accompanying set of tools for employees to write their ideas for moving towards sustainability, which would then be captured and displayed. A variation on this idea would be to use a Sustainability Evaluation Tool in this way, so that products, processes, new ideas, etc. can be located on the tool, making the process of evaluating ideas against the Sustainability Guidelines more visible. People would see their ideas, and feel they were validated. These graphics or tools could possibly also include corporate organising schema—such as the Tesco wheel—which would create further observable links between individuals' contributions, the overall goal of sustainability, and the organisational culture.

Figure 20 having felt artefact on wall to 'capture' ideas (picture taken at UKSS conference)

A recommendation for scaling-up is to test the use of these new learning tools with a wider range of facilitators in Tesco. Their physical nature may encourage more people to engage with them, whilst helping to maintain the integrity of the core ideas through their

embodiment in the tool. This creation of 'hardware' (to use Rogers' term) would make the software (or thinkingware) behind the innovation more easily observed.

The need for of observability and visibility lends further support to two earlier recommendations:

Find ways to embed action towards sustainability (even if that is 'only' developmental, forward thinking and strategising) into measurement frameworks such as the all-important KPIs

As noted, many of the participants in this action research emphasised that unless sustainability objectives were clearly included in KPIs, and represented in the Tesco Steering Wheel, they felt that it would be hard to embed this new thinking in the culture. Such including of sustainability language and targets in the KPIs can also be seen as a way to increase observability.

Provide inclusive mechanisms to support, motivate and reward staff who contribute towards sustainability thinking or practice

Tesco has a culture of celebrating success and rewarding good performance. Several participants said that it was important to be visible in Tesco, to have one's work noticed. In such a large organisation staff naturally seek ways to 'stand out from the crowd'. Finding ways to recognise innovative new ideas and ways of moving towards sustainability emerging from employees, as well as new behaviours and practices being implemented, could increase the observability of both the innovation and of the innovator, creating a beneficial and motivating driver for change.

A final point on observability supports the idea of introductory presentations suggested previously. If more short presentations were given to a wide range of people, as well as making the process more accessible, this would also raise the observability of the learning initiative, as more people would hear the key concepts, see the visual learning tools, and start to understand their significance.

In a retrospective paper published in the year of Rogers' death (2004), three elements were added to the model for diffusion of innovations, namely: critical mass, diffusion networks and re-invention. These are discussed below in relationship to scaling-up this learning initiative.

6.2.2.6 Critical mass

Critical mass is defined by Rogers (2004, 9) as *"the point at which enough individuals have adopted an innovation that further diffusion becomes self-sustaining"*. The concept of critical mass has its roots in physics, being the amount of radioactive material needed to sustain a continuous nuclear reaction. It links the behaviour of the individual to the larger system, as *"an individual's actions often depend on a perception of how many other individuals are behaving in a particular way"* (E.M. Rogers 2003, 349).

The concept of a 'tipping point' is taken from epidemiology. It is the stage at which a virus reaches critical mass, after which increase in the disease is rapid and non-linear. Gladwell (2001) has popularised this concept in relationship to social change, and looked at the ways in which social trends can seem to suddenly shift to a non-linear change. After the tipping point has been reached, adoption speeds up rapidly. The mechanisms related to enhancing

observability disucssed above would help to create critical mass. Part of the rationale for a train-the-trainer process is that it would help to reach critical mass more quickly.

Build skill and confidence to share sustainability ideas with others into training at all levels

It is an important element of the curriculum design to encourage the people who attend the RoundView training to act as agents of change and further communication with others outside of the training. Feedback from participants on each round of training suggests that the training did motivate many to communicate with others, and many course participants did indeed share the new thinking with their colleagues. It was also clear that there were willing Champions, but they will need more support, tools and opportunities to practice before they can fully deliver the course. What this research did show, however, was that given a brief period of reflective interventions and further training both before and after the full learning initiative, potential Champions felt they would be confident to deliver a ten minute presentation to their colleague or to other teams. Although this is clearly an easier task than delivering a full course, it represents a significant milestone, which once achieved, is a strong indicator of a requisite degree of confidence and competence to move on to delivering the full training. This research has shown that a cascading approach to training trainers and building capacity has *potential* to help reach a large number of people quickly. This will, however require, organisational support to free up people's time to build capacity and the development of resources to support the trainers, such as video clips showing possible ways to handle to difficult questions.

Focus training resources strategically to build critical mass

In order to develop critical mass, it would be prudent to consider how to allocate time and resources in a training programme to best effect. Rogers (2003, 361) suggests one strategy for reaching critical mass is to introduce innovations into *"intact groups in the system whose members are likely to be more innovative"*. In Head Office, it would be helpful to identify teams for early rounds of whole-team training with a reputation for taking up new ideas, possibly along with the teams of existing Champions, or those willing to devote energy to the spread of the learning initiative.

The idea of using a 'hothouse' Store, in which all members of staff would be introduced to the RoundView curriculum, was considered as a possibility for a future development during this action research pilot. It would be interesting to explore such a 'hothouse' training and to assess the effects of reaching a large number of connected people in such a way. This would probably need to be done in tandem with involvement and training of key teams in Head Office, that interact with the Store, and with a supportive Store Director, or else the 'critical mass' that was built might be more around a sense of frustration and isolation, with new ideas developed but without engagement of the people with the agency and decision making power necessary to make them happen.

A further suggestion was made that training could be approached by function, not separating Stores and Head Office, but rather training groups of people involved in particular functions. This would also enable the useful development of function-specific examples and case studies.

On another scale, it was also suggested by Champions that the focus might initially be on a "small country", so that a crucial mass of people who were aware of the Guidelines could be built. All of these suggestions are possibilities that might help to develop critical mass.

6.2.2.7 Diffusion networks

This aspect of the diffusion model is closely related to critical mass, as Rogers (2003, 300) says, *"interpersonal communication drives the diffusion process by creating a critical mass of adopters".* This part of the model looks at ways to connect people to diffuse an innovation, and considers the nature of opinion leadership.

Rogers disucssed homophily and heterophily in relationship to communication networks. He says *"a fundamental principle of human communication is that the exchange of ideas occurs most frequently between individuals who are alike, or homophilous"* (2003, 305). Heterophilous communication, or communication between people who are different, is more difficult than that between people who *"share common meanings, beliefs and mutual understandings"* (E.M. Rogers 2003, 306). Heterophilous communication does, however, have the potential to be very important in spreading new ideas, as it helps to create bridges between groups. Without such bridges, the spread of ideas is limited to relatively closely knit groups. A blend of homophily and heterophily is thus suggested by Rogers' for optimal conditions for diffusion. In the context of diffusing sustainability learning through Tesco, it is important to both encourage peer learning and communication and connections between people in different groups.

Encourage and enable peer learning

When 'getting into the details' of how these sustainability ideas apply to particular business decisions or practices, collaboration and communication between peers within teams and functions will be important. This applies at different levels of scale. What works in one Store may well work in another, for example, or at least would be a useful place to start when developing strategic sustainability thinking and solutions in line with the RoundView Guidelines. It is important to encourage the sharing of information amongst peers, so that people working on the shop front in Stores learn from each other, and people working at similar levels to each other in Head Office also have opportunities to share ideas outside of their normal functional teams.

Related to this is the concept of **working with the willing** discussed earlier. Champions, who are keen to learn more and spread new thinking about sustainability within the organisation, will encourage peer learning. As these Champions are given tools and permission to engage with their colleagues, they can form a significant part of a diffusion network.

Support communication and connections between different groups

Much of innovation lies in making new connections between existing ideas (Schumpeter 1934). It is important to consider how people from different groups can interact, and ways that their ideas can be considered together and blended into new options.

The RoundView curriculum is explicitly designed to bring together a mix of people from different functions and levels within the training. It is seen as important to cross-pollinate ideas as sustainability demands consideration of a 'bigger picture' than is typical for many job roles within a large organisation. There is no reason to suppose that potential solutions and innovations will fit neatly within the confines of any particular function, for instance. This social aspect to the learning encourages participants to learn from each other during the course, and then to go and talk to their colleagues about the ideas in-between the sessions to consider the implications of what they are learning.

Interaction between different groups of people can also impact on the spread of ideas: *"heterogeneous, transitional zones of innovation activity in networks can make for sustained efficacy in directed efforts at diffusion"* (E.M. Rogers et al. 2008, 20). This need for different groups of people to interact in order to combine their ideas and develop them in new ways highlights the significance of one of the cultural tensions discussed in the analysis of the cultural context in Tesco:

- Focused working units vs. cross-functional communication and cooperation

There is an interesting conundrum here: many participants commented that they valued learning from people from different teams and functions in the RoundView learning initiative. Yet at the same time, there was clear feedback that it would be more efficient in terms of getting things done if all members of a team had been on the training at the same time. This has prompted the thought that future training may combine both aspects, with the first session encouraging cross-team learning and the second session encouraging application of the ideas within a division or team. Such an idea would clearly need to be tested before being rolled out.

Finding the most appropriate balance here is related to the earlier recommendation to introduce the curriculum through a range of options or 'entry-points' that enable staff to engage with the process gradually and appropriately, in so far as there is not necessarily a 'one size fits all' best way for everyone. It seems likely that some sustainability innovations will arise in the context of functional teams, and that others will require a more inter-functional perspective; all kinds of connections are potentially useful. This further illuminates the value of having a language shared across the organisation—with such a shared language, beneficial communication on this vital subject of sustainability between people in otherwise very different roles and positions would become possible and more likely.

Judicious use of external expertise

There was discussion in the Champion focus groups about the value of having external experts bringing in ideas to the company in parallel with a process of training internal Champions to spread the new thinking amongst their peers and colleagues. Several Champions raised the concern that whilst developing internal capacity for training had many advantages, part of the effectiveness of the training, especially with more experienced colleagues in Head Office, came from the perceived 'expertise' and subject knowledge of the external trainers during the action research. In addition, it was posited that there may be an ongoing role for external input to provide different insights and to encourage reflection and further learning. This could help prevent a possible unhelpful drift of the core training message towards reinforcing institutionalised norms, as external input can provide ongoing perturbation and challenge. The simple need for different perspectives provides another reason to consider ongoing interaction with external expertise in the endeavour to move towards fully sustainable practices.

To some extent, simply going to a different team or location creates a degree of perception of 'externality' and credibility that can be harder to establish within a more familiar group. Several of the Champions in Stores echoed this idea, saying that they would prefer to give presentations and assist with training with their peers in different locations and teams, as they felt it would be difficult to go back to their own team after only a brief period of training and present ideas as an expert. They felt, however, that they would feel more confident talking to people at a similar level to them in a different part of the company.

Such a process could act as a powerful way to build a diffusion network, which would gain from the ease of communication between homophilous agents, but at the same time build new links for spreading the ideas and thinking. It is worth noting that many of the Champions, and all in Head Office, suggested that they would be prepared to give some kind of informal feedback to their team and colleagues.

Identify and engage opinion leaders

In a conscious process of endeavouring to diffuse an innovation, it is important to work to identify and engage with opinion leaders or individuals who are *"able to influence other individuals' attitudes or overt behaviour informally in a desired way with relative frequency"* (E.M. Rogers 2003, 27). These opinion leaders *may* be the same as the people in positions of power in the organisation, but *"this informal leadership is not a function of the individual's formal position or status in the system"*, rather it is *"earned and maintained by the individual's technical competence, social accessibility, and conformity to the system's norms"* (ibid.). Opinion leaders are seen to exemplify the organisation. If they are seen to model the new behaviour or processes, this can greatly enhance diffusion. Thus, three categories of staff emerge as important in the diffusion process: Champions, and others who emerge as willing; key figures within the organisation's hierarchy; and people who are held in high esteem, and are well connected to lots of different people—opinion leaders. Finding ways to engage with and actively encourage these people to be involved in the learning initiative will increase the likelihood of successful adoption.

