Stages in the learning process in a Waldorf context

Martyn Rawson

In 1999 I published an article in the journal Paideia "Life processes and learning", in which I drew together ideas based on Steiner's (Steiner, 1996a) notion of the life processes. This prompted an interesting reply by James Dyson, who had written the foreword to the recent translation of Steiner's text *Anthroposophy: A Fragment* a few years earlier, in which the life processes are described. In the years since then, I have continued to work on these ideas and am now beginning to work out how these can be related to a Waldorf theory of learning. This more comprehensive work is still in progress but I thought I would summarize my thoughts to date, mainly to garner feedback and suggestions from readers. At English Week 2016, I presented these ideas and a number of people asked where they could read about it.

Correspondences between body and mind: embodied mind and 'en-minded' body

Steiner suggested that there is a correspondence between the processes at work in the human organism and the processes in the mind (Heusser & Weinzirl 2014). In his unpublished work, "Anthroposophy –a fragment" Steiner (Steiner 1996b) attempted to show that within the processes of sense perception, various life processes are at work in our bodies that come to expression in our mental activity. At the same time our thoughts, feelings and intentions influence how we perceive the world. As a heuristic tool, the idea of the life processes offers a fully holistic account of human experience that sees body, mind and world as a continuous whole, with the human I as mediating factor. Our body is a part of the natural living world and subject to same formative forces. Our mind is therefore linked to the world through the senses, through our bodily processes and through our spiritual core of being, the I. It is the I that is the source of our consciousness, which manifests in our bodily (i.e. neural) processes. When we attend to the world our consciousness is outside in the object of our attention; when we reflect, our consciousness is mainly within our thinking and feeling and in the act of perception our I is active in constructing what we experience. For this reason, we can say that the I is both active in the periphery and at the centre of our personal world.

Just as each sense organ relates to a particular modality in the world, such as light, sound or movement, so our sense experiences provide us with a basis for understanding the world. This understanding is culturally mediated by language and by cultural concepts we learn. In his *Philosophy of Freedom*, Steiner (Steiner 1963) argues that with self-schooling the human being can derive concepts of reality that are not shaped by social and cultural constructs, but this is a special case and does not usually apply to our everyday experience. This fact is often overlooked in anthroposophical accounts of human nature- freedom in Steiner's sense is a potential state, not the norm. To acknowledge this does not mean rejecting Steiner's understanding of the I or indeed the spiritual dimension of human life and the world. Whatever experiences we have of spiritual reality, need to be clothed in culturally specific language and images. The words and metaphors we use to describe them are based on empirical/sensory experience, or are borrowed from the culture we belong to.

Our various sense organs emerge out of specific processes that reflect a particular relationship within the world, such as light shaping the eye as an organ of sight. However, Steiner argues that behind the world that our senses perceive is another world, out of which the sense world emerges "as if out of a sea of existence" (1996b, 100). Just as the world of light has shaped our ability to see, so our sense of warmth has been created by a world of warmth, and our sense of touch relates to the tactile world. Through our interrelationships with these pre-sensory worlds, "our inner world of concepts, feelings and desires comes about" (1996b, 100). The concepts we build (or usually borrow from our culture) shape what we see. Our embodied experience of seeing also provides us with a basis for the metaphor of seeing as understanding and being en-*light*-ened, just as our experience of touch is the basis for the experience we describe with the metaphor of tact. It is the I that mediates these worlds.

The mediating role of the I

In Steiner's words, "we are present with our I in everything there is to experience in the sense world, and our soul world develops within the I on the basis of sensory experiences" (1996b,100). First our I is in the world, then it is active in our sense perception and then it shapes the feelings and thoughts we have in connection to these experiences. In German there are two words for the verb to experience: the word *erleben* for the living experience we have of something and *erfahren* for what this does to us- what we experience through the sense experience. Through the *soul* experience of *sense* experience, we retain not only a memory of the original experience, but we can now assimilate it into our understanding. This changes us through a process we call learning. Once we have learned something we can be said to be experienced- in German *erfahrend*. We retain our experience of experiences in our body, in the form of embodied experience (bodily memory) and we retain it in our souls in the form of memory. If experiences are repeated our body retains the experience of the experience in the form of habits of patterns of movement, behavior and responses. The pain or pleasure involved infuses these memories as desirable or undesirable.

Steiner explains the mediating role of the 'I' as follows; "Our sense perceptions provide the basis for the rest of our soul life. Mental images arise from our interaction with the outer world…Through these images, what comes to us from outside is mirrored in our souls. An ordering takes place that allows us to orient ourselves in this outer world. Experiences of sympathy and antipathy take form, and our feeling life takes shape within them; our wishes, urges, and willing develop…A sensory impression becomes a soul experience when it is taken up out of the sense's domain and into the realm of the I" (1996b, 98). In the *Foundations of Human Experience* (1996a) Steiner explains the forces of sympathy and antipathy as two polar tendencies that either enable us to participate unconsciously in the world, in the stream of life, as it were, or, in the case of antipathy, to stand back in conscious awareness of the world. We oscillate, as it were, between participating unconsciously and standing back from the world in consciousness. Michael Rose (Rose 1998), 2-3) explained the relation of the senses as follows:

