How Movement can help Thinking and Learning

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Part One: Moving, Thinking and Learning

Moving and Thinking

Rodin's thinker sits with his head bowed, forehead resting on his clenched fist. This is the classic static thinking pose. But other poses are also available: for example, lying on the grass and looking up at the sky can work quite well. So can going out for a walk – alone or with someone to help you think things through. Some famous thinkers (Charles Darwin and Charles Dickens, for example) have done their best thinking while walking. Other people find it easier to think if they have something in their hands – pen and paper for writing or sketching, or play objects, or models. Some people find that performing an activity needing little mental effort somehow enhances their conscious thinking: Sherlock Holmes famously played his violin to help him solve crimes. In Minority Report or Silent Witness you see investigators moving objects around on a screen: by physically rearranging the data they discover new patterns and possibilities that can create breakthroughs in thinking. Perhaps real world example are more convincing? Such as Google's playrooms that encourage movement and playing with objects in order help employees find the next breakthrough. And the same is true for young children the world over: our most rapid period of learning involves exploratory movement and manipulation of objects. Movement and thinking are great playmates at all ages.

So when you want people to think deeply about past, present or future, consider using physical movement and physical objects to help them think more deeply or creatively.

Thinking together

Rodin's thinker thinks alone. Thinking alone sometimes works well. Thinking with others also works well. Some people find it difficult to cope with any useful thinking when they are on their own – a series of experiments reported in Science (Wilson, 2014) showed how people left with nothing to do will, after only a few minutes, inflict pain on themselves with self-administered electric shocks. So it seems there is a good chance that in any group you work with some people will try to avoid being left alone with their thoughts or will at least find that thinking with others is more productive and rewarding.

Although there is an element of personal preference about whether to think alone or with others

(and how best to balance the two) there is plenty of research to support the value of thinking with others - such as the finding reported by Gokhale (1995) that cooperative teams achieve higher levels of thought and retain information longer than do people who work quietly as individuals. Mercer (2015) also demonstrates many benefits arising from thinking together.

As you will see later in Part Two, there are many ways in which reflective thinking can be a sociable activity while also being mobile and hands-on using tangible objects and visual aids that assist thinking together.

Reflecting on experience

Although the principles outlined so far apply to all kinds of thinking, the main focus in what follows is the kind of thinking that involves reflecting on experience in order to learn from it. Learning from experience is probably the most significant kind of learning for anyone: it shapes who we are, it influences our orientation towards future experiences, and we tend to believe what we discover at first hand rather than believe what reaches us from second hand sources.

Reflecting in experience

For some forms of scientific enquiry separation from experience provides a distance from which objective thinking is more easily achieved. But the world of training is generally a more pragmatic and immediate world where we are looking for what will work well in this situation, here and now. Refined thinking at some distance from the action has a different kind of value compared to the thinking that happens on the spot in a live, dynamic and ever-changing situation. Step back too far and the risk is that your thinking becomes out of touch and is less relevant. The optimum distance for learning depends very much on the kind of learning that is wanted: distance may assist abstract learning and thinking outside the box, but proximity is needed for pragmatic learning, field testing, skill development and confidence building. Most forms of active reviewing are designed to reduce the gap (or even create overlaps) between experience and reflection and between doing and thinking.

Reflecting is an experience

Archimedes' "Eureka!" moment whil;e reflecting on the level of his bath water was accompanied by great excitement as he leapt from his bath to share his discovery with the world. Reflecting on experience can itself be a powerful experience. Receiving feedback about what you did and its consequences tends to be an emotionally charged experience for all involved – especially if it is about mistakes or failures. Receiving praise is quite an experience too – especially if it comes from several people at much the same time. An intense reflective dialogue while walking with a coach can be an emotional roller-coaster of a conversation. The best group reviews I have experienced or witnessed tend to be emotionally charged rather than being remote, distant and abstract. Reflection and learning have a strong emotional dimension. Only in rare circumstances should we try to strip out the emotion and treat reflection as a purely abstract process. We do not try stripping out the emotional content of poetry in order to understand it better: so why would we expect to understand experience any more by trying to put feelings to one side? Reflecting is an experience and trying to strip out the emotion is more likely to reduce its value than add to it. For

example, the first two methods described next in Part Two are designed to help people re-experience key moments of the original experience.

Part Two: A Sequence of Four Methods

Reflection can be assisted by:
- **movement**
- **things**
- **people**

You will see that these three aspects are emphasised by the way in which the four active reviewing methods are presented below. Each method is also associated with one of four different stages of the process of reflection as described in the Active Reviewing Cycle (Greenaway, 2000).

1. **Action Replay** starts with discovering what happened ("Facts")
2. **Storyline** draws attention to the experiences behind the event ("Feelings")
3. **Horseshoe** brings out the diversity of views and the reasons supporting them ("Findings")
4. **Turntable** helps participants to explore the merits of different future options ("Futures")

Action Replay

- **Movement**: Action Replay involves re-enacting selected episodes of the event being reviewed. It is like viewing recorded highlights or video clips except that no technology is involved. Replay does not involve actually doing the same activity again but it does involve going through the same motions and saying the same words (as far as can be recalled). Re-performing what happened can make people feel that they are back in the original experience. This means that reflection at this point will be closer to the experience – which prompts and enables further learning from experience.
- **Things**: A dummy remote control helps the "director" to re-stage the scenes. A dummy microphone helps to make interviews more lively and focused. Neither artefact is essential but they do both help to improve the quality of the performance. Some of the original objects can help to add realism to the replay, but miming tends to be quicker, easier and less distracting.
- **People**: People who took part in the original activity are invited to take part. If key people (such as members of the public or people from other groups) are not available, their part can be performed by someone else. Also a new role appears in the reconstruction which is that of the interviewer. Good interviewers bring out information that was not apparent or available at the time. The interviewer can be the facilitator or a participant. The interviewer is free to ask any questions and is not limited to questions about what happened. What happened is the starting point for Action Replay: it is where the exploration begins.