Build and utilise networks of ongoing support

The links between people that enable an initial spread of new ideas are also very important for the process of embedding these ideas into practice. Moving towards sustainability will require the challenging of existing processes, and experimentation to find new ideas and ways of working. Social networks will enable people to learn from each other, support each other and further embed the ideas in the organisational context. It is important to both look for existing networks and endeavour to utilise them as a means of spreading ideas, and to encourage the development of new networks through the learning process itself.

If some resources, especially in the form of people's time, are allocated to nurturing these networks, their effectiveness can be greatly increased. The aim is to develop *'communities of practice'* of people who are using the new ideas, applying them in their contexts, and learning from each other whilst developing and stewarding a body of knowledge in these new applications (for more information see Wenger 1998; Wenger, McDermott, and William M Snyder 2002).

It is likely that the nurturing of several networks within any one organisation, preferably with connectors (people, events, communication channels) between these networks, will support learning and development more effectively than just one large network. Networks would form around different elements of practice, and would ideally link together people from different teams, functions and possibly geographical locations to learn from each other (Wenger, McDermott, and William M Snyder 2002). These networks can have fairly fluid boundaries, and can form and re-form as the questions being asked and the areas of interest change over time. Gladwell (2001) recommends thinking in units of no more than 150 people, as this is the upper limit of people in a network where interpersonal communication can still take place effectively, and people are able to influence each other. Thus several networks may be nurtured within one much larger organisation, so that there

is a real possibility of exchange and the development of relationships between people within and between the networks.

As a major retail organisation, Tesco also has a great number of links with suppliers. A suggestion that came from Head Office staff during this research was to include a clear sustainability rating as part of supplier criteria. There is the potential also for innovation arising from interactions between staff and the supply chain. There is a real opportunity for sustainability learning to spread outwards through this interaction, and for new ideas and approaches to be developed. Tesco has already had such an impact, in a dialogue process with the PVC industry around sustainability, which sought clarity on possible ways PVC could be sustainable using The Natural Step Framework, described by (Leadbitter 2002, 2201) *"the retailers have effectively played the role of a pressure group, with the UK PVC Industry responding to their needs".*

6.2.2.8 Re-invention

Re-invention is *"the process through which an innovation is changed by its adopters during the diffusion process"* (E.M. Rogers 2004, 9). This process is related to the attribute of compatibility, as users are likely to be changing the innovation to better fit within their existing context and practices. A finding from recent diffusion studies was that *"an innovation has a more rapid rate of adoption when it is easy to 're-invent'"* (E.M. Rogers et al. 2008, 7).

Encourage and support appropriate adaptation of the curriculum to particular contexts

Although a framework for sustainability that is based on established science-based understanding may seem an odd candidate for re-invention, there are many aspects of the RoundView curriculum that can be adapted to suit different contexts. A key and on-going development for the RoundView will be to further clarify which, and to what extent, elements can be adapted, and which elements need to stay consistent to ensure integrity of the framework as it spreads. This will require clear guidance on how to adapt the language, learning tools and processes to the context. Issues to do with intellectual property are being explored and a governance framework for stewarding knowledge over time is being developed in a related SCI funded research project headed by Dr. Tippett: '*Open source to promote international knowledge exchange from research into sustainable development and consumption.'*

This research project has already demonstrated a degree of re-invention to suit the context, as described above in the Section 'Changes to the RoundView Curriculum' on pg. 55. Several of the exercises literally allow elements of the organisation's language and organising information to be slotted in, such as using the Tesco Steering Wheel as the central organising structure in the brainstorming sessions about what Tesco is doing well and what it could do differently in a sustainable future. These could easily be replaced by different organising structures with different organisations. This modular nature, with some aspects easily adapted and some staying constant for consistency, recognises, with Rice and Rogers (1980, 501), that *"an innovation is often really a bundle of components; it is possible to adopt some components and change or reject others".*

Figure 21 Tesco Steering Wheel used as organising structure for exercise

In this research report we have begun the process of mapping out the core components of the RoundView curriculum, along with the underlying reasoning behind each of the elements. A future step will be to map out each element of the curriculum against its organising principles, such as the SHAPE framework, and provide different workshop plans for different levels of engagement and time slots to make the process of adapting the ideas (with integrity) easier. A related step will be to develop a forum for exchange of ideas, and a peer review and governance process for reflecting on and incorporating new ideas into the core curriculum.

An intention for the development of the RoundView is to allow for an ongoing process of 're-invention here' (a pun on the concept of 'not invented here') so that the curriculum can be adapted to different contexts, whilst maintaining the integrity and quality of the ideas. The core Guidelines and principles provide the backbone, and need to be clearly taught in a way that encourages shared communication and understanding. The ways of teaching and the supporting information and case studies can and should be adapted, and improved. The hope is that by encouraging these adaptations and improvements to be shared, more people will be able to learn from others' experience and there will be a range of options available for people to draw from in teaching the ideas in different contexts.

'Re-invent' on the basis of experience as well as culture through connecting different generations of trainees

This process of adapting a training programme through the course of the training has precedents in the literature on innovative education, which can often be found in the health and nursing field. A good example was research into a major programme of train-the-trainer education in breast cancer nursing for 32 nurses from 20 countries, in which the two-day curriculum of training was modified between the sessions based on feedback from participants about the training programme. Asking a participant from each country involved from an earlier training to act as a faculty member on subsequent training was

seen as an important aspect of maintaining *"cultural relevance in our teaching-learning activities"* (Meneses and Yarbro 2008). Thus the re-invention should take into account the on-going learning and development, so as not to lose the learning gained in earlier experience.

It is seen as important in the RoundView train-the-trainer process to invite participants from earlier events to be involved in each adaptation. This would not necessarily mean past participants needing to return as full trainers. For example, in the language of the model developed above (under the heading 'Trialability'), 'practitioners' could attend a second course (or part of it) as a refresher—and also to share their experience subsequent to the first course with the new participants. Past participants could also attend future courses as 'facilitators' – akin to trainee trainers, in a supportive role but without full responsibility for the training. This type of practice would be potentially valuable for staff development as well as for the propagation of sustainability thinking and practice.

This process of allowing for 're-invention here' will be important for the diffusion and adoption of new ideas to do with sustainability within the organisation, especially given the global nature of Tesco.

This section has drawn largely from the diffusion of innovation literature to develop key concepts for spreading and embedding the RoundView learning throughout a large organisation. In the following section, learning from transition management, concepts for how to generate creative thinking and design on the level of 'rethinking the way we do business' are developed, considering the larger structural changes that will be needed to move towards fully sustainable practices.

6.2.3 Transition management

> *"The big leverage points are the goals of entire systems. People within systems don't often recognize what whole-system goal they are serving." (Meadows 1997)*

While the focus and scope of this action research has been upon *learning* for sustainability, clearly the ultimate purpose of any such initiative is real change towards a more sustainable way of working. The permission required for staff to use time and resources to systematically evaluate choices or business decisions against a framework for sustainability, and then to make decisions or changes that take this evaluation into account, is a recurring theme within the research data. With this legitimacy, the full potential of the learning could be realised and staff at all levels could be part of the shared and practical effort to 're-think the way we live and work' that is being called for by the CEO of Tesco.

This final section of the scaling-up analysis draws on transition management literature to explore further elements which may be required to enable such a fundamental rethink. Transition implies a change from one state to a new system. Shove and Walker (2007, 765) describe the notion of transition as *"firmly rooted in traditions of system thinking which highlight the coevolution of the social and the technical and which seek to understand and analyse the emergence, transformation, and decay of socio-technical systems".*

There has been a significant body of work in the Netherlands, applying transition management to socio-technical systems, including water systems (van der Brugge and van Raa 2009), and it is this literature that the section below draws from. Whilst a good

proportion of the transition management literature has focused on governance systems involving the public sector, the fact that it is looking at how to instigate significant change and manage transitions to those structural changes makes it a useful source for stretching the consideration of what a large company such as Tesco may need to do to achieve a long-term shift towards sustainability.

In this section, three key principles of transition management that offer insights into scaling-up a sustainability learning initiative are explored in the context of such scaling-up in Tesco below. These are:

- Creating an arena for transition
- Linking operational, tactical and strategic levels
- Developing 'shadow networks'

6.2.3.1 Creating an arena for transition

The change in skills and understanding implied by the RoundView curriculum requires space—to explore new options and to reflect on current practice. Transition management literature recognises the need to create an arena for transition, protected niches where new ideas can be thought of, and their implications explored (Rip and Kemp 1998). These have been termed 'transition arenas' and linked to the process of developing visions (van de Kerkhof and Wieczorek 2005).

A metaphor that was used in designing this RoundView learning initiative was that of 'terraforming', or *"modifying the environment of another planet, so that it can support terrestrial life"* (Fogg 1993, 7). Within this metaphor was the idea of first developing a protected space—a 'bubble'—to allow plants to grow sufficiently in challenging environments to start forming soil and their own conditions for on-going growth. This is akin to the way in which seedlings might be isolated or otherwise protected for their own development in horticulture. The 'bubble' of the training environment was viewed in such a way, with the intention that participants would be able to learn and explore the issues socially and systemically, temporarily somewhat removed from the normal fast-paced working environment.

There is a danger, however, that participants in such an approach will become insular, creating 'in' and 'out' groups, impeding the spread of ideas throughout an organisation (as was experienced in the Living Service change initiative in Tesco, according to interviews with Tesco staff in the Sustainability Skills Project). Ideally, a 'terraforming' approach needs to be created such that it also is able to integrate within the context of the larger social organisation, so that many other people are exposed to the new ideas at the same time. The Social characteristic of the RoundView curriculum is consciously designed to encourage people who are involved in the learning initiative to engage with their colleagues and others outside of the training 'bubble', to create tendrils of new thinking and support in areas not being directly 'terraformed'.

This metaphor may be instructive in considering the support requested by Champions for them to be able to effectively train others; the tendrils that grow outwards into unprotected spaces outside of the 'bubble' themselves need some support upon which they can grow.

6.2.3.2 Linking operational, tactical and strategic levels

The experience of transition management in the Netherlands has underlined the importance of working simultaneously at the strategic, tactical and operational levels:

> *"there is need for coordinated activities across spheres in order to scale up micro-level innovations. This is anything but trivial in practice. If the spheres interact too little, alternative practices remain isolated. Often, innovation is not properly embedded because there is a tension between cultural or structural elements" (van der Brugge and van Raa 2009 online).*

This is a key concept, people at all levels need to be engaged in thinking about and promoting change. The shared language of the RoundView could help to promote such linking across scales. A key tension that emerged in the analysis of the cultural context was:

- A central push to disseminate new ideas and approaches vs. learning from all levels of the organisation in a multi-directional flow of ideas

The experience of transition management suggests that it will be important to link across the levels of the organisation. This concept underpins the thinking behind the strategy advocated in the RoundView of creating a shared language throughout the whole organisation (indeed, throughout the whole of society): with such a shared language, the processes of co-ordinating efforts and linking sustainability innovations effectively will be expedited.

