



HOW CHANGE TAKES PLACE

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INTRODUCTION

How does change take place? Do past experiences in the theory and practice of change - both inside as well as outside the field of education - offer any clues? Why are some systems so resistant to change? What can be done to make an environment fertile for change? The answers we derive to these questions have a direct bearing on what we do to bring about an education that works.

NOT MUCH HAS FUNDAMENTALLY CHANGED BUT A LOT HAS

It may be instructive to start with a little joke shared by some educators. What if Rip van Winkle woke up in the 21st century having slept for 100 years? What would he make of everything? Things have changed so much that Rip cannot make sense of it all; he sees people watching TV screens for hours, people talking into hand-held devices, metal objects moving at tremendous speeds on flat tarmac, and huge flying metal objects in the sky. It's all too much for him to take in. But then Rip enters a school and feels more at home. He recognizes the teacher explaining maths to students using the board. He says to himself, "Ah, I know what this is!" The minor changes in the colour of the board - instead of being black it's green - and the fluorescent lights are not enough to stop Rip from feeling at home here. His reaction would have been the same whichever country he was in. When we consider the changes that have taken place in the 20th century, why then has the classroom not fundamentally changed in this time?

On the other hand, there is a paradox in that a lot has changed in education over the last 100 years. The quantity and accessibility of education throughout the world has greatly increased. Almost every year, political bodies institute education reforms that take place at every level of the education system relating to curriculum, teaching methods, use of technology in the classroom and so on. So, there have been a lot of changes, but only certain kinds of changes. So, there are different kinds of changes, and if we can understand these differences, we can then be in a stronger position to understand how change takes place. What follows is a brief summary of the different kinds of change, and a discussion of how change takes place. The conclusion summarizes the implications of these findings for bringing about an education that works.

TYPES OF CHANGE: FIRST-ORDER AND SECOND-ORDER CHANGE

There are two kinds of change; ‘first-order’ change and ‘second-order’ change.

First-order changes reinforce the underlying traditional structures of education. In the history of school reform in North America over the last 100 years, although schools have changed in ways related to textbooks, higher salaries for teachers, more instruction time in school, use of technology in the classroom and so on, they have also remained fundamentally the same. First-order changes try to make what already exists more efficient and more effective, without substantially altering the way in which teachers and students perform their roles, or basic organizational structures. Schools now, as they did 150 years ago, still use self-contained classrooms, a graded curriculum, a 40-50 minute class, with frequent testing, a reliance on worksheets and textbooks and so on. “Periodic efforts to make changes in the schools have succeeded if they enhanced these structural elements.” The 20th century witnessed magnificent changes throughout the world in the spread of traditional structures of education, expanding access to education and educational opportunities. School enrolment and literacy increased throughout the world, and this led to improved standards of literacy and education. These are all first-order changes. These changes have focused on making education more productive, with an emphasis on testing, standards and school accountability.

Degree of change	Strategic level	Characteristics
Status quo	Can be operational and strategic	No change in current practices
First-order change	Operational or strategic	Expand operations or making them more efficient/effective; change occurs within existing parameters
Second-order change	Predominantly strategic	Change in underlying structures, or redefining existing parameters

Second-order changes involve shifting or redefining existing parameters in education. They are much less common than first-order changes, and include student-centered instruction, team teaching, flexible scheduling, and so on. They do involve changes to the underlying traditional structure of education. They can lead to changes in the underlying roles of teachers and students in the classroom, and influence basic organizational structures. Over the last 100 years, many reforms that were intended to alter the fundamental structures of

schooling met with little, if any, success. If implemented, they were implemented in such a way as to fit the contours of the existing classroom structure, or on a small scale that did not break into the mainstream of education. Second-order changes mainly found their home in journals and conference agendas, or in changing educational vocabulary, rather than into the classrooms themselves.

The Radhakrishnan Report of 1949 into education following Indian independence stated "... The right kind of teacher... not only loves his subject, he loves also those whom he teaches. His success will be measured not in terms of percentage of passes alone... but equally through the quality of life and character of men and women whom he has taught." Yet, in many schools throughout India and many other jurisdictions we see a different picture, with a focus on the character of the students not as evident as the focus on marks and percentages. Despite the interest and talk, "the ingredients change, the Chinese saying goes, but the soup remains the same."

In summary, change in education does take place, but mainly first-order changes. Second-order changes are less common. If implemented, they are usually short-lived, and may fall away on the back of the quiet resistance of teachers. Over the last 100 years, there have been few changes that look at the role of teachers' relationship with their students, or at altering the role of the teacher and student in the classroom.

