

# Promising Practices in Teaching and Learning

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At a time when there is a global trend that uses various forms of measurement to assess the quality of teaching programmes, it is invigorating to discover a theory of learning which aims at opening up the space of possibility. In this paper, I will introduce the audience to what I believe are three important books which invite us to explore learning in a different way. I try to illustrate some key ideas of the theory by drawing on some recent experiences from my own classroom.

## Closing: Feeling Boxed in Again

In 1990 I was invited to give a speech at the annual prizegiving for the UCT Mathematics Olympiad competition. The topic of the speech was a thinly disguised biographical piece where I gave myself the name of Alfredo and described my coming of age as a learner (Breen 1990). I gave the introduction to the written version of this speech the heading '*Closing*'. I did this to try to highlight my growing conviction that my school learning experience had been extremely limited by the constant attempts by teachers and the education system to mould me into a form that others wanted. At school I had been expected to learn without deep understanding through an emphasis on memory and tests, and perform at ever-increasing levels. The hooks that were used to program me to do this were competition and praise. In a similar way, teachers were kept to the curriculum by inspectors, record books and textbooks.

At the end of this *Closing* start, I moved on to the next section and headed it *Opening*. In this section, I described the impact of my period of study on a master's programme at Exeter University in 1974, where I was first exposed to the ideas of Caleb Gattegno (Gattegno 1971, 1974, 1987). This was the start of a journey where I began to reassert my right to try to understand how I choose to learn and how I want to make this learning my own. Major features of Gattegno's theory of the Subordination of Teaching to Learning include:

- a deep respect for and acceptance of the capabilities of learners;
- an acknowledgement that in the teacher/student dyad, the learner is central;
- the recognition that it is the learner who must do the learning, and that the teacher's function is to create situations and experiences that focus the learner's attention on the key concepts of the mathematics being presented;
- the discipline to provide the learner with the minimal essentials for understanding to occur, to not 'tell' the learner everything, or almost everything, in the belief that 'telling' fosters learning;
- the further recognition that conversations among and between learners is a valuable tool in a teacher's instructional repertoire;
- the understanding that teaching is subtle work in terms of it being delicate, restrained, and finely grained;
- an appreciation that "only awareness is educable" (Gattegno 1987, p.vii), by which is meant that learners can only acquire knowledge of that of which they are aware.

These principles became guiding themes and influences in my subsequent teaching at both school and tertiary levels.

Thirty years after starting that paradigm-changing Masters course, I received an email inviting me to present a plenary paper to the SAARMSTE conference in Namibia on the topic of *Promising Practices in Teaching and Learning*. As I started thinking about what I might want to say, I became more and more aware of a sense of being under siege in my daily work. So I started thinking about all the *closing* that is going on around me as a university mathematics educator. My teaching takes place intertwined a context in which increasingly an accounting form of management is being introduced into education in South Africa under the banner of accountability and Quality Assurance. Best practice is being defined by others in ways that increasingly seem to exclude me and my preferred forms of practice. The pressures are now on me to constantly satisfy others that I am delivering quality and that I am achieving measurable outcomes. At the same time, colleagues meet in committees to ensure that we are delivering quality by ensuring that courses 'articulate' with each other based on a 'coherent discursive field', and words such as 'should', 'monitor', 'check', 'recommend', 'approve', 'maintain' and 'establish' dominate discussions on teaching programmes. On the global playing field, conference papers need to adhere to certain defined constraints to stand a chance of getting accepted. For some reason I seem to be dancing to a different tune, so the consequence is that I find myself back in that uncomfortable territory of closure, where much of my life-giving oxygen is being tampered with and my playground has become smaller and more heavily patrolled.

It is small consolation to note that as education moves towards a more measurement-managed administration, these same theories are themselves being challenged more frequently in the business world. For example Dee Hock, the founding CEO of the, at the time, groundbreaking VISA company writes:

Thus, management accounting has served as a barrier to genuine organizational learning. . . .  
Never again should management accounting be seen as a tool to drive people with measures.  
Its purpose must be to promote inquiry into the relationships, patterns, and processes that give  
rise to accounting measures. (Hock 1999, p.172)

However, this is not going to be a plenary paper of gloom. Once I had become aware of this *déjà vu* feeling of going through a closing experience, I decided that I would focus prefer to focus on Opening as a positive theme of this paper and look towards what I believe is some very promising theory that has influenced my recent teaching and learning.