In the growing field of Multilevel Dynamic Systems Intervention Science, it is seen as important to promote change simultaneously on multiple social levels (Schensul and Trickett 2009) in the *"hope that effects at each level will forge synergistic links, facilitating movement toward desired change"* (Schensul 2009, 241).

One practical way to encourage linking across strategic and operational levels in Tesco would be to incorporate elements of sustainability learning and practice into TWIST (described earlier in this chapter). Thus, a new meta-goal for TWIST would be for Head Office staff to increase knowledge exchange with Stores staff around what each needs from the other to embed corporate sustainability practice. Learning between the levels would be encouraged if Head Office staff were expected to come back able to demonstrate what they now learned from their week in Stores about what could be done differently to move towards sustainability. If Stores staff *and* Head Office staff were able to use the same language of 'changing direction' and 'following the Guidelines' a creative space would be opened up allowing for highly valuable exchanges of ideas.

A further tension suggested by the analysis of the cultural context was:

- Listening to the voice of the customer vs. the company leading in a new direction

This tension suggests the interesting possibility of driving more innovation for sustainability from Stores level, which has not generally been the locus for change and new ideas to emerge and develop into corporate policy and processes. Stores staff are a major point of contact with the customer. A move towards increased sustainability innovation from Stores could enable more effective listening to customers. If Stores staff are more able and willing to communicate about sustainability with customers, they will gain

insights into what is acceptable to customers, and they may well hear new ideas for change. This could then stimulate more innovation, as long as there was an effective exchange of new ideas and innovation from Stores to Head Office.

Thus a further recommendation is to put in place mechanisms to support a bottom-up innovation process, which encourages Stores staff to incorporate customers' ideas. Recognising that a *"learning organisation has embedded systems to capture and share learning"* (Watkins and Marsick 1993, 9), this would require more developed processes to capture and synthesise ideas for improvement from the Stores level. As there is very limited access to the internet in Stores, this would likely need to be based on paper or other non-electronic ways to capture ideas. This *could* be provided by such hands-on learning tools as were trialled in the learning approach.

6.2.3.3 Developing 'shadow networks'

This discussion has largely focused on the development of new products and ideas, but not necessarily on a wholesale redesign of ways of doing business. An important insight from transition management has been *"the necessity of a 'shadow track' to the normal everyday short-term decision-making process… Such informal networks seemed to be important in exploring new system constellations"* (van der Brugge and van Raa 2009). The necessity to develop shadow networks to *"prepare a system for change by exploring alternative system configurations and developing strategies for choosing from among possible futures"* was emphasised in five international case studies in catchments management (Olsson et al. 2006).

The terraforming 'bubble' metaphor may be usefully extended to the idea of shadow networks. It would be possible to create a space in which alternatives could be developed and tested (to an extent). This idea essentially builds upon the earlier suggestion to:

Allow time for, and develop skills in, creative idea generation—then value, record and build upon these ideas

Thus there could be 'shadow networks' within teams and functions, exploring the potential of changes that could increase the alignment of practice with the RoundView Guidelines. In light of the recommendation discussed above to ***support communication and connections between different groups,*** these shadow networks (or some of them) would need to include people from different backgrounds, and to actively seek out and incorporate outsider and alternative perspectives.

Such a process would still leave the need for the integration of ideas across different levels and domains. No one person or even small group can even begin to work out the ongoing reality of an alternative way to live and work on their own. This integrating process could synthesise and consider the 'top' ideas to emerge from brainstorming and develop ideas for sustainability at the tactical and strategic levels of the organisation. If ideas were visually mapped in different areas of the organisation, it may be possible for the physical representations of the ideas (words on leaves, drawings, etc.) to be moved through the organisation, and re-combined and considered in a process of synthesis and design. This would represent a way to ***use the sustainability tools, artefacts and images to increase the presence and observability of the shift towards more sustainable practice*** as recommended earlier.

Meadows suggested that the most effective part of a system to intervene to create change was that of *"the mindset or paradigm out of which the goals, rules, feedback structure arise"* (Meadows 1997). She goes on to suggest ways to shift paradigms:

> *"you keep pointing at the anomalies and failures in the old paradigm, you come yourself, loudly, with assurance, from the new one, you insert people with the new paradigm in places of public visibility and power. You don't waste time with reactionaries; rather you work with active change agents and with the vast middle ground of people who are open-minded." (Meadows 1997)*

These points re-iterate several of the suggestions made in this section, including the need to work **with the willing** and to make new ideas able to be easily **observable**. A key is to use the shadow networks to develop ideas for the new paradigm, outside of the fray of everyday decision making. It requires leadership to not only develop the new ideas, but to navigate through the turbulence of change to take these ideas to the next phase (Olsson et al. 2006).

An insight from complexity theory into the nature of change is that change can be non-linear. Effects are not always in direct relationship to causes. Small changes can act as triggers of larger scale change, shifting systems into a different state (Gleick 1987). The alternative viewpoints created by shadow networks could have a profound effect on change, by making the options visible and thus possible.

Creating a shadow network allows options to be considered and explored before major decisions are made, allowing for a deep-rooted exploration of new options. Such work requires people to work at the boundaries, acting as translators and intermediaries for ideas and connections (a concept explored in-depth in the context of urban sustainability in Owens, Petts, and Bulkeley 2006; and Bulkeley 2006).

Work in the shadow networks should be carried out in tandem with the developmental work, with a wider range of people exploring how the RoundView Guidelines could be applied to their work contexts. This will both make a transition easier once new ideas have been developed in the shadow network, and will provide important input to the process of developing these ideas. Not only will this process of bringing in ideas from a wider range of people stimulate different thinking, it is also likely to build more support and ownership for future changes. One of the key reasons given for more stakeholder engagement in planning future ideas is that there is more likely to be a sense of ownership and support for implementing the ideas thus developed (e.g. World Bank 1994; Warburton 2002). Thus, ideas should be not just brought in from the wider process of engagement with staff in the learning initiative, but also their usefulness should be communicated (this could be through rewards for innovative ideas to highlight their value to the organisation), in line with the earlier recommendation to ***provide inclusive mechanisms to support, motivate and reward staff who contribute towards sustainability thinking or practice.***

In transition management, it can be seen that there is an explicit focus on multi-level change, aiming to learn how new configurations can be developed. This implies developing a vision to orientate these ideas towards, and then considering how these new systems and processes can become mainstream, enabling a transition. The RoundView Guidelines can provide an overall framework for orientating the vision, and work to develop new ideas can then occur in the shadow networks to explore what these may mean for particular organisations and contexts.

6.3 Chapter Summary

This Chapter has explored ways to embed sustainability learning within the cultural DNA of a large organisation. The analytical process cycled between a development of key themes from the literature (Asset-based development, Diffusion of Innovation and Transition Management) and bottom-up analysis from the data gathered in both rounds of action research in Tesco. Data was gathered from interviews, focus groups, feedback forms and participant observation.

Tensions between the organisational culture of Tesco and the nature of the sustainability learning initiative, which could impact on scaling-up, emerged from the analysis. Ways to work creatively with these dynamic tensions, so as to maintain the organisational strengths inherent within them, were developed.

This research has enabled us to learn more about the scale of what might have to be taken into account in 'spreading and embedding' sustainability knowledge in Tesco, and developed principles and suggestions that could be more broadly applied in spreading sustainability learning.

A series of recommendations were developed under the headings of the major concepts from the areas of literature explored. These are refined and developed in Chapter 7 'Conclusion and considerations' in the section considering the stages of a possible roll out in Tesco. Core concepts for a roll-out in Tesco, drawn from this chapter and a synthesis of the remainder of the report, are summarised in Appendix One.

It must be remembered that the outcomes of changes to a system are inherently unpredictable. It is not possible to predict the changes and make a linear plan as to how to achieve them. Any movement towards change and transition needs to take an adaptive learning approach. As Shove and Walker (2007, 765) say:

> *"a system orientation, when combined with ideas of reflexive governance, implies not one moment of intervention, following which managers stand back and await the desired result, but a constant, continual dynamic in which further adjustments are required as environmental conditions change, these changes being, in part, the outcome of previous interventions."(Shove and Gordon Walker 2007, 765)*

Developing visions of fully sustainable retail (or sustainable consumption) will not only involve significant changes in skills and understanding within Tesco's staff, it is likely to include working across the boundaries of organisations, recognising that *'The learning organisation has a boundary, beyond which are other learning organisations and the outside world'* (Jackson 2007, 90). A challenge for Tesco will be in creating new learning alliances across the value chain as part of this ongoing process of imagining alternative, sustainable futures. Whilst by no means an easy task, this would certainly provide an opportunity for Tesco to show leadership in the vital field of sustainability.

7 Conclusions and considerations

> *"The challenges of sustainable consumption require rethinking the fundamental tenets of the economy. The world economy must move towards a "new normal", bringing about systemic change in consumption, production and the way in which value is created." (World Economic Forum and Deloitte Touche Tohmatsu 2010, 17)*

In this SCI funded action research we have explored, tested and developed the foundations for a science-based approach that supports and enables the re-design of organisational practice towards sustainability. This work builds upon The Natural Step, Cradle-to-Cradle and Industrial Ecology, with contributions from PP4SD and others (see Chapter 3 for details). Much experience and many data have been gathered through piloting the curriculum five times and engaging in in-depth focus groups with 'Champions'. This Scaling-up project has scoped out the possibility for such an initiative to form the core of an effort towards organisational transformation, along the lines described by the oft quoted statement *"we need to re-think the way we live and work"* of Tesco CEO Sir Terry Leahy.

Staff response was largely positive in all five pilot courses in both Head Office and Stores, which have involved a total of 78 members of staff. Reports of increased understanding, a broader perspective, more 'joined-up' thinking and a new clarity about the underlying causes of both unsustainability and sustainability have been received in a large number of cases. Moreover—and strikingly in the context of any discussion of sustainability—there have also been enthusiastic and marked increases in motivation and even optimism reported by participants, often attributed to the positive framing of the approach used. This is perhaps more remarkable when considering the unusual and somewhat challenging position for many of the staff who participated in these pilots, brought about by an atypical (in Tesco, as reported by participants) lack of clearly defined purpose for the course or outcomes expected from attending it.

Much has been learned from participating staff about factors and strategies likely to influence the success of any attempt to 'roll-out' this kind of learning initiative within Tesco. These were described and explored in relation to existing knowledge in academic literature (particularly from the Diffusion of Innovation field) in Chapter 6, and codified into a set of suggestions for approaches that would likely support a successful 'spreading and embedding' of this sustainability learning. Key suggestions will be summarised in this chapter, in the context of a possible scenario for a broader implementation of these ideas. This is offered as a way of considering these pilots in a larger context, to inform decision making about future pilots, research, or initiatives relating to sustainability.

7.1 Organisational learning and transformation towards sustainability

The need for social and organisational change to more sustainable practice is described and debated in great detail elsewhere; this is widely accepted, and the matter is not becoming less pressing. It is not within the scope of this work to consider or justify the need for transformation; rather, this project was born from an acknowledgement of this need for more sustainable practice.

The approach to sustainability used and developed during this initiative (and the earlier Sustainability Skills project) has been named the RoundView. The RoundView consists of a set of Guidelines for sustainability, and processes and tools for learning and applying them. It is an open framework, able to be adapted to different contexts (within limits so as to maintain coherence of the core message). It aims to help us imagine and create a sustainable future, using our current best understandings in an evolving and 'open-source' manner. The RoundView is currently stewarded by ThinkingWare (see pg. 20) which is exploring setting up a RoundView Institute with the aim of spreading and embedding the framework worldwide, and to steward its ongoing development, whilst maintaining the integrity and quality of the ideas.