Note that it is not suggested here that second order change is any better than first-order change. Here we are merely exploring how change takes place. Whether first-order or second-order change, as Sir Winston Churchill said, "There is nothing wrong with change, if it is in the right direction."

So how does change take place? There are two broad approaches to change; first the psychological approach to change, and secondly the ontological approach to change. We can then consider how first-order and second-order changes can come about based on these ways of effecting change.

PSYCHOLOGICAL APPROACH TO CHANGE

The psychological approach to change helps us to understand why first-order change sticks, and why second-order change generally does not. Any new idea must be assimilated into the beliefs and basic operating principles of those for whom the idea is proposed. Individuals typically go through a developmental set of psychological phases regarding any change. The Concerns Based Adoption Model, for example, identifies seven sequential stages in the adoption of any new idea or change. These are as follows: awareness, informational, personal, management, consequences, collaboration, and refocusing. The key phase is the fourth phase of management, where the individual goes from personal phase of assessing the implications of the change to impliedly accepting the change. For this, the change must fit within the individual's beliefs and perceptions. After this point, the individual is committed to the change. This model reveals that existing beliefs and perceptions are central to determining how an individual interacts with a change. If a change is not consistent with the individual's beliefs, it will be rejected.

These beliefs are organized into paradigms, and it is these paradigms that drive behaviour. Paradigms are systematic sets of beliefs that help us all make sense of the world. These paradigms make it possible to function in the world, but they can also create blind spots in our perceptions. It is these paradigms that form the boundaries or parameters of any possible change initiative. Proposed changes that do not fit within our existing paradigms simply do not succeed. Linguistics, neuroscience, psychology and other fields all point to this. For example, George Lakoff, renowned linguist, writes:

"Neuroscience tells us that each of the concepts we have -- the long-term concepts that structure how we think -- is instantiated in the synapses of the brain... Concepts are not things that can be changed just by someone telling us a fact. We may be presented with facts, but for us to make sense of them, they have to fit what is already in the synapses of the brain. Otherwise, facts go in and then they go right back out. They are not heard, or they are not accepted as facts, or they mystify us: Why would anyone have said that? Then, we label the fact as irrational, crazy, or stupid."

So, this psychological approach to change cautions against bringing round people to one's own point of view or argument, or persuading them to adopt changes that do not fit in with their belief systems. As the history of educational change shows, second-order changes that do not fit in with people's belief systems either fall away and fail completely, or are adapted to fit the existing contours of the classroom. The ingredients change, but the soup remains the same.

ONTOLOGICAL APPROACH TO CHANGE

There is also a second approach to change, one that recognizes that it's possible for individuals to change their beliefs and underlying paradigms. Their paradigms can shift. Change can take place when individuals of a society conclude that their paradigms are no longer useful or effective as tools for interpreting and interacting with existing situations. Existing paradigms can be judged as 'bankrupt' by those living within them. The ontological approach to change views people's paradigms as constructions that dwell in language, and commentators argue it is this quality that makes the ontological approach to change effective. This approach emphasizes providing individuals with an experience or awareness of their existing paradigms as constructed realities, rather than as absolute truth or reality. These experiences provide individuals with the opportunity to experiment with new paradigms that might allow them to be more useful in dealing with current problems. They also allow people to interact with circumstances and events in a manner to facilitate access to second-order change.

So, according to the ontological view of change, changing a set of beliefs usually involves experimenting with new paradigms and a commitment to certain paradigms that are consciously selected. The individual may experiment with new tools/new ways of looking at things, a fundamental dynamic of the creative processes that leads to change. The ontological approach to change reveals that paradigm shifts can result from voluntary commitment rather than from drastic changes in resource variables. Commitment to consciously selected new paradigms, as opposed to paradigms that are culturally or situationally imposed, is at the core of second order change. Without commitment, there is no second order change. People behave in a very different manner before commitment to a new paradigm, and the world appears to them in a new way after the commitment.

What this tells us is that we cannot impose lasting second-order change. Rather, a fertile environment can be provided in which people can become aware of their existing paradigms and belief systems, and explore alternative paradigms. This reminds us of Socratic dialogue, where through questioning the individual gradually discloses the assumptions underlying their system of thinking. This may sometimes involve asking a different kind of question, or reframing the questions surrounding education. It's no use imposing second-order change. Given the role of belief systems in both the psychological and ontological approaches to change, we now briefly investigate the major belief systems in education.

WHAT ARE THE MAJOR BELIEF SYSTEMS IN EDUCATION?