## **Introducing Enactivism and the Santiago Theory of Cognition**

The perturbations of the environment do not determine what happens to the living being; rather it is the structure of the living being that determines what change occurs in it. This interaction is not instructive, for it does not determine what its effects are going to be.... The changes that result from the interaction between the living being and its environment are brought about by the disturbing agent but determined by the structure of the disturbed system. (Maturana and Varela 1986, p.96)

In recent years I have been increasingly influenced by what has been called the Santiago Theory of Cognition (Capra 1997) or enactivism (Davis 1996). These terms refer to the work started by two Chilean theoretical biologists, Humberto Maturana and the late Francisco Varela (Maturana and Varela (1986), Varela, Thompson and Rosch (1991)). Since the main focus of the paper is intended to be on the practices

rather than the theories, I will confine myself to introducing aspects of the theory through stories of practice with some of my students, and leave interested persons to follow up the references themselves.

In a previous article (Breen 2001a) I discussed the way in which some of the enactivist concepts had influenced the way in which I engage with students taking a pre-service GET mathematics teacher module. One of my biggest challenges in South Africa's post-apartheid education's adoption of outcomes-based-education and learner-centred teaching has been to find a language to express the mismatch that I experience between these politically understandable and in many ways extremely welcome ideals and my own teaching and learning realities. Davis (2004, p.75) uses the term *Teaching as Instructing* (or *Telling*) to capture the conception of teaching that arises from taking a rationalist perspective, and firmly locates the setting of desired outcomes before starting to plan the lesson as a fundamental consequence of this approach to teaching. He also points to another important aspect of rationalist teaching being the 'continuous need to examine learners' understandings' (Davis 1996, 81). This continual focus on the pivotal role of the teacher in determining outcomes and continually assessing learners' attainment standards goes against the enactivist position that a learning environment is constituted by teacher, learner and the context in which the learning takes place. This insight immediately broadens my gaze and re-focuses me from a narrow look at my own preoccupations as teacher. It encourages me to become far more aware of what it is that the learners bring to the teaching situation.

Varela, Thompson and Rosch (1991, xv) describe the term 'structure' as a fluid and temporal self, which is formed 'by the combined influence of one's biological constitution and one's history of interaction with the world' (Davis 1996, 9). The enormous influence that this has on the way in which each one of us sees the world is emphasised in the following quotation:

In the enactive approach reality is not a given: it is perceiver-dependent, not because the perceiver 'constructs' it as he or she pleases, but because what *counts* as a relevant world is inseparable from the structure of the perceiver. (Varela 1992, p. 13)

Over the past four years I have used an activity which clearly demonstrates this (see Breen 2001b). I show a brief excerpt from a concert where Hugh Masekela is performing. At the end of the showing each viewer is asked to select an image that stood out for them and write down as much detail about that image as they can. Not only do they find it difficult to restrict themselves to noting these details, they find it extremely seductive to superimpose their own beliefs and experiences onto that image thereby generating virtual images and realities. It is only when they share their certainties with the rest of the group that the very subjective nature of their realities becomes apparent.

The concept that, as teacher, I can become 'a disturbing agent' in the classroom but that the changes (which I take to be the learning) will be determined by the structure of the learner is extremely liberating. In the end, I have a limited influence on what actually gets taken up and my control over the outcomes is limited. This leaves me free to pursue my interest in becoming a better perturbator with relish!

Davis (2004, p.170) refers to the product of a learning theory based on Complexity Science as being *Teaching as Occasioning* where *occasioning* signals the participatory and emergent natures of learning engagements as it points to both the deliberate and accidental qualities of teaching. This also gives me a space to operate that allows me to be surprised at what happens and to try to behave in an appropriate way in response. Again this points to my discomfort at trying to fix the particular outcomes of my lesson in advance with too much certainty.

## **Teaching Mathematics: Towards a sound alternative**

In the rest of this paper, I am going to introduce you briefly to three books which have been extremely influential in opening me to new possibilities and, for each of them, I will try to illustrate one key learning that they have generated for me.

Davis (1996) focuses his main attention on developing a different form of listening from the common types of evaluative and interpretive listening. Following Levin (1989) he adds a third form of listening – that of hermeneutic listening. In hermeneutic listening, ‘we get into dialogue with one another so that our conflicting prejudices can be uncovered and transformed by listening as if we were the other so that we can see what they are saying through their own eyes’ (Davis 1996, 245). This echoes with a quotation from Kierkegaard that I was introduced to in my Exeter days.