"The senses themselves bring us awareness of the world; they do not, of themselves, bring us consciousness of the world…For human consciousness to arise, there must be a reflecting back of the activity of the senses which, in itself, is a sympathetic, imitative, "sleeping" activity of the will. Consciousness…is a process of antipathy…As consciousness begins to awaken the senses, it also translates the field of their awareness. The lower senses, as senses, inform us about our inner world- the world inside our skin…The upper senses, on the other hand, tell us of the world outside our skin…All this changes with consciousness. The unconscious inner-world experience of the lower senses now begins to illuminate the world around us. It becomes, in fact, the basis for our scientific knowledge of the world. And the outer-world experience of the upper senses becomes, with a consciousness that turns upon the ego-sense, the illumination of our inner life."

Underlying our sense experience of the world are seven life processes, which Steiner (1996b) describes as; breathing, warming, nourishing, secreting (Dyson suggests *separating* as a better translation*, sorting* is also sometimes used), maintaining, growing and reproducing. Steiner's describes these processes as functioning as follows; in the first process our attention is drawn to something in the world through an act of unconscious will expressing desire for experience and this focus depends on the embodied dispositions we have. Secondly, sensations arise, which prompt unconscious feelings of either sympathy or antipathy. Then these sensations are changed into visualizations, which bring an idea to the experience, in most cases based on existing and habitual patterns of responses. This requires a further engagement of the I, if the experience is to be given meaning, rather than simply being assimilated into existing structures. This requires a judgment or act of discernment of relevance to the person. This process literally makes a value-judgment.

At this stage the I judges whether the experience is relevant, desirable or not. In making this judgment, the I either commits the experience to memory, or allows it to be forgotten. On the basis of this memory of what is deemed to be relevant to the I, we construct our identity. Our ongoing continuity of identity depends on this sequence of memories of what is meaningful to us. The experience of who we are is based to a large extent on the experiences we have and the meaning we give those experiences. Once our I has given meaning to an experience and identified with it, this is woven into our understanding of the world and our sense of continuity, our biography. On the basis of our ongoing narrations of self, we construct or develop our personality. Steiner then describes the final stage as the desire to change ourselves, a motivation towards self-development and individuation.

Life processes and soul processes

In my original article I aligned these life processes with soul processes, as follows:

1. breathing- perceiving
2. warming- sensations
3. nourishing – visualization
4. secreting/separating/sorting – judging
5. maintaining – memory
6. growing –personality
7. reproducing –self-development

At the time I thought this alignment had been suggested by Steiner, but apparently I was wrong. James Dyson suggested that the idea came from a lecture by Thomas Weihs, one of the founders of Camphill (*Orientation and Relationships*, held on the 19th July 1981, in

Norway). I have been unable to trace this lecture. My notes come from Wolfgang Schad (now Professor Dr. Schad), who was my course leader when I was at the Seminar in Stuttgart. I heard him refer to this on several occasions in variations, including applied to different kinds of thinking processes. The Schad source makes sense because his brother belonged to the circle of Camphill teachers who were present at Weihs' lectures. Thomas Weihs' wife Anke referred to this in her lecture *Abberations of the seven life processes*, which is reproduced in the book *The Higher Senses and the Life Processes* (Sahlmann , Weihs , & Urieli 1996). Wolfgang Schad had recently visited his brother in Scotland, when I met him and he explained this during a field trip in the Alps we were on. Karl König, the other main founder of Camphill also lectured frequently on the life processes and this too has been published (König 1999). When I worked at Botton Village School, Nick Poole of Camphll Books was editing various works by König and I had early proofs of these texts (Nick very kindly provided me with a desk and computer in the Press). Apart from the Camphill tradition, I later came across Coen van Houten's (van Houten, 1993) work on the life processes in connection with biographical learning. Most recently I read Reem Mouawad's PhD (Mouawad 2013), who I met in Lebanon, on destiny learning, which prompted me to write this paper.

Van Houten's (1993) interpretation of the seven life processes in learning are:

1. breathing – observing
2. warming – relating
3. digesting – assimilation
4. secreting(sorting) – individualizing
5. maintaining – exercising
6. growing – developing new abilities
7. reproducing –creating.

I have come to see this sequence as an archetypal process of learning, though not one that is necessarily linear. It involves noticing, experiencing, forgetting and recalling. It involves acts of knowing and it involves growing abilities. In his book *Theosophy* (Steiner 2011) Steiner spoke of the origins of abilities as the fruits of experience that the spirit retains from our embodied memories. It is not the content of the memories that we retain but the energy or force to extend our abilities. Steiner speaks of the effects of experiences being retained as abilities. Through learning abilities, the human spirit grows. To say that the human spirit, the I, grows, means that the person learns and develops. We can call this kind of learning becoming. After such learning, it is not only that we know something we didn't before, we are now changed through the whole process and this changes the way we meet the world and shapes how we have new experiences. That's why I call it becoming- we become through learning and this growth is what makes our development.