All educational practices are based on belief systems or paradigms. There are two main theories of practice in education, namely instructionism and constructivism. By far the most dominant is the theory of instructionism. Instructionism focuses on direction instruction in the form of carefully planned lessons, and is teacher-centered and teacher controlled. The learning environment is structured, and outcome driven, and essentially non-interactive. The emphasis is more on the teacher than the student. Teachers are seen to be transmitters of objective reality. Instructionism comes from an objectivist world view which considers knowledge to be absolute, and an external reality that is separate from the knower. Instructionism has been the dominant practice in education for at least the last 100-150 years.

Constructivism focuses more on the student. The learning environment is student-centered and student controlled, with the teacher's role more as a facilitator. There may be interaction between the teacher and student, and the learning environment is loosely structured. Constructivists believe that students assimilate information into their pre-existing mental structures, and modify their personal interpretations in the light of their experiences. They encourage real-world and authentic learning environments where learning is relevant to the learner. The focus is more on processes than outcomes. Constructivism comes from a subjectivist world view which considers knowledge to be subjective and inseparable from the knower, and reality to be based on the individual's personal experiences.

The debate between constructivists and instructionists is a polarized one, yet there is research to suggest that neither method may be better in producing effective learning outcomes in students. To bring about effective change in education, it may be instructive to look at some of the core values of each practice.

Practice	Core Value
Instructionism	<ul style="list-style-type: none"> • Acquisition of skills by students • Corrective feedback given by the teacher • Review of material • Promotion of specific learning objectives • Student time spent on the task in hand • Teacher organization • Systematic teaching procedures
Constructivism	<ul style="list-style-type: none"> • Active involvement of students • Importance of student interest and motivation • Importance of student personal satisfaction

If we take constructivism, the core values include the active involvement of students, the importance of student interest and motivation to learning, and the importance of student personal satisfaction to the learning process. Core values of instructionism include the acquisition of skills by students, corrective feedback given by the teacher and the review of material, the promotion of specific learning objectives, the student time spent on the task in hand, and the teacher organization involved and systematic teaching procedures.

Is the polarization into ‘instructionists vs. constructivists’ or ‘mainstream vs. alternative’ helping us in bring about an education that works? Can we look at the value in both teaching practices, and appeal to values that resonate with both belief systems? The research on first-order and second-order change suggests that this could bring about change, without polarizing the education debate into ‘mainstream vs. alternative’ or imposing change on others that does not fit into their belief systems.

CONCLUSION

A review of how change takes place helps to explain the paradox of why so much change has taken place in education over the last 150 years, and yet so little has fundamentally changed in the classroom. The psychological and ontological approaches to change helps reformers understand that teachers teach as they do for a reason based on their belief systems. It can be more helpful to consider why teachers teach as they do, than starting with how teachers should teach. This provides a more solid platform from which to base any change initiative. The perspective of individual teachers and other stakeholders goes a long way to explaining the success or failure of any change initiative. The discussion on the psychological and ontological approaches to change naturally leads us to consider many pertinent questions for any educational change initiative:

Psychological Approach to Change:

While effective communications strategies, tactics and leadership are important in any change initiative, it's not always productive to try to convince people or bring them around to one's own point of view or argument, or to force or persuade them to adopt changes that do not fit in with their belief systems. The history of educational reform shows that such change initiatives tend to fall away or become watered down. Rather, would it not be more effective to consider the following questions:

- What are the belief systems of the relevant stakeholders? How do the proposed changes fit in with the belief systems of the stakeholders? What can be realistically achieved within the scope of these belief systems?
- Will change be more effective if we first consider not how teachers should teach, but rather why they teach as they do, and the belief systems supporting this?
- What are the changes that can be introduced to further an education that works that do fit with their belief systems? Is there any common ground?
- How can the change initiative appeal to stakeholders with different belief systems (e.g., constructivists and instructionists)? What is the common ground?

- What can be done to make such changes simple, easy for stakeholders to try out, observe, and understand their relative advantages and benefits?
- What can be done to support stakeholders as they go through the change process?

Ontological Approach to Change:

People are not forced to change their beliefs. Second-order change cannot be imposed on others. New beliefs are consciously selected, and come about through individuals becoming aware of their beliefs as constructed realities. A second-order change initiative could explore the following questions:

- What belief system do the targeted stakeholders in education subscribe to? How does this influence how they teach? Does the proposed change fit in with the belief system of stakeholders?
- What kind of environment is required for people to explore their belief systems, and see them as constructed realities?
- How can exploration of other paradigms be encouraged? What tools or resources can support such exploration?
- What changes in belief systems outside of schools are necessary for changes to take place in the belief systems of teachers and educators?
- What may be a first-order change for one group of stakeholders may be a second-order change for another (due to differences in belief systems). How can the change initiative be relevant to both audiences?
- Why have previous efforts at second-order change failed? What can be learnt from these failures for the present change initiative?

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