7.1.1 Potential value and benefits of the RoundView approach

The RoundView offers a positive vision for sustainability. Taking a systemic approach to moving towards sustainability offers potential benefits and advantages beyond those offered by simple compliance with environmental or social legislation. Fundamentally, a strategy that seeks long-term sustainability clearly has advantages over one that does not, certainly *over* the long term and possibly in the short term.

Attracting, retaining, and rewarding great staff is a vital business task. For many candidates, an organisation with a genuine and forward looking approach to sustainability will be a preferred place to work over one without.

Constant changes within the business environment are a rarely disputed fact of life in the 21st century. A forward looking company will be able to take advantage of the changes that arise from ever-increasing pressures to reduce environmental damage, through a variety of means. These might include, for instance, early adoption (first to market), or simply better preparedness for industry wide changes. A forward looking approach can help avoid investment in measures that appear on the surface to be beneficial, but which are locked into technology or processes that may become obsolete and expensive in the long run.

The challenges of sustainability are great and any organisation that is able to show real leadership in this domain stands to gain a great deal of respect and goodwill from society, which of course includes many existing and potential customers. This potential was recognised by one of the participants in Head Office in an interview: *"This is an unprecedented opportunity for Tesco to get ahead of the game."*

7.1.2 Towards sustainable consumption

The RoundView approach also provides a potentially helpful perspective on *sustainable consumption.* Any consumption (and of course *production,* which is the other side of the coin) that is *fully* aligned with *all* of the Guidelines is—within this framework—seen to be moving in a sustainable direction. Does this mean that there is an assertion implicit within this approach that *any amount* of consumption (and production) that is aligned with the Guidelines could be sustainable? **If** this framework is the robust and complete description of sustainability that it is intended to be—and it must be recognised that this is still provisional—then the logical answer would be yes, any amount of consumption and production carried out entirely in alignment with all four of the Guidelines would be sustainable. How could that be, given that there are obviously limits within any finite system? The answer is that the requirement for full alignment with the Guidelines is simply a positive, practical and functional way of describing the need to navigate *within* those limits. It enables and frames the continued use of human ingenuity to find ways of consuming... sustainably.

The RoundView encourages a shift away from seeing consumption as a linear use of materials, towards perceiving it as a cyclic process. We need to think about how materials can be used over and over, so we gain value from their use, and then either return them to the eco-cycle so that nature can 'add value' again, or keep them in closed cycles of re-use in the 'technical loop'. Whilst thinking of material flows, it is important to consider the ecosystems that are the engines of 'adding value' back to the material flows. As Daly (2007, 79) cautioned with regard to consumption, *"to make matters worse, we even consume the very natural capital by which nature adds value".*

An important point to reiterate is that the RoundView Guidelines *include* the need to increase people's capacity to meet their needs *worldwide*; if this is not happening, the Guidelines are *not* being met. Thus sustainable consumption, from the perspective of the RoundView, needs to take into account social as well as environmental concerns.

Such a re-framing of consumption may contribute to debates about growth and development. In an address to the World Bank, Daly (1993, 267) stressed the importance of understanding the difference between quantitative change, necessitating growth, and qualitative change, implying development that is not predicated on growth:

> *"To grow means 'to increase naturally in size by the addition of material through assimilation or accretion'. To develop means 'to expand or realize the potentialities of; to bring gradually to a fuller, greater, or better state'. When something grows it gets bigger. When something develops it gets different. The earth's ecosystem develops (evolves), but does not grow. Its subsystem, the economy, must eventually stop growing, but can continue to develop."*

He goes on to discuss the value of an ecosystem metaphor for thinking about development. An ecosystem develops in intricacy and potential for biodiversity, whilst running off the same basic throughput of sunlight and water. Daly (2007, 72) suggests that if the distinction between growth as physical increase and development as qualitative increase is made clear, sustainable development can be defined as *"development without growth—without growth in throughput beyond environmental regenerative and absorptive capacities".*

In a recent report entitled 'Weathercocks & Signposts - The environment movement at a crossroads' the WWF discusses the need for a significant shift in approach:

> *"Recourse to consuming greener products, buying fewer and more expensive products, or sharing products, will not be sufficient. Moving beyond these models will require the creative engagement of people in business, NGOs, and marketing agencies."(Darnton et al. 2006, 36)*

The perspective suggested by the RoundView is not one of arguing for *or* against 'green consumption' as the most appropriate response to environmental challenges. Perhaps the values of 'consumerism' will need to change in order to generate sufficient motivation and willingness to bring practice in line with sustainable realities. Certainly 'growth', as we know it, cannot continue to increase indefinitely within our finite system. The RoundView framework (like the Natural Step upon which it has drawn) elucidates a set of 'rules'. If society's growth or 'consumerism' breaks these rules, then it is possible to make a strong and scientifically grounded argument that it is unsustainable—that this practice will **have to stop** at some point, whether that be through choice or necessity. If growth or 'consumerism' starts, and continues, to play *by* these rules then—possibly—it can continue. Whether or not that would actually be an optimum result for society is a question far beyond the scope of this report.

There are undoubtedly challenges ahead for businesses, but at the same time tremendous opportunities for innovation, recognised by fourteen CEOs; *"A prosperous future depends on innovative new products and business models that achieve transformative efficiency – and create new market opportunities."* (World Economic Forum and Deloitte Touche Tohmatsu 2010, 4).

Some depictions of the positive vision of sustainability described by the RoundView may further illuminate this re-framing of the nature of consumption. 'Balancing the eco-cycle' would include ensuring that we meet our energy needs in a way that enables the flows of materials through the whole system to be *able* to be processed, and re-integrated effectively within the eco-cycle. Under these conditions, there would, for example, be no carbon problem. This requires consideration of not only the total quantity of the throughputs of materials, but also the pathways of their re-introduction to the eco-cycle: are the materials being emitted in such a way that they *can* be broken down and assimilated, without overwhelming the receptor ecosystem?

The Guideline 'Balance the eco-cycle' refers to the types of materials that *can* be broken down and re-integrated into the eco-cycle. A core concept in Cradle-to-Cradle is that *'waste equals food'*. Often what we perceive as 'waste' could be far more usefully conceived of as 'food'—for either natural cycles or for human made cycles that the RoundView describes as 'technical loops'. A useful question to determine if a material belongs in the eco-cycle is to ask whether or not it can be 'eaten' by the eco-cycle—for instance, if you put it in a compost heap, would it break down to the building blocks of life?

If the answer to that question is no, then the material needs to be 'eaten' by a different cycle, or not used at all. Keeping 'uncyclable' (that is—uncyclable within the eco-cycle) materials within closed 'technical loops' would greatly reduce, if not eliminate, many other 'pollution' issues and their associated health implications. In order to be able to 'Keep it in the technical loop', we need think of how the materials are put together into products, so that they can be taken apart at the end of their use and re-used (again and again). This is

sometimes referred to as 'design for disassembly'. This practice enables materials to be maintained at high material value, as opposed to being 'downcycled' (re-used, but in a process that degrades the quality of the material, which is often the case in 'recycling').

It has to be remembered, however, that there will almost always be some leakage from these technical loops, even with careful re-design of production systems. Industrial ecology has provided a useful metaphor that informs how to achieve this Guideline–that of 'snake venom' (Tibbs 1993). This implies ensuring that substances that could cause 'problems' (e.g. persistent synthetic compounds) should be considered like snake venom: made in very small quantities, and as close as possible to the point of use, to reduce risk. The design of the 'loops' is key, how can these materials be safely kept in the loop? Where do they go and how can they be re-integrated into the loop?

With resilient and diverse natural ecosystems restored, the essential 'engine' of the Earth's cycles could function healthily, as it did for millions of years before this damaging industrial period, providing essential 'ecosystem services' such as clean air and water, and crop pollination. Working out ways to meet the Guideline 'Restore and maintain resilient ecosystems' would require careful consideration of not only the total surface area that is maintained as 'ecosystem' but also the nature of these areas: are they sufficiently large and well connected to other areas to maintain resilience?

The precise wording of the Guideline (restore and maintain resilient ecosystems) is important, there is a sense of protecting what we still have (maintain), and also a trajectory of restoration. How much restoration is necessary would need to be discussed in the context of aiming for *resilient* ecosystems. Application of the Guidelines could benefit from the integrated scientific assessment of the state and value of the world's ecosystems as represented by the Millennium Ecosystem Assessment (2005a) and The Economics of Ecosystems and Biodiversity (TEEB, United Nations Environment Programme 2009). At the same time, the Guidelines might provide a useful organising structure for enabling people to apply this science to practical decision making.

There is a potential danger in this positive framing, that an organisation could use small tokenistic steps (e.g. plant a tree, sponsor a water pump) as evidence of a 'moving in a sustainable direction', whilst not fundamentally re-evaluating their overall practice. 'Greenwash' is always a possible problem, but the RoundView implicitly takes a whole-systems view, requiring a consideration of overall impacts and processes, whilst also valuing the small steps.

Systematic increases in all people's ability to meet their needs (sustainably) would not result in a magical elimination of social problems or injustice overnight. The social Guideline, however, perhaps more than any other, reveals the value of conceiving sustainability more as a *direction* than as an end point. Many actions, each of which results in some increase in people's abilities to meet their needs sustainably, would over time lead towards a more equitable society.

A key concept is that of increasing people's *capacity* to meet their needs. It is not always possible to guarantee that people's needs will actually be met. A 'one size fits all' approach is, indeed, not likely to be as effective as an approach in which people work out culturally appropriate ways to meet their own needs (e.g. Max-Neef 1991a; Max-Neef 1991b). This requires a system that does not undermine people's ability to meet their needs, and given the vast inequalities in the world is likely to require positive assistance to increase their capacity to meet their needs.

The injunction to increase capacity is not just in response to gross inequality, it is also in response to the desire to develop, in the way that Daly (1993, 267) discussed development (as quoted above) *"to expand or realize the potentialities of; to bring gradually to a fuller, greater, or better state"*. This is a generative, not just remedial concept, rooted in the concept of 'quality of life'. Tibbs (1993, 24) discusses such a concept in relationship to the corporate world:

> *"One aspect of a company's image may come to be the contribution it makes to shaping its customer's total quality of life—not merely in the products it supplies, but also in ensuring that it does not in the process degrade other aspects of that person's life experience."*

In the scenario described here, 'consumption' would not be causing problems; it would simply be people meeting their needs, in ways that did no harm—in fact, if the Guidelines were followed completely—in ways that were possibly even inherently beneficial.

The RoundView provides a framework and a description of an overall positive direction in which we need to move. The details—the actual decisions and changes that need to be made—remain to be worked out in each specific context, for each particular product, or practice, or organisation. While this can be challenging or even frustrating at times, there is evidence of a link between deeper engagement of this kind and increased motivation and action:

> *"...the results of studies in self-determination theory suggest that it may be better to avoid focus on 'things you can do' at all (whether these are small or large). Better, perhaps, to urge the audience for a particular communication to begin to think for themselves about what they can do. Prompting such reflection may facilitate the integration of these external regulations into a person's sense of self. Individuals may then be more motivated in the behaviour choices they make, and engage in these changes more persistently."(Crompton 2008, 33)*

The RoundView Guidelines are simple. This does not, however, imply that working out what it would mean to be fully in alignment with them is simple. Indeed, this is a process that will require a considerable degree of innovation and learning. This need for innovation and learning set the context for this research.