Learning stages

Learning is quite a complex idea and it is necessary to map out what we mean by it when we use it. When I say learning, I mean sustainable change in the whole person (body, soul and spirit), which is why I think the term learning as becoming is appropriate for what we are aiming for in Waldorf education. Learning as becoming means that we become who we are through experiences we have and engage with. This changes us and these changes shape how and in what we learn. It is an iterative process that occurs within a certain learning culture. This definition of learning ties it closely to the notion of development. The aim of Waldorf education is therefore to enable learning as becoming and thus to enable growth and development. The learner is motivated to learn because this kind of learning is expansive and opens up new opportunities for learning, growth and development. I prefer this way of thinking about learning in school contexts because terms such as competence define what we, or the state thinks the outcomes of learning should be.

I am not saying it is wrong to learn specific factual knowledge, technical, cultural or social skills, but these are effectively ways of enabling young people to participate in society. That is important but the primary aim should be to enable young people to become who they can be, or put another way, to realize their potential (as long as we don't define what a person's potential is).

On the basis of these earlier presentations I have now drawn up a rough guide to the stages of learning. These are:

1. experience: rich experience based on participation in social practices embedded in a learning culture,
2. forgetting: forming an inner relationship to experience, implicit personal meaning,
3. recall: individual recall, shared re-call and re-construction (including reflection),
4. forming concepts: co-constructing shared meanings concepts (rules), construction of explicit and shared meaning,
5. practice: repetition and practice through application in context with the help of scaffolding within the zone of proximal development,
6. ability: leading to fuller participation, greater expertise, the learning of dispositions and skills, embodied knowing-in-practice,
7. transformation: sustainable change in the person through becoming.

Rich experience

Learning begins with rich sense experience through listening, observing and participation. Rich means that experience that is direct, authentic and multi-sensory. This can occur through active participation in a social practice or through active imagination (prompted by the teacher's narrative of other media). Participation means closely observing and taking part in an activity. Rogoff (Rogoff, 1995, 2014) has described this form of learning as cultural apprenticeship, which involves guided participation and eventually appropriation of the practice. Appropriation means making an activity your own. It becomes something you can do and you are changed by being able to do it.

This way of understanding learning goes beyond the distinction between formal and informal learning. Following Eraut (Eraut, 2000) formal learning means that specific planned learning situation is created with learning outcomes, instruction and assessment. However, this concept only makes sense from the teacher's perspective, in terms of planning and assessment. In school lessons, the classic formal learning situation, students learn through formal, informal and even incidental means. In order for learning in the full sense of the word to make sense however, it has to be intentional, which does not necessarily mean it has to be conscious. My will is unconscious and intentional. Imitation that leads to the learning of complex skills however, is always intentional and involves at some stage an understanding of what one is doing, or why one wants to do it. Simply copying an activity is not imitation in this sense. Perhaps emulation would be a better word for intentional imitation, because the learners not only want to do something like the role model they are imitating, but wants to be like that person, in other words they want to emulate what she does. Imitation starts of as an unconscious process of embodying actions that we see other people doing. Through play, practice or experimentation, we appropriate the activity and it becomes part of us bodily as a disposition or skill, it shapes the way we feel about the activity, it enables us to identify with the practice and it may even prompt us to do something creative and original with it. Once I can knit- once I have become a knitter- I want to design and knit my own garments and not simply do what my teacher has shown me. The same applies to writing stories, playing music, doing maths, reading literature, making friends and so on.

Children don't automatically want to learn what teachers want them to learn, therefore there are preparatory stages to the learning process proper. These take up quite a lot of time in the classroom. The teacher has to help the children to get into a state in which they are open and willing to participate in the first. Then they have to be attentive and relaxed enough to let go of their existing positions and open themselves to learning something new. They need to feel welcome in the learning situation, at home both socially and in their bodies, recognized and heard, and they need to be motivated by the possibility of learning something new. Much of the opening part of the lesson is dedicated to bringing this state about in the learning group. Routine and rhythm support this, as do creating habits and learning dispositions (e.g. the disposition to listen when someone is telling you something, the disposition to join in and allow others to join in, the disposition to take a risk with unknown things and trust that the teachers will ensure you are safe, the disposition to help others and so on). Only then can the learning process as such start.

Rogoff (2014) identify seven criteria for effective learning through observing and participating, which shows that this is much more complex than simply learning by doing. The conditions for learning through observation and participating are:

1. the learners are incorporated in and contribute to community endeavours,
2. the learners are eager to contribute, collaborate and belong and each member is willing to help others,
3. the activities are organized so that all can participate,
4. the goal of the learning situation is participation so that all can contribute, allowing others to participate, taking responsibility and contributing to belonging,
5. learning occurs through keen attention to and contribution to events, guidance is provided across the community and there are expectations that people will learn in the learning culture,
6. communication is based on shared reference in collective endeavours through verbal and nonverbal communication and narratives and dramatizations are used to convey values and explanation is always in the context of the shared activities or in anticipation of such,
7. and assessment for learning is used in relation to the collective endeavor.

