Educational Evolution in relation to Osteopathic Evolution

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Welcome
WE CANNOT SOLVE OUR PROBLEMS WITH THE SAME THINKING WE USED WHEN WE CREATED THEM

-Albert Einstein
Overview

Gameplan
Teaching vs Tutoring, Push vs Pull
Results
Models of learning
From didactics to the clinic
Different therapeutic approaches
Results
Roles of the teacher through the ages
Epilogue: Teacher - Therapist
Workshop game plan

• How does your educational past look like?
• Is there evolution?

• How does your osteopathic therapeutical past look like?
• Is there evolution?
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Your answers highlighted some of:

- Teaching vs tutoring
- Osteopathy as empathy, teaching osteopathy as empathy
Teaching vs tutoring

• What do you prefer?
• What is the difference?
• Is a good teacher per se a good tutor?
• Chaos or order? Safe harbour or great ocean?
Donald Schöen,

• Author of *Educating the Reflective Practitioner* (1987)

• Distinguishes between the **high ground** of lecturing where information is taught (didactically), where knowledge is fact and evidenced, and

• The **swamp** of learning in the workplace where all is confusing, information is grey and experience and craft are driving forces
Some perceived differences

**Lecture**

- Swampy lowland
- Structured
- Boundaried
- Theoretical
- Logical progress
- Coordinated and controllable (ILO’s)
- Progressive
- Objective

**Tutoring**

- Rocky high ground
- Often lacks structure (longitudinally)
- No boundaries
- Practical and goal driven
- Should be logical
- Haphazard, serendipitous
- Progress (educational) not clear
- Subjective
PUSH VS. PULL

MOTIVATION

Push vs pull
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So, there are different teaching styles.

What is the learning effect?
Brooks J., Brooks M. 1993
In Search of Understanding: ‘The Case for Constructivist Classrooms’
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MODELS OF LEARNING

Theories
An osteopathic analogy

1874

1974

Now

Still

Structural

Indirect

Holistic/

Biopsychosocial

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Education Evolution

- Behaviourist (1910-20)
- Cognitive
- Humanist
- Social constructivist (Present)
## Zeitgeist

<table>
<thead>
<tr>
<th>Era</th>
<th>Osteopathic</th>
<th>Who does</th>
<th>Who one respects</th>
<th>Educational</th>
</tr>
</thead>
<tbody>
<tr>
<td>1900</td>
<td>Direct</td>
<td>Have done to</td>
<td>Respect for others</td>
<td>Behaviourist</td>
</tr>
<tr>
<td>Pre war</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post war</td>
<td>Indirect</td>
<td>Doing for oneself</td>
<td>Respect for self</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>Holistic/ Biopsychosocial</td>
<td>Doing for society</td>
<td>Respect for the environment</td>
<td>Social Constructivist /ecologist</td>
</tr>
</tbody>
</table>

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Behaviourist

• Ivan Pavlov
• (1849-1936), Russian physiologist,

• Important contributors:
  • B.F. Skinner,
  • E. L. Thorndike
  • (connectionism),
Behaviorism

KEY ASSUMPTIONS

ASSUMES A LEARNER IS ESSENTIALLY PASSIVE, RESPONDING TO ENVIRONMENTAL STIMULI.

THE LEARNER STARTS OFF AS A CLEAN SLATE (I.E. TABULA RASA) AND BEHAVIOR IS SHAPED THROUGH POSITIVE REINFORCEMENT OR NEGATIVE REINFORCEMENT.
Pavlovian Conditioning
Watch what I can make Pavlov do. As soon as I drool, he'll smile and write in his little book.
Operant or Behavioral conditioning

Term created by Skinner

Is a method of learning that occurs through rewards and punishments for behaviour.

Through operant conditioning, an association is made between a behaviour and a consequence for that behaviour.
Skinner believed that **internal** thoughts and motivations could **not** be **used** to **explain behaviour**. Instead, he suggested, we should look **only** at the **external**, observable causes of human behaviour.

Skinner defined **operant** as any “active behaviour that operates upon the environment to generate consequences” (1953).

Operant conditioning can:

*Increase* behaviour, the promise or possibility of *rewards* causes a repetition of favourable behaviour

*Decrease* behaviour, the use of *punishment* can be used to decrease or prevent undesirable behaviours.
A reinforcer

• There are two kinds of reinforcers:

  • **Positive reinforcers** are favorable events or outcomes that are presented after the behaviour. In situations that reflect positive reinforcement, a response or behaviour is strengthened by the *addition of something*, such as praise or a direct reward.

  • **Negative reinforcers** involve the removal of an unfavourable events or outcomes after the display of a behaviour. In these situations, a response is strengthened by the *removal of something* considered unpleasant.