7.2 RoundView implementation overview

At its most basic level, the overall strategy for change towards sustainability implicit within the RoundView curriculum might be described as …

1. Systematically evaluate practice against the RoundView Guidelines for Sustainability
2. Take steps to redesign and change practice so that it is increasingly aligned with the Guidelines
3. Repeat the process

This would include envisioning future practice that *is* fully aligned with the Guidelines, *and* strategic decision-making to move in that direction, which takes into account both this vision and current / future business needs.

Implementation of such a process would require:

- Clear, and widely communicated, organisational intent to engage with such a programme
- Widespread understanding of the RoundView Guidelines arising from training throughout the organisation: in diverse functions / roles / levels
- Clear tasks set out for roles throughout the organisation that inform and implement this continuous evaluation and redesign, and which are reflected in measures of staff performance
- Measures to increase the likelihood, speed, ease and effectiveness of adoption within the culture

Before commitment was made to such a far-reaching programme, there would naturally need to be a good business case. This would include careful consideration of costs, benefits and implications, as with any business decision. Sufficient evidence would be expected to give a degree of confidence—in the face of real uncertainty and risk—that the changes from such a comprehensive programme would deliver intended outcomes.

Whilst the many lessons learned from the two action research projects would inform the case for a wide-scale roll-out of the RoundView, further evidence from pilots and trials would be required. Suggestions are made below for testing and development in order to further evaluate the business case for a serious investment into this sustainability learning approach. These include:

- a systematic process for applying the RoundView Guidelines through systemic analysis and redesign of existing practice;
- various options for how such a process could be deployed within the organisation; and
- consideration of training and capacity building to enable a wider roll-out.

It is proposed that an initial trial of such a process of applying the RoundView Guidelines would in and of itself provide valuable evidence regarding the possible value of a wider-scale roll-out. Following a summary of possible next steps below; the Section ‘Considerations for wider roll-out’ below sets out key lessons from previous chapters.

7.2.1 Towards a RoundView 'roll-out' in Tesco

A key suggestion that was made in the analysis of this research project was:

Allow time for, and develop skills in, creative idea generation—then value, record and build upon these ideas

It is proposed that the next stage of trialling the RoundView in Tesco would be to devote some resource to applying the Guidelines to analysing and redesigning areas of practice. This could be done with the Champions and keen participants from the RoundView training that has already been carried out, and would provide further understanding of the potential value of using the RoundView framework within Tesco.

This process is seen not as a stage of incremental improvement, but rather of a fundamental reconsideration of the possible nature of the way of doing business. In the transition management literature such a process has been termed a 'shadow track'. In a shadow track, new possibilities can be considered that are outside of the expectations and norms of the current modus operandi (van der Brugge and van Raa 2009).

7.2.1.1 Process of applying the RoundView in practice

The idea of terra-forming, and creating 'protected bubbles' in which new ways of thinking could flourish and grow, was introduced in Chapter 6. The training process was seen as creating such a bubble, allowing people some time to consider new ideas, but there has not yet been a trial of a systematic process of applying these ideas to particular roles or functions in Tesco.

A suggestion would be to give participants some time to apply the RoundView Guidelines to their respective areas, with permission for this thinking to be outside of the usual. Table 7 on the following represents a way to approach this: an indicative outline of a task that could be given to roles or teams, which would enable the application of the RoundView within particular roles or functions.

This process should be seen as part of a learning cycle, with a regular review of the effects of action and re-design, following the same process. Savory (1991) cites many well meaning projects that have not fundamentally evaluated their decision making process, and have thus failed to enact deep-seated change. This realisation led to the development of an alternative decision making model in Holistic Management (Savory 1999; Savory and Butterfield 1999, vol. 2), in which the actors in a system create a holistic goal against which all decisions are tested, to calibrate whether or not that decision will actually help make progress towards that goal.

Creating a vision for the whole organisation, aligned with the RoundView Guidelines, can act as such a holistic goal, so that decisions can be tested against the Guidelines *and* against the vision for the organisation. Is this action or decision leading in the direction that the organisation wishes to go in? Such a vision for the sustainable organisation may emerge from a series of analyses as described above, and then can be referred to in each application of the RoundView to a particular role or function, and thus refined (and further embedded in corporate culture) over time.

Table 7 Process for applying the RoundView Guidelines

RoundView Sustainability Analysis and Design
How do you rate existing practice connected with your role(s) in terms of the RoundView Guidelines for Sustainability? Consider the whole system, including flows of materials, energy, and information, with a focus on those parts most closely related to your particular role(s) and function.
For each element identified, use the Evaluation Tool to provide an overall score of this sustainability assessment and also the breakdown according to each of the four Guidelines.
Outline a vision for your role / function in a sustainable future. Explore how this relates to a vision of a fully sustainable organisation in the future. Develop possibilities for the following, focussing on, but not limited to, your role or function: What might 'fully sustainable practice' look like? (i.e. fully aligned with all four Guidelines) What might 'changing direction' look like? (i.e. strategic choices that make eventual full alignment with the Guidelines possible, or more likely) What might 'slowing the damage' look like?
Choose ideas to analyse in further depth.
Consider possible costs and benefits of the ideas.
For these ideas, identify and discuss 'agency'—that is, who or what is in a position of power to make the changes needed to implement the options described, both within and outside of Tesco.
What would need to happen in order to achieve these visions for the future? Backcast from the vision in the future to today. Based on this analysis, what would be your recommendations for an action plan, over the short, medium and long term for the following two scenarios: • While prioritising movement towards fully sustainable practices *as quickly as possible* • While prioritising *increasing competitiveness* in the market with a simultaneous move towards fully sustainable practices (Note that these 'scenarios' are distinct for the purpose of the exercise. There is no implied assumption that the answers should be different, and perhaps from a business point of view the answers may be the same)
On the basis of this analysis, what next steps do you propose?

This is not intended to be a full description of the analysis and design process, but rather a framework that could structure such activity. This would allow for the inclusion of various creative design approaches, or environmental management systems, appropriate to the organisation. Within the ongoing development of the RoundView there is an intention to provide further tools for such creative design work, but these can be freely substituted with others, if expertise or other corporately appropriate tools are available.

7.2.1.2 Suggestions for ways to deploy analysis and design process in the organisation

Participants in the pilot learning initiatives were, in the judgement of the research team, sufficiently equipped by the end of their respective training courses to *begin* to engage with evaluation and redesign of practice towards sustainability. They could be seen as having reached a 'foundation' level of training. Thus a next step would be for people who have already participated in the RoundView training and the existing Champions to spend time—working time—applying what they have learned in the context of their roles. Such application, with judicious supplementary support and training, would then enable them to reach a 'practitioner' level. How best to engage staff in this process will require further experimentation and review.

One way to approach this would be to make 'RoundView Sustainability Analysis and Design' a periodic task within roles or teams. (Details such as timing / resources needed / required depth of analysis would need to be informed from piloting such procedures.)

If this type of process were assigned to staff as a recognised and legitimate part of their role, it would become an engine generating new thinking, which over time would create a path from 'business as usual' to fully sustainable practice, one 'next step' at a time. This would be one way to operationalise the concept of 'shadow networks' discussed in the previous chapter on scaling-up. This process could be applied at different levels of scales, both within and across functions.

A further possibility would be investment into the creation of 'shadow' roles. These roles would have as their focus the fundamental re-evaluation and redesign of current practice in accord with the Guidelines for sustainability, and the subsequent generation of possibilities for change towards more sustainable practice. Such roles would represent another, and possibly parallel, way to engage in an extended and on-going application of the above 'RoundView Sustainability Analysis and Design'. The 'shadow' nature of these roles would allow people to spend time considering future options and possibilities outside of the day to day requirements of the business, with permission to explore a range of options that may not be immediately applicable or obvious. Part of such a role could involve synthesising and evaluating ideas that emerge in other parts of the organisation, both from further rounds of the learning initiative and from application of the RoundView in different teams and functions.

In either case, any strategy would need to be tested and developed in order to:

- Ensure that staff had sufficient capacity to perform this task after having received 'practitioner' training
- Further develop and refine evaluation and decision-making tools on the basis of experience of their use in practice
- Evaluate the value and relevance of the proposals put forward

7.2.1.3 Developing capacity to evaluate RoundView proposals

As such sustainability analyses were undertaken and proposals for changes were made, it would be difficult for anyone in a position of authority to evaluate them if they did not have a clear understanding of the RoundView Guidelines for Sustainability themselves. This represents a significant challenge and opportunity in this approach. It is not the nature of this methodology that creates that challenge; rather it is the scale of the transformation required to move towards sustainability.

If the fundamental, essential notion of a 'change in direction' – as distinct from 'slowing the damage' – is not grasped and seen to be grounded solidly in scientific understanding, then it is likely that any proposals stemming from this perspective will not be understood or valued. If not understood and valued, 'slowing the damage' will continue to masquerade as 'changing direction'.

Thus in order for an organisation to really test the potential and relevance of this approach, it would be necessary to have a large enough sample of key decision makers trained in the core curriculum, including at the most senior levels. This would of course have lasting value in and of itself for both the individuals concerned and the organisation as a whole: even without any further investment, more senior staff better able to take a whole-systems view on sustainability matters would likely benefit the company's strategic outlook.

7.2.1.4 Developing the approach to training

If a cascading train-the-trainer programme of the kind explored in this report were to be implemented, there would first need to be further and more extensive piloting. Time would need to be made available for staff (existing or future graduates of a RoundView 'foundation' course) to develop the skills and understandings required to perform at the 'trainer' level, and later to perform at the 'trainer of trainers' level.

The training piloted in this learning initiative could be seen as the first endeavour to test a 'foundation' level of training. As can be seen from the analysis of the learning initiative elucidated in Chapter 4, several suggestions have emerged for improving this training and its related learning tools. Some of these innovations may mean the material can be introduced in a more time effective manner, and some might require more time. The process of doing this analysis has helped to better elucidate what it would be mean to be at 'practitioner' level: this is now regarded as the level of skill and understanding required to be able to competently engage in the 'RoundView Sustainability Analysis and Design' process as described above.

Despite these continuing developments however, it is possible to give a sense of the scale of time commitments anticipated in a train-the-trainer programme, by extrapolating from the experience so far. This leads to the following ('ball park') schedule:

Table 8 Indication of timing required to reach different levels of training

Skill level	Training time required (rough estimate)
Foundation level (competent to explore practice against the Guidelines and to generate ideas to move towards sustainability)	1 day total (2 x 3hr sessions + tasks in between as modelled in the Head Office pilots)
Practitioner level (competent to evaluate practice against the Guidelines and systematically work towards greater alignment)	+1 day total (time allowed in work to apply ideas + follow up training session to review and consolidate skills
Facilitator level (able to deliver introductions to the RoundView and support trainers during foundation training)	+ 2 days (1 further day training + participating on a foundation course as a trainee facilitator, as modelled in this pilot)
Trainer level (able to deliver the RoundView practitioner training with support from facilitators)	+ 4 days (2 further days training + participating on 1 day foundation and 1 day practitioner course as a trainee trainer)
Trainer of trainers	It is difficult to ascertain the time requirement to achieve the RoundView 'trainer of trainers' level having not yet tested the process beyond the facilitator level.

Note that other configurations of the training are also possible. For instance, it could be useful to have a short session as an introduction (perhaps 1.5 hours, as in Core Skills Training). This could be used as the basis for the Foundation level training for those who expressed an interest to take the ideas further.