No, to be a teacher in the right sense is to be a learner. Instruction begins when you, the teacher, learn from the learner, put yourself in his place so that you may understand what he understands and in the way he understands it... (Kierkegaard 1939, p.231).

I have used this emphasis on trying to listen to others as if you were them in an activity with my pre-service mathematics teaching class. I give the class a problem to solve in groups of 3 or 4, and I tell them that their main task is not to get to the answer but rather to develop into a community of learners which embraces the diversity of thinking that exists in the group. At the end of the session, they will not be asked to give their answer, but rather to write about their perceptions of the different learning styles that were present in the group and the way in which different people had contributed to the community.

As can be imagined in a class of successful mathematics students, the students find it difficult to maintain a focus on the group rather than on the solution of the problem. In a previous class, I gave them the task of solving the Painted Cubes<sup>1</sup> problem and gave them some connectable small cubes as apparatus that would allow them to construct the larger cubes. In one group of 3 students, the issue of asking questions rather than telling answers, and the damage that can follow from making assumptions came to the fore in a group in which Prince was working with two others. Prince was playing with the small cubes in an attempt to get a sense of the problem. At the end of the session when they were asked to reflect on the process, Prince immediately recorded his findings on audiotape. The overpowering presence of a teller in the group and the way in which this crushes Prince’s own way of working are, for me, starkly evidenced in this extract:

*I attempted to visualise it in my mind at first but I struggled with that so I decided that I would build just the one face of the cube and then see if I can work anything out from that. I took the blocks and put them together and just before I finished putting up one face, Michael already had the answer. He gave the answer to us... He went on with the other blocks – the blocks that would have only two sides painted, one side painted and no sides painted. He just gave us like the answers to all that.*

*I tried to ignore him because I was still looking at my face trying to figure out things but it was difficult for me to ignore the answers that he gave to us. So I don’t know if that put me under pressure or what. I don’t know if I should call it pressure, but basically I just couldn’t figure out things any more. I couldn’t think. I had the face in my hand. I tried to move my fingers across it, trying to visualise things and make a few calculations. I couldn’t, because he had already given us the answer and what he was doing now as I was aware or trying to figure what was going on, he was sort of moving on to a 4 x 4 x4 cube and that put me under even more pressure.*

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<sup>1</sup> In Painted Cubes, you are given a 3x3x3 cube that has been made up of 27 smaller cubes. The outside of the large cube is painted red, and the problem asks how many of the smaller cubes, when separated, will have respectively 0, 1, 2 and 3 sides painted red. The problem then asks for a generalized solution to this situation.

*So I found myself asking him “How did you figure that out?” Can you just explain that to me how you got the answers? And then he went on like this, OK listen Prince, on the corners you have 4 and between them we have one blah blah blah and that makes... It didn't make any sense to me.* (Nofemela 2003)

This extended extract gives a clear and powerful insight into the way in which being told an answer can freeze a student's thinking process to such an extent that he ends up colluding with the 'teller' in his own mis-education. Fortunately, in this particular example, Prince is a capable mathematician with a persistent streak who had the support of the third member of the group, Joyce, in re-grouping and returning to the problem. Talking about the situation and exchanging perceptions with all three and the rest of the class highlighted different views and motives such as the extent to which the fact that Prince is blind motivated Michael to try to 'help' him.

Davis (2004) introduces *Teaching as Conversing* as the consequence of an ecological perspective, and argues for the inevitable existence of a need for ethical action.

Ecological discourses ... share with complexity a conviction that all forms and events are intimately intertwined, but this conviction has prompted more of a concern for ethical know-how than practical know-how. (Davis 2004, 174).

This emphasis on the importance of ethical action tied in with an understanding that I cannot stand outside a problem situation as a neutral observer has caused me to pay attention to issues that might previously been ignored. For example, the presence of at least one seriously fear-filled failing student on the pre-service primary teachers' course is an annual occurrence. I have started paying extra attention to these students (see for example, Breen 2004) rather than try to superficially attend to them in the knowledge that they will soon leave my class. This stands in contrast to the view of one of the PME conference reviewers who said that the paper should be rejected because it would not be of interest to conference participants because someone this poor at mathematics should never have been accepted onto the teaching programme in the first instance.