• In both of these cases of reinforcement, the behaviour *increases*.

• [http://psychology.about.com/od/behavioralpsychology/a/introopcond.htm](http://psychology.about.com/od/behavioralpsychology/a/introopcond.htm)
Punishment

There are two kinds of punishment:

- **Positive punishment**, sometimes referred to as punishment by application, involves the presentation of an unfavourable event or outcome in order to weaken the response it follows (eg. verbal criticism or a slap).

- **Negative punishment**, also known as punishment by removal, occurs when a favorable event or outcome is removed after a behaviour occurs.

Both cause a decrease in the behaviour they follow

http://psychology.about.com/od/behavioralpsychology/a/introopcond.htm
Behaviourists: Used currently

• What the behaviourists gave us:
  · Activity aids learning
  · Repetition and practice aids learning
  · Small steps aid learning
  · Reinforcement aids learning
Does conditioning have a place in teaching?

Reflect on situations and where it has or could be used constructively and then destructively?

Do we possibly use it accidentally?

In what ways can we utilise it beneficially in our teaching?
Education Evolution

Behaviourist 1910-20
Cognitive
Humanist
Social constructivist Present

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The Cognitivism replaced behaviorism in 1960s as the dominant paradigm. Believes that people are not “programmed animals” that merely respond to environmental stimuli (behaviorism); people are rational beings that require active participation in order to learn, and whose actions are a consequence of thinking.
COGNITIVISM USES THE METAPHOR OF THE MIND AS computer: INFORMATION COMES IN, IS BEING PROCESSED, AND LEADS TO CERTAIN OUTCOMES.

WE CAN ASSESS THOSE OUTCOMES
Cognitivists believe we learn by:

- receiving information,
- processing it,
- storing it and
- retrieving it
Feedback is an integral part of cognitive theory.

Processing the information means repeating it, using it, trying a number of formats. Hence giving a piece of information, then getting a class or group to work with it.
Gagne identifies five major categories of learning:

• verbal information,
• intellectual skills,
• cognitive strategies,
• motor skills and
• attitudes.
Gagne suggested that learning tasks for intellectual skills can be organized in a hierarchy according to complexity:

- stimulus recognition,
- response generation,
- procedure following,
- use of terminology,
- discriminations,
- concept formation,
- rule application, and
- problem solving.

Learning hierarchies provide a basis for the sequencing of instruction.
<table>
<thead>
<tr>
<th>Event of Instruction</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gain attention</td>
<td>Stimuli activates receptors</td>
</tr>
<tr>
<td>2. Inform learners of objectives</td>
<td>Creates level of expectation for learning</td>
</tr>
<tr>
<td>3. Stimulate recall of prior learning</td>
<td>Retrieval and activation of short-term memory</td>
</tr>
<tr>
<td>4. Present the content</td>
<td>Selective perception of content</td>
</tr>
<tr>
<td>5. Provide &quot;learning guidance&quot;</td>
<td>Semantic encoding for storage long-term memory</td>
</tr>
<tr>
<td>6. Elicit performance (practice)</td>
<td>Responds to questions to enhance encoding and verification</td>
</tr>
<tr>
<td>7. Provide feedback</td>
<td>Reinforcement and assessment of correct performance</td>
</tr>
<tr>
<td>8. Assess performance</td>
<td>Retrieval and reinforcement of content as final evaluation</td>
</tr>
<tr>
<td>9. Enhance retention and transfer to the job</td>
<td>Retrieval and generalization of learned skill to new situation</td>
</tr>
</tbody>
</table>
What the cognitivists gave us

- Learning comes from understanding
- Understanding comes from working with knowledge
- Organisation and structure of teaching aid learning
- Cognitive feedback aids learning
- Individual differences need to be taken into account
Education Evolution

- Behaviourist: 1910-20
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- Humanist
- Social constructivist: Present
Humanism

Humanism is a paradigm/philosophy/pedagogical approach that believes learning is viewed as a personal act to fulfill one’s potential.

It focuses on the human freedom, dignity, and potential.
Humanism

Key proponents: Abraham Maslow, Carl Rogers, David A. Kolb Benjamin Bloom

Key terms: self-actualization, teacher as facilitator, affect
A central assumption of humanism is that people act with intentionality and values.

This is in contrast to the behaviorist notion of operant conditioning (which argues that all behavior is the result of the application of consequences) and the cognitive psychologist belief that the discovering knowledge or constructing meaning is central to learning.
Humanists also believe that it is necessary to **study the person as a whole**, especially as an individual grows and develops over the lifespan.