7.2.2 Possible next steps

A key suggestion is to capitalise on the enthusiasm and skills of the existing Champions and participants from the first rounds of training (from the Sustainability Skills and Scaling-up projects). There are Champions in both Head Office and Stores who are keen to further sustainability thinking as outlined in the RoundView curriculum. Several of these are keen to act as trainers in a future roll-out. Seeking to engage those who have participated in these learning initiatives with any future activity would enable greater value to be gained from the investment in time already made, while building and supporting the enthusiasm and experience of these staff.

For example, these members of staff represent a potential resource that could be applied to the development of the ideas discussed above, engaging in the 'RoundView Sustainability Analysis and Design' process either as individuals or in teams. This would help to make clear any issues that would need to be addressed before a process such as this could be more widely undertaken, such as capacity (do staff have the skills and understandings to carry out such a task and produce useful outputs from doing so?), or questions about how much time is needed to complete the task. This visioning process would also enable exploration of the potential value of the RoundView for the organisation.

If these staff did engage in such a process, the next question would be: what to make of their ideas? In order to make an informed assessment of the quality and usefulness of the ideas generated and the sustainability analysis produced, members of the organisation in more senior positions will need to be able to 'speak the language' of the RoundView. Thus a further suggestion is to invite Board members and staff at Work Level 5 to take part in a 'foundation level' learning initiative in the RoundView.

The idea of a 'hothouse' Store, in which all members of staff would be introduced to the RoundView curriculum, was developed during this action research pilot. It would be helpful to explore such a 'hothouse' training and to assess the effects and benefits of creating a critical mass of people in a Store with a deeper understanding of sustainability. It would be a good idea to make sure that the Store chosen to be such a 'hot house' had a Store Director who was both interested in testing new ideas and keen to promote sustainability. This would need to be done in tandem with involvement and training of key teams in Head Office that interact with the Store, or else the critical mass that was built might be more around a sense of frustration and isolation, with new ideas developed but a risk of lack of engagement or understanding in the people with the agency and decision-making power necessary to make them happen.

It would be useful to test training for whole teams or key functions in Head Office. Again, this might be focussed on teams that previous participants belong to, to capitalise on their experience. This different form of training would perhaps support a more detailed and directly applicable application within the RoundView training than has yet been explored, enabling examples and case studies to be developed specific to the functions. It may be helpful to identify functions for early rounds of training with teams with a reputation for taking up new ideas, possibly along with those with team members who have come

forward as Champions, or who have shown themselves willing to devote more energy to the spread of the learning initiative.

Key points 12 Summary of possible next steps for Tesco

- **Build on the enthusiasm of the participants from the first rounds of learning initiatives**
- **Provide Champions and other enthusiasts from the first rounds of learning initiatives in Stores and Head Office with the opportunity to apply the RoundView to their roles**
- **Provide opportunities to engage in the RoundView learning initiative to members of the Board and Work Level 5 staff**
- **Consider a 'hothouse' Store where a critical mass of Stores staff (and associated Head Office staff) participate in the learning initiative**
- **Offer opportunity to engage in learning initiative to all members of a team or key function in Head Office**

7.2.3 Considerations for wider roll-out

Considerations pertaining to a wider roll-out have been drawn from the earlier analysis in this report. They are orientated towards Tesco, as this was the focus of the research, but many of the considerations would be relevant more broadly. The full list of considerations is found in Appendix One, and the fundamentals are summarised below.

Clarify and legitimise the effort to re-think practice towards sustainability through 'top-down' communications, and make sure these cascade down through the organisation

It is important for staff to know what is expected of them. Depending upon the project undertaken, this clarity and communication might range from a simple framing of further pilots as being for evaluation of this approach to sustainability, through to the announcement of a forward looking and wide ranging programme to re-evaluate and re-design the business towards more sustainable practice. Central to this is the recognition that the activities of evaluation, reflection and creative generation of new possibilities will need to be—to some degree—viewed, accepted and established as a valid and appropriate uses of time. Then this will need to be communicated 'from above' to clearly establish the legitimacy of such a proposition.

Champions in Head Office felt that if the learning initiative was to be rolled out, it would benefit from a bold, clear statement from Sir Terry Leahy that he's behind the initiative, as a complement to his highly visible support for Tesco moving towards sustainability in general. Ideally they would like to be able to use a video clip of such a statement in presenting the RoundView. In the focus groups with Champions, mention was made of several key people who should be engaged if an initiative was to be successful:

- Board members and Work Level 5 sponsors
- Store Directors (seen as essential if there is to be training in Stores)
- The Climate Change team

Find ways to embed action towards sustainability (even if it is 'only' developmental, forward thinking and strategising) into measurement frameworks such as the all-important KPIs

Many of the participants in this action research considered that unless sustainability objectives were clearly included in KPIs, and represented in the Tesco Steering Wheel, it would be hard to embed this new thinking in the culture. It would be useful to explore, for example, adding new markers of performance within a KPI on 'strengthening sustainable practice' – these could include markers such as leading discussions on sustainability / getting sustainability on the agenda.

Provide inclusive mechanisms to support, motivate and reward staff who contribute towards sustainability thinking or practice

Rewarding behaviour that takes sustainability into consideration, with awards, prominent highlighting of case studies, or other such processes also helps to increase visibility, motivate staff and develop a climate of appreciation for new thinking.

Work with the willing

A recommendation is to devise processes to support those with a particular interest or commitment to sustainability, environmental or social issues, enabling and encouraging them by making it easy for them to receive training and to contribute ideas towards the overall goal of sustainable practice. The 'willing' may well come from all levels and functions, as demonstrated in these pilots.

Allow time for, and develop skills in, creative idea generation—then value, record and build upon these ideas

In the context of moving a large retail organisation towards sustainability, there is a clear need for a wide range of new ideas and options in the many functions and operations of the organisation. A central tenet of the RoundView approach is that creative and valuable new ideas might come from anyone who is empowered and enabled to contribute. Moreover, the value of such engagement is greater than simply as a supply of ideas, it is seen as a significant part of transformational change. *"Ideally, a total partnership working approach should be adopted in which change partners . . . are involved from the start in defining and redefining the problem through a continuous cycle of action and reflection, from which learning and innovation will result."* (Darnton et al. 2006)

Develop a system for capturing ideas and encouraging them to flow within the organisation, so that they are more likely to reach the people with the capacity to evaluate them, and the agency to implement them

Processes for channelling ideas to those positions or roles that are best placed to evaluate and apply them (which itself may not be clear) will need to be designed and implemented in order to gain maximum benefit from the creativity and capacity of the whole organisation.

To support this activity, there will soon be a comprehensive and expanding set of resources available on the RoundView website. This will seek to propagate 'best practice' and case studies in the application of the RoundView Guidelines in many different contexts. Ideally there would be a two way flow of ideas between this resource and organisations (such as Tesco) who were applying this thinking in their own business areas.

Simplify application of key ideas through provision of tools designed to make this easier

As in the RoundView training, the application of the Guidelines to real decision-making can be supported through the use of tools designed for the purpose. A key example of such a tool is the RoundView Evaluation Tool, which facilitates a systematic consideration of

each of the different dimensions of sustainability. Champions requested the development of a FAQ resource and repository for Tesco-specific case studies and facts and figures. Such resources would be useful additions to enable more people to spread sustainability learning.

7.3 Answering the research questions

There were three core research questions in this project. As described in the methodology, these were answered in the body of the text. The core findings were summarised in the current chapter, above. The *way* the questions were answered is summarised below, followed by a brief summary of the limitations of the research:

Research question 1. What are the characteristics of the Round View curriculum, such that it is an effective response to the complex challenges of developing individual and organisational capacity for sustainability?

This research question was answered through several cycles of action research, both within the Scaling-up project and between this and the earlier Sustainability Skills project. Engagement with participants enabled the researchers to observe the characteristics of the RoundView in action, and in doing so to generate and gather data for detailed analysis. Changes to the curriculum were made in response to this experience and participant feedback. Some of these changes were made between versions of the same session within a week, and some were developed following analysis of data. The answering of this research question has benefited from the rigour of practice, testing ideas from theory in several rounds of action research, and developing practice in the light of theory. These cycles have allowed a deep reconsideration of the nature of sustainability and effective learning, benefiting from the cyclic nature of action research.

Research question 2. How might members of an organisation develop the capacities needed to scale up sustainability learning throughout the organisation?

The analysis of the learning initiative described above also allowed a process of uncovering the tacit knowledge of the trainers of the RoundView during this initiative. Thus, the underlying design of the learning initiative could be made explicit and more able to be understood and learned by others. In particular, this enabled development of considerations for trainers for learning initiatives of this type, which will form the basis of learning resources for future trainers. These were elaborated in Chapter 4 ‘Assessment of the Second Round of Learning Initiatives’. The research question was then further developed in Chapter 5 ‘Train-the-trainers’.

Research question 3. How might a sustainability learning initiative be spread and embedded throughout a large organisation, such as Tesco?

This question explored ways to spread and embed sustainability learning within a large organisation. It was answered through iterations between bottom-up analysis from the data gathered in both rounds of action research, and development of key themes from the literature. The process of engaging with the diffusion of innovation literature in particular brought in insights from many different fields. This process was informed by discussions in the focus groups with Champions, in which issues and strategies around a wider ‘roll-out’ of the learning initiative were considered.

7.3.1 Limitations of the research

The feedback from the seventy-eight participants on the two rounds of training has been very positive. It must be remembered, however, that many of these participants were somewhat self-selected, as they responded to an invite to attend supplementary training. This was not the case for all participants, in both Stores and Head Office, the response to the question during training as to what they hoped to get out of the course was 'I don't know, I was told to come'. Certainly the Champions in Head Office were a self-selecting group, as the train-the-trainer process was on top of day to day duties.

In Stores most of the Champions had in fact been told to attend, as part of their staff development, so the possible bias due to self selection was less acute. This raised a different problem for the research, that of testing the train-the-trainer process as planned, as a pre-requisite had been that Champions had already attended the training, whereas only one of the Stores Champions had attended.

There is a relatively (for an organisation of nearly 500,000 staff) small sample size. There was a real attempt made to get a wide range of perspectives and people involved, from across different functions, levels of experience in the company and levels of seniority, but the sample by no means represents a full cross section of the company.

As discussion in this chapter, there is still a gap in terms of assessing the impact of Tesco staff applying the RoundView in-depth within their functions and teams. There was an attempt to develop this process through the Next Steps between sessions, but participants reported great difficulty in finding the time to do this.

There is a need for more testing and evaluation of the application of the Guidelines and the learning tools in functions. Measurement of outcomes will be challenging even if guidelines are fully understood. A key future research question elucidated in the next section is how to measure changing direction, and how to effectively measure changes in understanding, skills and behaviour of a large sample of staff over a long time period.

In addition, many ideas were developed in the train-the-trainer pilot for tools and ways to support trainers, but it was outside the scope of this project to develop and test these in the train-the-trainer contexts.

7.4 Further research

The proposed trials to inform the case for a roll-out, and the suggested processes for such scaling-up of the learning initiative discussed above *could* be carried out as R&D, without further in-depth scholarly research. There is, however, a rich vein of questions that could be answered through ongoing research. Three areas for possible further exploration are introduced below.

The questions suggested in the following discussion represent potential lines of enquiry, which would need to be explored with a variety of methodologies, and possibly a variety of teams. It is not necessarily a proposal for a singular programme of research.