We can translate these conditions into the situation in a Waldorf classroom practice, in which there are activities with explicitly and implicitly shared assumptions, expectations and values with a shared and evolving language and often enhanced through ritual. An atmosphere of collaboration and inclusive participation are encouraged. Participation is expected, enabled and valued. Teachers offer guidance, but as can be observed in any classroom, children frequently help each other. Yesterday during a visit to one of my student teachers in a class 4, I observed and noted children asking each other for and getting helpful explanations and support from other pupils (in a lesson about using different tenses in the mother tongue). Feedback is given to encourage and enable better participation. Whilst this form of learning is most apparent in younger classes, it remains a core aspect of learning throughout the school.

The learning culture in a class (and perhaps in the whole school, if the teachers share their vision) is created by what people do and say, what they believe in, what they value and the ideas that inform what they do. Most of this is not consciously known to the learners but the effect it has on learning attitudes and behavior is very real. If the learning culture encourages children to participate, even if they get this ‘wrong’ at first, is more likely to encourage learning from mistakes. If learning is focused on testing and grades then this this will shape the reasons why students learn. In my own research I established that the school culture actively encouraged young people to see the extra curricula practicals (farming, business, social, class play etc.) as something value in enabling personal development. If this were not the case, then perhaps there would be pressure to reduce this time in which academic learning is reduced significantly. Such an idea is carried by an upper school culture.

Let me give an example of rich experience as a basis for learning in a social practice- in this case, learning a foreign language. Speaking a language is a social practice- perhaps the most archetypal social practice. In order to learn any language, the learners need to be immersed in a rich oral and later textual environment in the target language. Young refugee children who come into our schools can learn the dominant language very quickly. Teenagers find this much more challenging for reasons that should be obvious to upper school teachers. No one can explain to the young Syrian child in Arabic what is happening, what they have to do, but they learn anyway simply by participating (though some extra help with the language supports this).

In foreign language lessons in which the teacher speaks the children’s mother tongue, this is much harder. When I first started teaching English as a foreign language in Germany I could not speak German. My pupils knew this and even though there were a few difficulties, we all managed most of the time and those classes learned English better than my latter classes, even though I was not very good at methodology. If things are constantly explained in the mother tongue, the learners rely on this and thus remain in the practice of the mother tongue. I witness this again and again when I visit my student teachers. Neither students nor teachers have the courage to put up with more than 30 seconds of uncertainty. Sometimes when I have a cover lesson in a lower school class, I just act as if I can’t speak German (even though most classes know that I speak German) and it always works because I am convinced and experienced enough not to panic if things aren’t understood immediately. What I notice happens, is that some pupils start interpreting for the class, guessing what I say and communicating this to the others. I offer verbal and gestural support when they get it right. I know it’s a challenge at first but it is amazing how it works. Eventually they learn English so fast that it is fairly obvious to all concerned that the practice in the English lessons involves essentially speaking, writing and reading English. However, that is not the main purpose of the lessons. The purpose is learning about Robin Hood, the Ghost in the Castle, Australian

Aborigines, Native Americans, Afro-Americans, emancipation, media, news, understanding and appreciating literature, learning about Canada, Ireland or whatever. We just do all this in English. In Russian or French we learn about other aspects of the world, culture and politics. I have always wondered how pupils understand some of my native speaking colleagues who have strong accents (New York or Australian for example), when I find it sometimes hard to understand them. The answer is fairly simple, there are many Englishes – none easier or harder than any others, and they are immersed in one of them. If they are good teachers, there is no problem.

If the children's experience of the social practice of communicating in French or Russian is poor, rather than rich and thus the quality of learning will inevitably be impoverished. A social practice has its necessities and rules. Participating in a community of Russian speakers is a rich experience. Natural learning occurs in a Russian speaking community. A group of people learning Russian together in a classroom is a different community of practice and has quite different conditions. However, both require a rich experience in a Russian language environment. Short of spending a year in Russia, the classroom can become a social practice of people learning Russian with a Russian speaking teacher, in which Russian is the medium for participating in meaningful social activities such as greeting each other, sharing everyday experiences, story-telling, playing games together, speaking poems and singing songs. Later, once literacy in introduced, the language environment is expanded to include access to a world of texts. Rich experience of language thus also occurs in poetry, song and literature, in authentic texts about subjects the pupils are interested in (particularly in the upper school). Sometimes I am amazed at how few language teachers really believe in this approach.

Classroom activities that are meaningful are social practices in themselves, and if they are not simply constructed to facilitate learning, they can actually serve a variety of social functions. If we can't enact 'real' activities, then we have to imagine them (going to the market, shopping for new clothes, buying tickets, visiting friends, going on holiday etc.) on the basis of things we know about and can imagine. In other words, we *invoke* familiar social practices that are culturally produced. The first stage in a learning process can involve a blend of rich language experience and the imagination. At any rate the more senses that are involved directly or through the imagination, the more 'material' we have to work with. A similar account of learning through participation with rich experience could be constructed with different subjects. The core social practice is learning together in the classroom and this is modified across the different subjects, whether handwork, artistic activities or maths and work in the mother tongue.