The issue of ethical responsibility also came out in the Painted Cubes activity. One student was generally silent during the session and was left on the fringes on the assumption that he was not able to contribute. Yet, to the surprise of the entire class, he later achieved one of the highest marks on a mathematics content test. If I am part of the situation, realising that assumptions might have been made on the basis of his silence, age and ethnic background propels me to explore the topic. The problem has since grown into a challenge to act in a way which tries to interrupt the taken-for-granted assumptions and beliefs of those on the course (including the teacher!).

## **Ethical Know-How**

When one puts objectivity in parenthesis, all views, all verses in the multiverse are equally valid. Understanding this you lose the passion for changing the other.... If the others can also put objectivity in parenthesis, you discover that it is easier to explore things together, because one is not denying the other in the process of exploration. (Maturana 1985)

Varela (1999) focuses on ethical know-how in a series of lectures given at the University of Bologna in 1992, and draws on enactivism to expand his topic. Depraz, Varela and Vermersch (2003, p.1) attempt to 'seek the sources and means for a disciplined practical approach to exploring human experience'. They begin their search by identifying a basic cycle or Epoche of the reflective act consisting of three principle phases: suspension (of 'realist' prejudice that what appears to you is truly the state of the world):

redirection (of attention from the 'exterior' to the 'interior'); and letting-go (or accepting the experience). One of the ways that they identify that suspension can happen is if 'another person tells you to suspend your prejudice or models this gesture to you' (Depraz et al. 2003, p.26). The process falls into what Varela calls 'second person research' (Depraz et al. 2003, p.) which is an exchange between situated individuals focusing on a specific experiential content developed from a first-person position.

Varela (1999, p.10) introduces the concept of immediate coping as we engage with the world. He claims that we have a readiness-for-action (micro-identity) proper to every lived situation (microworld). His interest is in the hinge moments where we move between microworlds and choose an appropriate microidentity. If this is generally determined by the 'common-sense emergence of an appropriate stance from an entire history of the agent's life' (Varela 1999, p.11), how can we become aware and increase the possibilities for action at a hinge moment.

The Researching Teaching module on the taught Masters programme in Teaching at the University of Cape Town is a course that I have been offering for the past five years (see Breen 2000, 2002). The course is driven by the above perspective which means, in effect, that teachers taking the course are asked (told?) to suspend their prejudices as they engage with the epoche. Teachers taking this course start collecting series of incidents that strike them as important and bring them with them to class to share with others. For example, one teacher explored the situation where she gives extra mathematics lessons to individual students. When she was asked to record incidents from her teaching life, she focused on the repeated situation where she was continually disappointed by students who had failed to do the homework that she had set for them in the previous session. The teacher's initial stories described students entering her office and, as soon as they sat down, she would ask for their homework and then wait out the silence or awkwardness while they decided to own up to the fact that they had not done any and gave their excuse (too hard, too busy, too sick, etc.). She could then feel her irritation growing and projected the (often unspoken) message that they had let her down. All of this would take place within the passing of a short moment and would often set the tone and culture for the rest of the session.

Working with the concept of hinge moments and belief systems in the module allowed the teacher to recognise that the arrival of the student presented her with a hinge moment in itself (which she habitually uses to enquire about homework rather than anything else). Using the technique of writing a brief-but-vivid account-of (Mason 2002), she developed a series of accounts of her starts to extra lessons. She offered the following account to the rest of the group of teachers taking the Researching Teaching module in one session.

*He sat down. He turned his eyes away from me. I sensed what he was about to say. I stared at him with a straight face. He fiddled with his book and his face began to turn red. He said, "I haven't been able to do the homework."*

This is where we return to the importance of engaging with a diverse group of people whose life histories inevitably (in most cases) will have allowed them to develop a different range of micro-identities for each microworld. In the actual Researching Teaching class situation, the teacher received the following responses to her account:

- *A one-on-one encounter can be rich. If it becomes like a classroom encounter it can be detrimental to the relationship as well as a healthy learning environment.*
- *I think I would make the lessons fun – then he will do the work rather than be intimidated.*
- *I would tell him or her that I will not be giving any homework until they feel that they want it and will actually do it.*

- *I would tell them that they are paying me for this time – so they ought to do the homework now.*
- *I would change the topic and do something else.*
- *I would ask them what is wrong and why they haven't been able to do it, then do it then.*
- *I would change my idea about homework. Think that it is not my problem. I'm getting paid for the lesson, not to police the child.*
- *I would draw up a contract about doing homework with the child at the beginning of the year where the child specifies how much homework they will do.*
- *I would get to know the child, have a personal relationship with him or her.*

From their responses (which were offered as each person's own subjective perspective), the teacher gathered that this insistence on homework was not something shared by the rest of the teachers and many of them suggested alternative beliefs and ways of engaging with the student. The process of listening to their responses as saying more about them than about her, allowed her to accumulate a larger menu of possible microidentities for the future. She began to think of different ways in which she might handle the situation.