7.4.1 Assessing the impacts of sustainability learning

A major recommendation for further research would be to set in place mechanisms to assess long-term change arising from scaling-up a sustainability learning initiative. This work would sit in the emerging field of assessment of multi-level interventions (e.g. Schensul and Trickett 2009). The learning and development aspect could be monitored using the framework developed in adult learning: Knowledge, Understanding, Skills, Awareness, and Behaviour - KUSAB (A Rogers 2004). Practical changes towards sustainability could be assessed against the RoundView Guidelines, with much further research possible into how to do this most effectively and robustly. There is also a need to explore how changes in understanding (specifically towards a whole-system model, such as that found in the RoundView) are related to actual changes in practice.

Assessment of learning could be based on qualitative and quantitative data collected from individual interviews, focus groups and before and after surveys embedded in the proposed e-learning toolset. A further measure could come from 'capturing' and assessing new ideas that staff develop about how to move towards sustainability. The quality of people's learning about sustainability, and in particular about the need for a 'change in direction', could be assessed through analysis of the language used and types of ideas submitted. Ideally this would involve a comparison with the ideas submitted before the learning initiative, and comparisons between units of the company (with and without the training) during similar time periods. Analysis could make use of repertory grids (e.g. Peters 1994) to explore changing perceptions and understandings of sustainability.

Assessment of changing practice could be based on quantitative measures of consumption (e.g. energy use) or 'waste' streams (e.g. volume of general waste vs. waste for recycling). To measure changes that go beyond 'slowing the damage' towards fully sustainable practice is a challenge, which will require further research to determine optimum methodologies for answering these kinds of questions. Phrased in the vocabulary of the RoundView, a broad frame for the kinds of things that would need to be measured is found in the RoundView Guidelines themselves. For example, it could be asked what volume of material is kept 'in the loop' (and has it gone up or down?) Other examples might be a measure of the percentage of energy requirements met through energy from renewable sources, or an indicator of changing land area—associated with business practice—devoted to resilient ecosystems.

Quantitative data could be collected based on both parallel (independent groups) and within subject (repeated measures) designs. Where possible, a research design could be developed that assessed data that are already being collected by the organisation. A challenge is that the nature of some of the changes suggested by the positive whole-system approach is more qualitative than quantitative. Measuring how many light bulbs have been replaced with low energy equivalents is easier, for instance, than measuring how many business decisions have been made with due consideration given to the strategic need to 'change direction'. Long-term and wide scale data gathering would provide a very valuable contribution to knowledge in terms of assessing and understanding changes in sustainability practice in large organisations.

Questions that arise include:

- What are the impacts of a widespread, multi-level sustainability learning initiative on staff understanding and attitudes?
- What are the impacts on staff satisfaction of such widespread sustainability learning?
- How can changes in sustainability understanding and skills in a large organisation be effectively assessed?
- How can changes in sustainability behaviour (on both individual and organisational levels) be assessed against the RoundView Guidelines?
- How can strategic decisions that involve 'changing direction' as opposed to 'slowing the damage' be measured effectively?
- What (if any) are the relationships between different *ways* of understanding sustainability and changes in practice?
- What are the effects of sustainability learning on corporate innovation?
- How do participants at different levels of management within the company respond to the sustainability learning initiative?
- Does the initiative encourage learning and communication across levels and between different functions and geographies?
- What are the financial implications of major changes towards sustainability?
- What are the impacts on customer perception of a retail company that devotes significant resource to training their Stores staff in a whole-systems view of sustainability?

7.4.2 Spreading and embedding learning

There are several suggestions for further trials, and questions to be resolved, in order to inform a wide-scale roll-out of the RoundView learning initiative. These have been elaborated earlier in this Conclusion Chapter. Carrying out further work in this regard could fruitfully inform further research, especially with regard to developing mechanisms for, and assessing the effectiveness of, spreading ideas and skills widely through a train-the-trainer process.

Possible research questions include:

- What are effective mechanisms for building capacity and supporting trainers of trainers in the workplace to spread a sustainability learning initiative in their organisation?
- How effective are hands-on tools in supporting *trainers* in delivering the learning initiative?
- How can a process of encouraging spreading a sustainability learning initiative through an organisation be encouraged, in a way that allows for the ideas to be adapted to context and the styles of the trainers, whilst maintaining their core integrity?
- How is the learning initiative itself changed by being rolled out in a programme for enhancing sustainability thinking?

7.4.3 Adapting and spreading the sustainability framework

The RoundView is an open framework, encouraging dialogue and adaptation (whilst maintaining the core integrity of the underlying ideas). In this research, elements of the curriculum were adapted to suit the Tesco context, whilst retaining the clarity of the core messages and principles. The aim is to make it easier to spread the ideas with the core messages intact, developing a global commons of open learning resources. The visual, hands-on learning tools of the RoundView are designed to embody the core concepts and ideas in the artefacts themselves.

The RoundView represents our current best interpretation of our current best understanding of whole-systems sustainability. One possibility is to instigate an international dialogue process to carry on the process of deep questioning and improvement of the RoundView framework.

There is a rich strand of possible future research in this area, looking at issues including: the nature of such a dialogue process and how it could be instigated and maintained; issues around intellectual property, open source and the sharing of ideas; exploring how electronic communication may impact on the spread, sharing and uptake of environmental ideas, a gap in knowledge identified by Mol (2006). This would learn and build from the dialogue process instigated by The Natural Step.

Questions that emerge in this area of research include:

- What would be the advantages of positively framed whole-systems framework for sustainability—such as the RoundView—that was widely understood and shared?
- How might such a framework inform debate regarding the nature and possibility of sustainable consumption?
- What is the impact of a positive framing of sustainability, as opposed to a focus on what *not* to do, on people's motivation and capacity to change?
- How can an on-going international dialogue to test and refine the framework of sustainability developed in this research be effectively developed and maintained?
- What are the impacts of inviting the global community to join in such a process? This could include consideration of improvements to the framework, the nature of the learning encouraged, and acceptance and uptake of the ideas.
- In what ways does electronic communication impact on this dialogue process and the development and sharing of a global commons of learning resources?
- How do the embodied facts and concepts in the hands-on tools affect the spread of the sustainability learning and the maintenance of the quality and integrity of the core messages?
- What is the effect of developing a shared language of sustainability on communication within an organisation, and with partner organisations?
- What cultural similarities and differences can be discerned in the interpretation and use of a 'global language' of sustainability?
- How do the metaphors embodied in the learning content and tools of the RoundView curriculum effect learning?
- How might a whole-systems framework like the RoundView support the application of knowledge from global scientific projects such as the Millennium Ecosystem Assessment, and how can such projects in turn inform the RoundView?

7.5 Summing up

> "Doing the right things right. It's not as easy as it sounds. Working smart may be easy, but working smart without perspective or guiding principles can ultimately become an efficient pursuit of the wrong goals." *(William McDonough et al. 2003, 434)*

Developing a vision for a company or organisation, within a framework of a sustainable future, is an important aspect of holistic decision making. A core part of the RoundView approach is the continual creation and re-creation of holistic goals: specific conceptions of the organisation in new configurations that are aligned (to the best of our knowledge) with whole-system sustainability, and which provide suitable indicators against which to measure progress. Creation and use of such goals in decision making would represent a powerful way to help move towards sustainability, as suggested by this quote:

> *"Common sense tells us that making a decision that is not in line with our values is illogical. But that is precisely what humans have done throughout history." (Savory and Butterfield 1999, 2:91)*

If Tesco decided that it wished to act as a Champion for such whole-system sustainability learning in the wider context, through its suppliers, customers and partner organisations, then the patterns and principles developed in this research into scaling-up would provide a useful starting point—based as they are on experience and insight into spreading innovative thinking and practice both within organisations and through society as a whole. In this broader context of social contribution, the accessible and positive, yet robust, framework for understanding sustainability provided by the RoundView offers a language that could be shared between different organisations and individuals throughout the value chain. This would increase likelihood of the synergistic collaborations that will be necessary if we are to re-invent our ways of doing business so that they are sustainable.

If society is to contribute towards a world in which "All people thrive, now and into the future", the question is **not if** but **when** we will transform our ways of living and working so that they are compatible with the whole systems upon which all human activities ultimately rely. If such transformation in sought, there is much knowledge available to help and inform us. The RoundView framework described here represents an attempt to create a common language and set of understandings that synthesise the clear and grounded insights that are available—from The Natural Step, Cradle-to-Cradle, Industrial Ecology and many other contributions—in a way that is accessible and practical. It is a work-in-progress, one that has been greatly enhanced by the overwhelmingly positive response and input from the Tesco staff who have given their time and insights to this initiative.

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Appendix One: Considerations for wider roll-out

The considerations for a wider roll-out discussed in this appendix have been drawn from the earlier analysis in the report. They are orientated towards Tesco, as this was the focus of the research, but many of the considerations would be relevant more broadly. They are organised under the headings:

- Fundamentals
- Widespread training in the RoundView
- Effective application of the learning
- Measures to increase the likelihood / speed / effectiveness of adoption within the Tesco culture

7.6 Fundamentals

Note: This section is a repeat of the fundamentals summarised in the Conclusions chapter, included here so the considerations make a complete set. The sections following 'Fundamentals' are ***not*** *repeated from earlier in the report.*

Clarify and legitimise the effort to re-think practice towards sustainability through 'top-down' communications, and make sure these cascade down through the organisation

It is important for staff to know what is expected of them. Depending upon the project undertaken, this clarity and communication might range from a simple framing of further pilots as being for evaluation of this approach to sustainability, through to the announcement of a forward looking and wide ranging programme to re-evaluate and re-design the business towards more sustainable practice. Central to this is the recognition that the activities of evaluation, reflection and creative generation of new possibilities will need to be—to some degree—viewed, accepted and established as a valid and appropriate uses of time. Then this will need to be communicated 'from above' to clearly establish the legitimacy of such a proposition.

Champions in Head Office felt that if the learning initiative was to be rolled out, it would benefit from a bold, clear statement from Sir Terry Leahy that he's behind the initiative, as a complement to his highly visible support for Tesco moving towards sustainability in general. Ideally they would like to be able to use a video clip of such a statement in presenting the RoundView. In the focus groups with Champions, mention was made of several key people who should be engaged if an initiative was to be successful:

- Board members and Work Level 5 sponsors
- Store Directors (seen as essential if there is to be training in Stores)
- The Climate Change team

Find ways to embed action towards sustainability (even if it is 'only' developmental, forward thinking and strategising) into measurement frameworks such as the all-important KPIs

Many of the participants in this action research considered that unless sustainability objectives were clearly included in KPIs, and represented in the Tesco Steering Wheel, it would be hard to embed this new thinking in the culture. It would be useful to explore, for

example, adding new markers of performance within a KPI on 'strengthening sustainable practice' – these could include markers such as leading discussions on sustainability / getting sustainability on the agenda.

Provide inclusive mechanisms to support, motivate and reward staff who contribute towards sustainability thinking or practice

Rewarding behaviour that takes sustainability into consideration, with awards, prominent highlighting of case studies, or other such processes also helps to increase visibility, motivate staff and develop a climate of appreciation for new thinking.

Work with the willing

A recommendation is to devise processes to support those with a particular interest or commitment to sustainability, environmental or social issues, enabling and encouraging them by making it easy for them to receive training and to contribute ideas towards the overall goal of sustainable practice. The 'willing' may well come from all levels and functions, as demonstrated in these pilots.