In learning through participation (cultural apprenticeship), the role of the teacher belongs to the social practice, it doesn't necessarily mean that there is no instruction. Being a social practice simply means that we regularly engage in meaningful activities in a given situation, with certain roles. So a lesson can take a wide range of forms as a social practice. However, the more the method allows the pupils to participate and the richer the experience, the greater possibilities there are for learning.

Forgetting

Anthroposophy suggests that there is more to forgetting than one might think. According to Steiner, forgetting is a process involving the experience we have had, resonating in a nonconscious areas of the mind and body. This occurs when we shift our attention to something else and, of course, when we sleep. Just because we no longer hold something in our consciousness, does not mean our consciousness has finished with it. As Steiner (1996a) points out, there are grades of consciousness; full consciousness, partial or dream-like consciousness and unconsciousness. Even unconsciousness is a form of consciousness as long as it has a content. Steiner suggests that we are least conscious in our will and most conscious in our cognitive thinking activity. In our will we are asleep in the world. That means our consciousness is 'out there' in the world, in the things we experienced when we were actively engaging with them. If we see or hear somethings this has an effect on us, emotionally and physically. We respond and this response goes on even when our attention moves on. We remain connected to what we have experienced and the strength of this connection depends on the intensity of the experience and its relevance to us.

According to Steiner, experiences leave impressions in the bodily organism (essentially but not exclusively the brain) that are processed unconsciously. One of the amazing things about Steiner's writings is how he describes what he has observed of such processes that are usually inaccessible to us. However, modern neurology has also offered detailed accounts of these processes that do not fundamentally contradict Steiner's account (see Damasio for example). The difference is that Steiner locates these processes in a spiritual, that is, non-physical dimension, though one that is mirrored in the body and brain. Whether, the mind is the result of brain activity (the neurological account) or whether mental activity and brain activity are mutually generative (Steiner's account) does not alter the outcome of the process, which is that the person forms an inner relationship to the experience, based on prior experiences, dispositions, interests or thematic categories. If we can relate to an experience because it matches what we expect, or because it surprises us in some way, either way it leaves an impression. But of course we cannot assimilate or recall every experience we have. We have to have our attention directed towards the experience, or because it generates feelings, or we sense it is, or might be important for us. In this way we learn to 'digest' (or reject) what we 'take in'.

The ideas we already have, based on experiences that have already been digested, enable us to recognize what we experience and the value systems we have, determine how important this is for us. These existing ideas can be thought of as organizing ideas ((Bortoft, 1996) introduced this term), which help us to make sense of our experiences. In the anthroposophical account of these nonconscious processes our sense organs mediate us a range of qualities belonging to the world we engage with. This includes subtle and relational qualities. We recognize the difference between language that conveys meaning and meaningless sounds, using our sense of word or language. We recognize gestures, body language, and intonations that mediate the intentions in the speaker. The spoken language we perceive, for example, contains lexical (sounds), syntactical (structures and relationships), cultural meanings and personal feelings, thoughts and intentions, not inherent in the literal sounds and lexical meanings of the words (sense of thought). Much of this is experienced even if we don't speak the language. The same is true of other fields of sensory perception. The life processes shape the way each sense modality mediates our experience of the world for the basic reason that they are the world. The life processes that enliven our bodies are the same organizing forces at work in the world. There source is the living world. They shape the way our sense organs develop and the experiences we have through this shapes our thinking, feeling and willing. Our sense organs mediate being in the world to our soul. Our spirit- the I- mediates meaning from another source, the world of the spirit. In our thinking, our I has access to general truths about the world in the form of intuitions. There is a third source, which is the human culture we belong to. The social things we perceive are always imbued with history and culture and meaning, even natural phenomena- obviously Aborigines experience the natural world different to modern educated Australians.

From an anthroposophical perspective, the richer the primary experience, the more we can form a relationship to a phenomenon. As complex beings ourselves, we are disposed to identify with complexity and thus we expect complexity in other living beings. In forgetting we connect what we have experienced with our embodied experiences.

Recall

In order for the learning process to continue as a transformative process we need to recall our experiences. The teacher's prompts – using the art of asking questions- to help the pupil recall the experience the teacher wants them to attend to. The experience we had 'forgotten' and now recall has been modified and each person will have an individual version of the original experience. The recalled experience is a new perception, though it differs because its source is internal. Each memory is personal and selective; we not only remember what we want to remember and suppress memories we don't want, we also remember what seems important to us, which is why eye witness accounts always vary considerably. In recalling, the person reconnects to this inner experience and this reconnecting is important in the process of identifying with it.

Ideally each person does this for herself because it involves an effort of will to remember, which is why it is good if each pupil makes the effort rather than waiting passively for others to do the recalling. It doesn't really help me to learn, if I rely on other people's memories. Cultural memories (and cultural forgetting) occur when there is collective directing of what is deemed to have happened (or not happened). Myths and legends often shape the way a people identify with their past. Memory is not simply opening a drawer and taking out something that was really there. Memory is reconstructing what we want here now. Obviously if we are trying to get a factual experience then it is helpful to compare memories.