Storyline

- **Movement**: The storyteller creates a graph showing their ups and downs during the event being reviewed. A recommended variation is to lay out the graph on the floor using a 5 metre rope. This large-scale version allows the person to walk along their graph as they tell

their story.

- **Things**: a 5 metre rope is ideal. Alternatively, improvise with any objects that can be readily used for making a wiggly line such as a pack of cards, pens, shoes, sticks, foam tubes ... Pen and paper works too, but is less flexible and a rope is the ideal aid for "walking through" the story.
- **People**: At least one person listens to the storyteller. They are usually given questions to ask at high or low points in the story to help bring out learning.

Horseshoe

- **Movement**: At the beginning, each person moves to their chosen position on a curved line. The position represents where they would place themselves on the spectrum (which might, for example, extend from "agree" at one end to "disagree" at the other). This is usually followed by talking with a friendly neighbour before moving into a whole group discussion – at which point there can be more movement if and when people's views change.
- **Things**: No extra objects are needed in this process, but it can be useful to mark out the horseshoe shape of the spectrum with a rope or with chairs or other objects. A microphone (dummy or real) can help encourage an interview-style dialogue rather than have people making speeches.
- **People**: Everyone is instantly involved with their silent statements (the position they choose is automatically a "silent statement"). The process builds up from talking with friendly neighbours in 2s or 3s to whole group discussion.

Turntable

- **Movement**: About every two minutes everyone stands up and moves to their left in the circle. Each person may speak only in support of the views and values that their seat represents. Whenever this move takes a person to a new 'side' of the discussion, they need to make a mental switch to correspond with the physical change of place.
- **Things**: Chairs are arranged in arcs separated by spaces. Each arc represents a different position on the topic. Typically there are 3 positions. These could, for example, be 3 different attitudes or 3 different stakeholders or 3 different options
- **People**: To get off to a quick start you can ask people to start in their preferred position. Alternatively you can give people time to think through what they might say in their (randomly assigned) starting position. But once moving begins, the process becomes more improvised and more challenging as people need to work harder to imagine what someone in these other positions might say.

Part Three: Facilitating Learning from Experience

Using movement to promote reflection, shared thinking and new learning

We have moved on from the powerful image of Rodin's thinker that represents just one way of thinking: quiet solo thinking time. We now appreciate ways of thinking and learning that are more active and sociable. We have moved on from copying from the blackboard or watching a

Powerpoint presentation or TV. We have moved on from reading and writing to ways of learning that are more experiential, more dynamic, more sociable and more kinaesthetic.

> *The period of reflection is an opportunity for action and movement: thinking and doing at the same time while using movement to assist thinking.*

This article moves even further away from passive learning traditions. It even moves beyond "learning by doing" – which is usually understood to be a period of action followed by a period of reflection (Stefano, 2014). And it does so because the period of reflection is an opportunity for action and movement: thinking and doing at the same time while using movement to assist thinking.

This is not a revolutionary concept in learning. Labyrinths have existed for several centuries. A labyrinth is the thinking person's maze. You follow a narrow winding pathway at a slow, thoughtful pace and at each tight turn there is a word or phrase that prompts a new line of thought. The prompts follow a fixed sequence that includes thinking, feeling, physical and spiritual aspects. You enter the labyrinth with an issue and if all goes well, you exit with a solution.

Although Labyrinths combined movement and thinking, I have yet to see a labyrinth that is wide enough for two people to walk and talk together along the pathway. A labyrinth is designed for making a private meditative journey. Whereas Storyline (for example) is more sociable – it is an aid to help the storyteller communicate with others. Storyline is also more flexible – it allows the storyteller to give the story their own shape rather than follow a prescribed labyrinthian pathway.

Moving and thinking together has a long history, but the examples of practice in this article show several ways in which this ancient tradition can be adapted, developed and applied in the 21st century classroom or training room – or even taken back into the outdoors where both exercise and fresh air can assist reflective thinking – with or without the aid of a labyrinth.

I hope this article has itself been a breath of fresh air and might encourage you to explore ways in which you can make reflection more active, more engaging and more rewarding. Inside or outside these active methods will circulate more oxygen in the brain. The emotional, social, visual and kinaesthetic aspects of these methods will also allow for deeper, richer and faster ways of learning that can become more readily integrated into people's ways of doing, feeling, thinking and being.

References and Quotations

All hyperlinks were retrieved or checked on 10/4/2015

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https://thinkingtogether.educ.cam.ac.uk/about/#
> Impacts include:
> "Quality of group work: students engage more effectively with tasks for longer periods of time, with all participants being included more in discussions
> Quality of talk: the quality of students' talk changes significantly. More features of Exploratory Talk appear in their dialogues, showing more reasoning occurring when they solve problems."

Stefano et al (2014) **Learning by Thinking: How Reflection Aids Performance,** Harvard Business School http://hbs.me/1HZo0ri

Wilson et al (2014). **Just think: The challenges of the disengaged mind**, Science 4 July 2014: Vol. 345 no. 6192 pp. 75-77 http://www.sciencemag.org/content/345/6192/75
> Abstract:
> "In 11 studies, we found that participants typically did not enjoy spending 6 to 15 minutes in a room by themselves with nothing to do but think, that they enjoyed doing mundane external activities much more, and that many preferred to administer electric shocks to themselves instead of being left alone with their thoughts. Most people seem to prefer to be doing something rather than nothing, even if that something is negative."