I imagined a scenario of one of my students arriving and telling me that she has not completed the work I gave her the previous week. I imagined myself saying, "No worries!" in a happy tone of voice, with my face still radiating happiness and love. We would then move onto another topic because doing the homework in class may lead to them feeling a sense of guilt. It was hard not to feel a sense of tension in my chest as I imagined the scenario. After imagining the experience over and over again, I finally managed to move beyond the frustration I felt. (Burgoyne 2004, p. 19)

The above description clearly shows that there is a great deal of work needed to interrupt what, for her, has become a habitual response to homework at the start of a session. Soon after she had got to this stage, she was able to catch herself in the moment with one of her students and say "no worries" and enjoy the subsequent interactions far more than before.

*She walked into the room smiling. She seemed happy. I felt confident that she had done her homework because she always does. She sat down and while I was turned away from her she stated: "I haven't completed all the homework." I realised that at this moment in time, I had a great many ways of responding but that I had prepared myself to act in a particular way. I turned around with a smile on my face and with my best friendly tone of voice, I said, "No worries!" She relaxed and proceeded to show me what she had done. I relaxed and there was no tension in the room.*

Working on one's own practice, especially when one is trying to change habitual responses, is an extremely difficult task which, I believe, is assisted by second-person research such as that described in this example.

## **Inventions of Teaching**

Don't impose on me what you know,  
I want to explore the unknown  
And be the source of my own discoveries.  
Let the known be my liberation, not my slavery.

Maturana as quoted in Zohar and Marshall (2000, p.290)

The stress on the importance of listening and the inescapable presence of a desire for ethical action has required me to explore the issue of voice and the way in which my own practice closes down the space for teachers to feel comfortable about using their voice. The example of the student teacher who remained silent while tackling the Painted Cubes problem provides one example of a situation to engage with. However, a personally more challenging one arose when on three separate occasions students who had successfully passed the taught modules on the Masters course, moved on to the dissertation stage at our university. All three of them wanted to use their research dissertation as an opportunity to explore the ideas which had been raised in the Researching Teaching module (partially described in the previous section).

At our university the procedure is that all Masters students have to take a generic Research Methods course. This course generally foregrounds a report template which starts from a carefully expressed question and then describes the literature search, research methodology and issues such as generalisability and validity. At the end of this module, the students have to submit a research proposal for evaluation and comment by those convening the Research Methods module. These research proposals are either passed or referred back to the student for additional work. During the Researching Teaching module these three students had enjoyed the exploration and their voices grew stronger. When it came to submitting their research proposals they took the task seriously and engaged with the Research Methods module's position, but each wrote their proposal in their own way.

All three had their proposals rejected at this first submission, and it was left to me as their supervisor to see that they re-worked their proposals and addressed the noted shortcomings to my satisfaction. I was faced with a dilemma. As a representative of the academy I was being asked to close down that same space that I had earlier opened in their taught module. I decided to try to remain true to my espoused beliefs, and allowed them to follow their own directions. As they started to submit their first drafts, I became aware that the experience in the Research methods course was causing them to start compromising their ideas. I returned their writing to them saying that I could not hear their voice clearly. Then the problem arose that, as their voices grew stronger, they become more certain of the direction they wanted to go and I was taken outside my own ZCD (zone of comfortable development)! While a part of me was excited at the unfolding research process that these teachers were undertaking, another part remained anxious until the arrival of the external examiners' reports. My anxiety proved to be unnecessary.

For example, Eddy (2003) drew his main inspiration from a work of science fiction and started each chapter with a quotation by Arthur C. Clarke. His work mixed statistical exploration of an ad maths class with some more experimental methodology using Noticing and personal reflection. One of the external examiners commented that he had moved to the cutting edge in his use of research techniques in his thesis, and had cleverly woven his literature review into his dissertation.