If learning is ultimately about the development of the person, this stage of individual recall is important. It should certainly not be a stressful experience like a test (of things you have to remember, or else!) and it should be entirely open regarding what 'should' be recalled. Correction comes later. If the pupil has the feeling that the teacher expects certain specific answers, this will limit what is actually recalled. Nor is it merely a pragmatic process of establishing a link to what now follows ("so where we?"), but rather an individual process of identification and relating. Correction or feedback is offered in terms of the collective process ("we haven't fully covered all the aspects").This is a common weakness in many lessons I see. The teacher asks, "what did we see?", one student answers and then the move on if it was what the teacher wanted to hear- as if to say, " OK that is where we left things, now I will tell you happens next".

The second stage of recall is experiencing what the other members of the class recall and noticing the interesting differences. Comparing and discussing memories- which are always selective and partial (and may even be inaccurate), enables us to re-construct a shared recollection, which can be contextualized (i.e. linked to what it belongs to, in the wider picture). This will be richer than what I alone recall. So the shared recollection leads us the next stage of learning. It also shows the teacher what the pupils actually experienced, which helps the teacher to prepare the next lesson.

It might sometimes help to use non-verbal means of recall (drawing pictures, enacting, choosing a colour or a sound to represent the memory, even making shapes -Els Göttgens, a wise, elderly Dutch Waldorf teacher, even handed out scissors and paper for this task) because as soon as we put words to our experience we change the experience. My colleague Ken Power (I will try find where this was published), used recall in the upper school asking questions that reflected the planetary types to frame different kinds of recall, e.g. of an historical event or narrative. What did it feel like (Venus)? What forced the situation to change (Mars)? How did people hear about it (Mercury)?

It depends what we want to focus on. If it is a story, we can offer questions that reflect the different temperaments (what was there to eat? how did she feel about that? What did he do in the end? How many different places were mentioned in the story?). If it was a natural phenomenon, we could draw a picture. If it was a process in arithmetic, can this be illustrated? If it was a practical activity, what did it feel, sound, look like, what happened? In art, recalling works of art can be done in different ways; subjectively (emotions, moods), objectively (structure, arrangement of the figures), narrative (what is depicted?), we can ask about meaning (looking at symbols) and so on. The way we recall can shape how we relate to the experience and offer quite different perspectives, thus enrichening the experience and strengthening the connection. It hurts me to see the recall part of the lesson reduced to a pragmatic link (the story so far).

Co-constructing shared concepts

Once the memories have been recollected and shared, a process of collaborative reflection follows in which details are clarified and the original experience contextualized, identified and named. Perhaps the phenomenon shows some regularity or pattern that can now be identified as a rule. Steiner pointed out that when children formulate their own rules and concepts, they are more likely to understand them. Of course the teacher can help choosing which formulation is appropriate. The implication should be, “this is our rule for this situation”, rather than “this is the rule in the book”. When the students are older, one can compare the concept that has been identified with the ‘textbook’ version, with theoretical accounts and other forms of knowledge. This is the third stage in the sequence that Steiner referred to as conclusion, judgement and concept (in the Foundations of Human Experience). Barnes and Lyons (Barnes & Lyons 1979) describe the learning process as first involving an encounter with the world, “then encounter becomes experience; and out of experience the concept crystallizes. Encounter, experience, concept – perception, feeling, idea: these are the three steps in every genuine learning process” (1979, 7). In the recent account of the curriculum (Richter 2016) summarizes the general steps in learning that the pedagogy mediates:

1. Taking in, directly experiencing, encountering, observing, experimenting.
2. Recalling, describing, characterizing, recording.

3. Processing, analyzing, abstracting, generalizing, deepening, grasping of connections, relationships and laws, constructing concepts.

Loebell (Loebell, 2000; Loebell 2016) describes this process as three stages of participation in experience; attention and interest (*Aufmerksamkeit*), commitment (*Verbindlichkeit)* through which the learner unites herself to and 'owns' the experience, and then individual's experience of evidential knowing through insight (*Evidenzerfahrung*). These are actually the stages in the process of generating knowledge. In order for knowledge to become ability we need to go on.

Practicing

Applying what has been learned in varying ways, in different situations through practice (written or spoken) leads to the ability to apply this new knowledge. Practice involves long term repetition with variation of the processes above and increasing the opportunities for the learners to experiment and 'play' with the new idea or process. At this stage the teacher has to make provision for the individual students' different levels of skill and ability to participate. That means we have to differentiate the task in a class. Tasks can be given at three levels (to simplify), firstly that of reproducing what has been learned, secondly relating what has been learned to other phenomena already known and thirdly, through open and creative tasks. These can be done in groups in which each person has an active role. This is obviously the longest part of the learning process and may involve several cycles over months and years, in which the first three stages are repeated and further practiced, depending on the knowledge or skill involved. Repeated practice enables the learner to learn and embody new dispositions, which in turn change the person.