Allow time for, and develop skills in, creative idea generation—then value, record and build upon these ideas

In the context of moving a large retail organisation towards sustainability, there is a clear need for a wide range of new ideas and options in the many functions and operations of the organisation. A central tenet of the RoundView approach is that creative and valuable new ideas might come from anyone who is empowered and enabled to contribute. Moreover, the value of such engagement is greater than simply as a supply of ideas, it is seen as a significant part of transformational change. *"Ideally, a total partnership working approach should be adopted in which change partners . . . are involved from the start in defining and redefining the problem through a continuous cycle of action and reflection, from which learning and innovation will result."* (Darnton et al. 2006)

Develop a system for capturing ideas and encouraging them to flow within the organisation, so that they are more likely to reach the people with the capacity to evaluate them, and the agency to implement them

Processes for channelling ideas to those positions or roles that are best placed to evaluate and apply them (which itself may not be clear) will need to be designed and implemented in order to gain maximum benefit from the creativity and capacity of the whole organisation.

To support this activity, there will soon be a comprehensive and expanding set of resources available on the RoundView website. This will seek to propagate 'best practice' and case studies in the application of the RoundView Guidelines in many different contexts. Ideally there would be a two way flow of ideas between this resource and organisations (such as Tesco) who were applying this thinking in their own business areas.

Simplify application of key ideas through provision of tools designed to make this easier

As in the RoundView training, the application of the Guidelines to real decision-making can be supported through the use of tools designed for the purpose. A key example of such a tool is the RoundView Evaluation Tool, which facilitates a systematic consideration of each of the different dimensions of sustainability. Champions requested the development of a FAQ resource and repository for Tesco-specific case studies and facts and figures. Such resources would be useful additions to enable more people to spread sustainability learning.

7.7 Widespread training in the RoundView

The value of, and mechanisms to enable, widespread training in the RoundView has been discussed in depth in this report. Key recommendations are summarised here from the previous discussion:

Explicitly state and legitimise the task of 're-thinking' towards sustainability in the framing of any sustainability training

Although a similar point was made above, it is important to emphasise the nature of the task within any particular training session, as it is substantially different to regular training, which might otherwise be confusing for participants.

For all further training, ensure that Line Managers and relevant senior management are first introduced to the RoundView with at least a brief presentation. Endeavour to gain (and communicate) a message of support for further training from this senior management and line managers, and in Stores, ensure that the Store Director is engaged from the beginning.

Encourage and enable peer learning

Encourage the sharing of information amongst peers, so that, for example, people working on the shop floor in Stores learn from each other, and people working at similar levels in Head Office learn from each other too.

Maximise opportunity for learners to relate new perspectives and learning about sustainability to their job roles while they learn

Many of the sessions in this initiative that sought to draw positively on people's understanding of what is currently working well in Tesco, and those which ask participants to apply their new knowledge to their jobs, provided an opportunity for people to develop more understanding of how these new ideas relate to their job roles. This aspect could be further developed. For instance, a new exercise is being considered, in which each participant has an area marked out on a shared felt workspace for their job role, so that during the exercises in the course, new ideas are built up and explored in an explicit context of the group's job roles. This could be extended to include reference to other roles in the home and community, to provide participants with opportunities to better integrate their new knowledge into different aspects of their lives.

Introduce the curriculum through a range of options or 'entry-points' that enable staff to engage with the process gradually and appropriately

This could be achieved by offering a range of training options for the RoundView: a ten-minute introduction, a 1.5 hour core skills training, 1 day foundation training, with more advanced training then available for those who are interested or required to take the ideas further.

Opportunities for reflection on the RoundView and actions towards sustainability could be integrated into on-going staff development and training (such as refresher courses or possibly performance development reviews).

To enable spreading of the learning, provide opportunities for people who would like to do more to communicate with others, and to develop the relevant skills to act as trainers. This could be in a tiered train-the-trainer process that allows engagement at different levels.

Encourage and support appropriate adaptation of the curriculum to particular contexts, while recognising and maintaining the characteristics of the sustainability training that give it its value

For example, when rolling out the RoundView in Tesco, build in elements of competition and use Tesco language, such as 'next steps' and 'know your stuff', where possible.

It is important to maintain elements of the RoundView curriculum, in particular the learning process, which are not simply adapted to the clearly defined and target driven training that is typical in the Tesco context. A fine balance needs to be sought between adapting to the context and maintaining the key features of the learning process which encourage new thinking and behaviour, as described in the analysis of the learning process in Chapter 4, and codified in the SHAPE framework for effective sustainability learning initiatives.

Issues related to intellectual property and governance for stewarding knowledge over time are being explored in a related SCI funded research project headed by the Principal Investigator '*Open source to promote international knowledge exchange from research into sustainable development and consumption'*. A strong recommendation is to engage with the ongoing process for maintaining the quality of the training and core ideas (stewarded by ThinkingWare, see pg. ThinkingWare20) – such as accreditation and peer review – so that the curriculum can be adapted but still maintain its quality and integrity over time. This might include for instance, participation in forums where people can develop new ways to do the training, share case studies and discuss their learning.

Build skill and confidence to share sustainability ideas with others into training at all levels

It is an important part of the RoundView training that participants are supported to develop their skill and confidence in communicating what they have learned with others. Learning resources, such as 'Frequently Asked Questions' for trainers and facilitators will support them both in formal training and in more informal spreading of the ideas.

Learning tools that build upon those developed during these initiatives could also support this goal. An innovation yet to be tried is to have a small table-top learning tool, not just of the eco-cycle (as was tried in these learning pilots in the form of a jigsaw), but also of the positive Guidelines. This could be used in a variety of contexts to give confidence and support to anyone explaining these ideas to others.

Judicious use of external expertise

This might mean 'external' in the sense of staff being involved in training with different functions or teams, as well as meaning from outside of the organisation. In both cases this was viewed by some participants as a useful way to establish credibility and authenticity. It may also be helpful to bring in relevant technical expertise.

7.8 Measures to increase the likelihood / speed / effectiveness of adoption within the Tesco culture

Promote the advantages of sustainability thinking through introductory presentations and diverse internal communications

A climate of interest and acceptance could be built through broad-scale, brief presentations about the key ideas behind the RoundView and its possible value to the organisation.

Describe and frame such advantages appropriately for different audiences within the organisation

For different elements of the organisation, and for different levels, the message as to advantages may need to be tailored, so that the message resonates with that audience.

As Gladwell (2001) identified in his study of how ideas spread rapidly, it is important to develop a *'sticky'* message, one that remains active in people's minds. It is likely that developing a 'sticky' message will require a few rounds of experimentation and testing for different audiences.

Identify and engage opinion leaders

Adoption can be assisted by inviting opinion leaders to be visibly involved in the process.

Thus, a related process to the suggestions to engage with Champions who emerge as willing, and to map a message of support through the organisation's hierarchy; is to actively seek people who are well connected with, and respected by, lots of different people, and actively encourage them to be involved in the learning initiative.

Use the sustainability tools, artefacts and images to increase the presence and observability of the shift towards more sustainable practice

A way to increase the observability of this process in the organisation would be to have the RoundView graphics visible, hanging on walls in offices and in Stores, thus making them present in the physical space. If these graphics used a felt base, there could be an accompanying set of tools for employees to write their ideas for moving towards sustainability, which would then be captured and displayed. A further important aspect to this is the potential use of such tools as ways to give clear feedback in relation to sustainability (via use of the Evaluation Tool to indicate the current status of a particular product or practice in relation to the Guidelines, for example).

Seek and gain 'small wins' in parallel with sustained focus upon longer term change

An important recommendation for any long-term change programme is to ensure that there is a parallel focus on 'low hanging fruits' (Holmberg, Robèrt, and Eriksson 1996) and achievable, small projects. As well as ensuring that some projects deliver 'quick wins' it is important to communicate and celebrate these successes to maintain momentum and enthusiasm as the journey progresses.

Use competition

Within a larger scaling-up process, the competitive aspect of the corporate culture could be used to good effect, with different functions and Stores possibly competing to develop the most sustainable ideas, or to save the most energy. This could be seen as 'sculpting competition' and would also act to increase the visibility of people's efforts in the Tesco context.

Support communication and connections between different groups

The RoundView curriculum is explicitly designed to bring together a mix of people from different functions and levels within the training. It is seen as important to cross-pollinate ideas, as sustainability demands consideration of a 'bigger picture' than is typical for many job roles within an organisation. There is no reason to suppose that potential solutions and innovations will fit neatly within the confines of any particular function, for instance. Encouraging the continued sharing of ideas between functions that are not usually in close communication will increase the likelihood of unexpected 'out of the box' ideas for sustainability. It will also lead to different functions learning from each other, and hence promote more effective adoption of new practices.

Build and utilise networks of ongoing support

It is important to both look for existing networks (and endeavour to utilise them as a means of spreading ideas), and to encourage the development of new networks through the learning process itself.

The effectiveness of these networks can be greatly increased if some resource, especially in the form of people's time, is allocated to nurturing them. The aim is to develop *'communities of practice'* of people who are using the new ideas, applying them in their contexts, and learning from each other whilst developing and stewarding a body of knowledge in these new applications (e.g. Wenger 1998; Wenger, McDermott, and William M Snyder 2002).

Seek synergies with other programmes

There was a caution from Head Office Champions, that it was important to avoid 'competition' with other change programmes, with a related injunction to map all related campaigns and awareness-raising activities. There is currently, for example, significant investment in a Six Sigma change programme. Champions in Head Office felt that possible beneficial relations between this and any further sustainability initiatives would be worth exploring.

A related possibility would be to explore potential synergies between the RoundView training and the ongoing training in ethical trading for the supply chain.

Integrate with existing processes

Harnessing the efficient 'machinery' of existing Tesco processes and training could enable spreading the learning throughout the organisation. The following list is of specific examples, mentioned by participants in this learning initiative, of how elements of the RoundView could be adapted into existing processes:

- Dedicate regular time to discussing sustainability, and progress towards it, in team meetings
- Ensure regular communication and feedback about progress, (e.g. use the internal news letter, the One). In Stores it was suggested that updates should be at least annual, and in Head Office, Champions felt that there should be monthly updates
- Consider how progress towards the RoundView Guidelines could be integrated into BRAG assessment of staff activities
- Connect RoundView Guidelines to the budget, showing links with the bottom line
- Include a section for discussing the sustainability implications of new ideas and proposals in the (Ask and Discuss) papers that are presented for consideration for funding (thus having an expectation that the sustainability aspects of all new projects will be considered and put forward as part of the business case)
- Get consideration of, and presentations about, RoundView into Retail Council, Town Meetings, Company Conference, Strategy Conference (and get more advice on which other meetings it should be included in)
- Make most of the 'Community' segment in the Tesco Wheel for highlighting the importance of sustainability to Tesco
- Integrate RoundView into TWIST (Tesco Week in Stores, when Head Office staff spend a week participating in activities in Stores)
- Integrate elements of the training (including the reflective learning aspect of the experience-led learning cycle) into regular or standard processes such as Magic Monday or Core Skills

The suggestions for a wider roll-out outlined above are predicated on a decision to carry out such a wider scaling-up of this learning initiative. Suggestions are made for further trials to provide insight into whether or not to instigate such a programme are made in Chapter 7 of this research report. The general concepts outlined above would, in the event of a decision to go forward with a roll-out, provide a useful starting point. It is hoped that they may also inform programmes for sustainability learning in other contexts.

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