Claassens (2003) focused on her own learnings as she became a drama teacher for the first time. Strongly influenced by the ecologically driven writing that had appeared in a recent publication (Hocking, Haskell and Linds, 2001), she weaved her own understanding and passion for surfing into her exploration of learning. Again the external examiners were excited by her work, and one of them commented that her use of surfing enabled her to step back from her encounters and look at them in new ways. One consequence of this examination was that she was immediately invited to write a paper on her work for an article and to join a panel at a Canadian Drama in Education conference.

Finally, Lebethe (2004) wanted to listen to the teachers who attending her in-service courses. She was unhappy about the way in which in-service courses seemed to treat teachers as a single entity. Her thesis is the most unusual and experimental of the three as she has no formal chapters and no page numbers and her

literature is not confined to a separate section but rather permeates throughout her dissertation. She has acknowledged her own biases and subjectivities by writing herself into her research through the use of poetry and narratives. This is not easy research. The external examiner commented that rather than following the usual formula of getting the methodologies to emerge from the question asked or problem stated, the writer is exploring a new, and different, form of a hermeneutic methodology that emerges from her practice – her practice as researcher, and her practice as a teacher educator.

This is exciting research that has been done by teachers – and it should be remembered that this is at Master’s level. I want to stress that this form of exploratory research is extremely difficult to undertake and that all three of these students had passed each of the taught modules with distinctions. At the dissertation proposal stage each of them was advised to choose a more traditional and safer route, but stuck to their paths and were rewarded when at least one international external examiner awarded them a pass mark in excess of 80%.

The work of these three students has left me far behind and served as a timely reminder as to how much I have become domesticated over the years. The irony is that many will give me the credit (blame?) for work that is undeniably and indisputably their own. Their belief in this statement is shown from a recent experience in which I drew their attention to an invitation to write a chapter for a book on research methodology. As we sat and discussed a possible contribution, a great deal of time was spent as they considered whether my presence as an author would add benefit to what they were trying to say or might be considered as an artificial and unwanted stamp of academic approval for what they wanted to say.

### **Opening: Expanding the space of the possible**

This separatist, mechanistic concept is a powerful way of viewing the world, a useful way of perceiving some aspects of reality and a practical aid in day-to-day activities. Difficulty begins when it is held forth as *the best way* of perceiving reality. Destruction begins when it is held forth as *the only way*. It is only one perspective; only one way of perceiving reality. And it is the best way only for narrow, limited, quantifiable purposes. (Hock 1999, p.288).

In keeping with Alfredo’s original 1990 story, I want to end with a section on opening. Davis (2004, p.184) concludes his exploration of metaphors for teaching in a way which highlights the way in which my journey into the world of enactivism has recharged my interest and commitment to my students:

In an earlier book, we wrote that there was one point of agreement across the diversity of opinions on the nature of teaching—namely, that teaching has to do with one group’s desires, conscious and unconscious, to have another group see things the same way they do. I now find myself disagreeing with that assertion.

Oriented by complexivist and ecological discourses, teaching and learning seem to be more about expanding the space of the possible and creating the conditions for the emergence of the as-yet unimagined, rather than about perpetuating entrenched habits of interpretation. Teaching and learning are not about convergence onto a pre-existent truth, but about divergence - about broadening what is knowable, doable, and beable. The emphasis is not on what *is*, but on what might be brought forth. Thus learning comes to be understood as a recursively elaborative process of opening up new spaces of possibility by exploring current spaces.

Learning is the dynamic of existence; when it happens on levels other than the individual, we tend to notice it as evolution (of species, societies, cultures, knowledge, social movements, etc.). Teaching reaches through and across the layers of these entangled, evolving forms. Teaching, then, is never simply a personal or an interpersonal act. It touches the subpersonal through the planetary. Teaching is participating in the transformation of what is.

In this way, teaching participates in the invention and reinvention of itself. Unlike many of the forms that contribute to the structures of our existences, teaching has a say in what it becomes.  
(Davis 2004)

Davis's invocation for teaching to become an activity that aims to expand the space of the possible is a reminder to me of a journey started long ago when the work of Gattegno interrupted the closing forces of my own school experience. For me the personal and general challenge is to ensure that our endeavours to improve education in the country do not close down the spaces but rather leave them open for us to listen to the teachers and students. I believe that only by opening the spaces of possibility do I have a chance of interrupting my habitual prejudices.

The range of what we think and do is limited by what we fail to notice. And because we fail to notice that we fail to notice, there is little we can do to change; until we notice how failing to notice shapes our thoughts and deeds.  
(Laing 1972)

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