Growing ability

Through practice we gradually grow abilities, which are retained in the form of dispositions, habits, skills and ways of seeing. In certain situations, we can now do certain things without having to think about them because we are disposed and able to do them. Ability, once grown, does not need props (or scaffolding) to help- either we can do it or we can't (yet) do it. The transition from practicing to being able to do somethings involves a process of scaffolding, in which the teacher helps the pupils to achieve a certain function that stretches their ability to another level. Once the pupil can do this without support, we can say they are able up to a certain level. Technically this is known as the zone of proximal development- the development of the next stage of learning with the help of a competent other, or the use of artefacts and systems (like dictionaries, reference works or memorized lists). Skills can't be transferred but the dispositions we have embodied can be activated in new situations to enable us to quickly learn to engage with the new situation.

Practicing also means learning consciously from mistakes and from reflection of practice. Learners need to be given helpful, concrete feedback from teachers about what they can do to become more proficient. Thus formative and ipsative assessment support the learning process at all stages but particularly at the 'growing ability' stage.

Transformation

Once we are able to do something we have become different. We are new people. Of course one of the primary dispositions we have is the ability to generate continuity of identity across social practices, situations and time. Everything we learn with our whole being, changes the way we are and changes our relationship to the world. Real learning opens us up to new learning because it makes new learning more likely and possible. It gives our learning direction and it becomes expansive. The direction we give our learning becomes increasingly individualized as we emancipate ourselves from collective ways of being. If the learning we do only remains in our cognition, then it is not a truly embodied ability and thus can be lost. Its basis is weak. We may soon forget it. What has become part of us, body soul and spirit does not get lost. Real learning takes time but it is sustainable.

Moon (Moon, 1999) has identified several preparatory stages leading towards transformational learning involving reflection. These are:

1. noticing,
2. making sense,
3. making meaning,
4. working with meaning,
5. and transformative learning.

A comprehensive account of learning

Combining learning as knowing, doing, being and becoming, Moon's stages of transformative learning, and Steiner's account of generating knowledge and abilities and the learning process following van Houten, we can present the following overview in tabular for.

Learning process	Aspect of learning	Stages of transformative learning (after Moon,1999)	Steiner's epistemological/ anthropological account	Learning processes (after Steiner/van Houten)
Rich experience	Outer identifying	Noticing, story finding	conclusion	Perceiving
Forgetting	Inner identifying			(inner relating)
Recalling Reconstructing	Individual identifying, shared identifying	Making sense, storytelling	judgement	outer relating, assimilating and digesting
Forming concepts	knowing	Making meaning, story expanding	concept	individualizing
Practicing,	Disposition,	Working with meaning, story processing	generating habits/dispositions	Maintaining by practice
Applying/generating ability	Learning skills, being	Working with meaning, Reflection on learning	forming abilities	growing

Creativity,	becoming	Transformation, formulation of one’s own ideas, story reconstructing	Transformation, generating ‘I’ substance	creating

A social dimension to learning

What I feel is lacking in the anthroposophical perspective on learning- though it is not entirely absent- is the social dimension. Learning in school is always something we do with other people together so in that sense it is always social. However, the fact that learning is a social activity means more than just this. Learning is about change in the whole person and this is always in relation to other people and the world. And to the extent that we change so too the community within which we learn changes, because this community comprises people who are themselves changing and the whole is located in a social and cultural context that is also continuously changing. We learn through participation in social practices, including the social practice of learning in school. The learning culture of a school shapes the way we learn. Learning in a Waldorf school is different to learning in the culture of a state school. Learning with a class teacher in main lesson is a different learning culture to learning in a French or a handwork lesson. Each of these situations is different because of the different personalities of the people, the work, the tools and material we use, the rooms we meet in and so on.

I follow Vygotsky (Vygotsky, 1978)(and Dewey (Dewey, 1938) and Mead (Mead 1973) and their various followers in contemporary education such as Gordon Wells (Wells, 2008)) who argued that learning that leads to sustained change is learned at two levels; the first through participation with others, particularly with more competent others in social interaction; secondly, this is internalized by the person. What starts as an intersubjective process (i.e. between people) becomes an intra-subjective process. When we act and this affects other people, it becomes intersubjective again. The classic example is learning a language, which we learn through talking with people, then we internalize language and this forms the basis for much of our thinking and reflection. If we then act on the basis of our feelings, thoughts or intentions, this affects others.

As Wells (2008) points out, most theories of learning assume that each learner is an isolated, rational individual in an ahistorical context and they mainly look at cognitive processes. They look at what the learner does, assimilating, constructing, remembering and so on but overlook the fact that the context always influences this process. This is because most learning theories start with the individual as the basic unit of learning and have an epistemology that assumes that objective knowledge exists in the world that the individual assimilates. Most learning theories treat the subject (the person learning) and the world as two separate categories. The subject learns about the world; action appears as a secondary phenomenon. We can call this a dualistic account of the subject and the world as object. In education this becomes a process of providing the right stimulation and content (i.e. knowledge) at the right time and then testing to see if it has been correctly memorized. The direction of this learning is from concrete to abstract knowledge (though many learning processes based on this idea start from abstract propositions about the world). Learning occurs through detached reflection, away from the messy reality of practical life. Knowledge becomes ever more refined, even pure!

The cognitivist view of learning also tends to think of human beings as having a fixed, finite potential for learning, which justifies selection and separating different learning types and which accounts for differences in learning abilities. This is a behaviourist view and assumes that learning output is a result of learning input, limited by the individual's innate capacity. This view sees education as the process of reinforcing associations and habits in ways that can be quantitatively measured. It treats the mind as a set of reactions to stimuli.

The opposite view, which follows Piaget, assumes that there are fixed and universal learning stages that are age-related and involve children learning through discovery given appropriate stimulation. A Piagetian constructivist view largely ignores the fact that children learn in cultural settings that have been historically shaped in ways that influence how the whole human being as body, soul and spirit develops. There can be no universal patterns. The third view models human learning with that of a computer, in which information is processed according to the software that has been installed. This view in effect reduces the human mind to a machine and ignores the interrelation between bodily experience and thinking, feeling and willing.

Social and sociocultural (also cultural-historical) perspectives on learning, such as those taken by Vygotsky (1979), Wells (2008), Lave and Wenger (Lave & Wenger 1991; Wenger, 1998)(1991), Rogoff (1995) all assume that the person (the subject) is an active agent in learning, that she is involved in active interaction with people and things that have a history and meanings in concrete settings. As Lave and Packer put it, "This subject is not some kind of entity separate from the settings in which it acts, but is one aspect of a structural whole: subject-engaged-in-situated-practice. The practice in which the subject is engaged has a temporal organization to it: it is a project; it projects forward into the future" (Lave & Packer 2008), 31). Furthermore, this subject, as we encounter her in the world, is embodied in a lived body, which organizes how we relate to the world. Because people are embodied, they are also socially located in time and social space (no two people can inhabit exactly the same social space at the same time). The positions they occupy shape the values they give their experiences.

This socio-cultural view of learning understands thinking as an activity related to action, in which the situation and the thinking continuously interact. This interaction means that learning is mediated by other people, procedures, tools and artefacts including language and media. Learning is by nature social and collaborative because it is an activity with others in a social context. It involves participation and is not only to be seen as a property of individuals but rather as something belonging to a group of people related through shared activities. The intelligence required in learning is not only located in the individual but in intelligent situations and constellations of people. If others are not attuned to my way of thinking and acting, communication and joint action are difficult and thus learning is limited in scope. What a group knows can be internalized by the individual. How that individual then behaves influenced the group, thus new knowledge and insights are externalized into the social context for all learn to learn from. Learning is characterized as being rather than as knowing and the being is being is "rooted in practice" (Lave and Packer, 2008, 33). Furthermore, this view sees learning as the motor of the development of the whole person (cognitive, social, affective and even bodily) because development results from participation in joint activities with others more expert than oneself.

This kind of learning is referred to as a form of cultural apprenticeship. Newcomers and beginners are allowed and encouraged to participate in social practices (initially perhaps simply by watching) and are guided more experienced participants (such as teachers). In the process the learners appropriate the knowledge, skills, attitudes, ways of thinking, values and identities that belong to this practice, thus becoming more expert themselves. Gordon Wells (Wells 1986)demonstrated this in his famous longitudinal study of children learning their mother tongue in England. As Wells (2008) puts it, learning is an “active and constructive process that involves a triple transformation: of the learner’s repertoire for action; of the tools and practices involved, as the learner constructs his or her own unique version of them; and of his or her relationship with others and thus of his or her identity”. As a result of these transformations the social context is altered and develop. A class changes as all the individuals learn and develop. Learning involves a developmental relationship between the individual and the society she is embedded within. It is a relationship of mutual interdependence and co-construction. Wells (2008) sums this up by saying, “who we become depends on the company we keep and on what we do and say together”.

A sociocultural view of learning means that the teacher has to create an environment in which the learners are called upon to engage in authentic tasks (as apprentices) that challenge them to go beyond their current level of capability. Providing assistance (known as scaffolding) to help learners move from the comfort zone of what they can do into a new level of challenge is important and cooperation and collaboration is an important precondition. As I outlined above under the subheading rich experience, there are other preconditions that make such learning situations rich, such a learning culture that encourages and expects participation, even at the risk of making mistakes.

Mary James (James 2008) has highlighted the implications of this approach for assessment. She writes that since learning cannot be separated from the situation the activity is located in, assessment has to be part of the situation. That means on-going feedback in situ, alongside the learning process and this needs to be a part of the overall context. This implies self-assessment, peer-assessment and assessment by teachers involved in the community of practice or in related practices (i.e. teachers from other schools), rather than external assessment. It means that group activities can be the focus of assessment rather than the individual. Individuals should be encouraged to exercise their agency (making choices, choosing themes, planning work and how it is presented). Portfolio is an obvious choice for this kind of learning, as is project work.

Conclusion

This has been a first attempt to explore ways of working with the seven learning processes related to the seven life processes. This needs to be embedded in a broader anthroposophical theory of learning. But this is a start. I would be very interested to hear feedback from readers, so that we can develop this idea further.

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