A primary purpose of humanism could be described as the **development of self-actualized, autonomous people**.

In humanism, learning is **student centered** and **personalized**, and the educator’s role is that of a facilitator.
Maslow’s Hierarchy of Needs

- Physical survival needs
- Need for safety and security
- Social needs - belonging
- Need for self esteem
- Need for self actualization

Motivation to Satisfy Need

- Challenging Projects. Opportunities for Innovation and Creativity. Learning at a High Level.
- Important Projects, Recognition of Strength, Intelligence, Prestige and Status.
- Acceptance, Group Membership. Association with Successful Team. Love and Affection.
- Water, Food, Sleep, Warmth, Health, Exercise, Sex.

Further reading: ABC of Learning and Teaching – Educational Environment
Bloom’s taxonomy of learning objectives


Often used and identifies three **domains**.

- **cognitive** (knowledge and understanding skills)
- **conative** or psychomotor (practical skills)
- **affective** (feelings, attitudes, ethics)
www1.umn.edu/cic-lt/keynote/CIC_Keynote_Reeves_Nov06.ppt - Tom Reeves What Undergraduates Really Need to Learn: Technology and the Conative Domain
Concrete Experience
Feeling

Active Experimentation
Doing

Processing Continuum
how we do things

Reflective Observation
Watching

Abstract Conceptualisation
Thinking

Creating a new experience

Producing new implications for action

Kolb’s Learning Cycle

Assimilated and distilled
Kolb’s learning styles

Concrete Experience
Feeling

Accommodating
(feel and do)
CE/AE
Work in teams, set targets and complete tasks. Experiment with novel solutions.

Diverging
(feel and watch)
CE/RO
Work in groups, listen with an open mind and to receive personal feedback.

Active Experimentation
Doing

Processing
how we

Active Experimentation
Doing

Converging
(think and do)
AC/AE
Experiment with new ideas, simulate, and to work with practical applications.

Reflective Observation
Watching

Assimilating
(think and watch)
AC/RO
Readings, lectures, exploring analytical models, and having time to think things through.

Abstract Conceptualisation
Thinking

Creating a new experience

Producing new implications for action

Perception Continuum
how we think about things

Continuum
do things

Assimilated and distilled

© concept david kolb, adaptation and design alan chapman 2005-06, based on Kolb’s learning styles, 1984
Not to be sold or published. More free online training resources are at www.businessballs.com. Sole risk with user.
Education Evolution

1910-20

Behaviourist

Cognitive

Humanist

Social constructivist

Present
Social Constructivism

Constructivism is a philosophy of learning founded on the premise that, by reflecting on our experiences, we construct our own understanding of the world we live in.

Each of us generates our own “rules” and “mental models,” which we use to make sense of our experiences.

Learning, therefore, is simply the process of adjusting our mental models to accommodate new experiences.
• A major focus of social constructivism is to uncover the ways in which individuals and groups participate in the **creation of their perceived social reality**.

• It involves looking at the ways **social** phenomena are created, institutionalized, and made into tradition by humans.
There are several guiding principles of constructivism:

- Learning is a **search for meaning**. Therefore, learning must start with the issues around which students are actively trying to construct meaning.

- Meaning requires understanding **wholes** as well as parts. And parts must be understood in the context of wholes. Therefore, the learning process focuses on primary concepts, not isolated facts.

- In order to teach well, we must **understand the mental models that students use** to perceive the world and the assumptions they make to support those models.
The purpose of learning is for an individual to **construct his or her own meaning**, not just memorize the “right” answers and regurgitate someone else’s meaning.
Vygotskian socio-cultural psychology

The overall goal of education according to Vygotsky is to "generate and lead development which is the result of social learning through internalization of culture and social relationships. “

"Psychology Applied to Education
Lev. S. Vygotsky's Approach" Communiquè 25, no. 2 (1997),
Zone of Proximal Development

Skills too difficult for a child to master on his/her own, but that can be done with guidance and encouragement from a knowledgeable person.

What is Known
What is not Known

Learning

Scaffolding is a metaphor to describe and explain the role of adults or more knowledgeable peers in guiding children's learning and development.

The zone of proximal development (ZPD) is commonly referred to as the theoretical underpinnings of scaffolding.

It was introduced by Wood, Bruner and Ross (1976).

Reflective Practice D. Schön

Reflection-in-action is the ability of a practitioner to ‘think on their feet’, (felt-knowing) by connecting with their feelings, emotions and prior experiences to attend to the situation directly.

Reflection-on-action is the idea that after the experience a practitioner analyses their reaction to the situation and explores the reasons around, and the consequences of, their actions. This is usually conducted though a documented reflection of the situation.
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From didactics to clinic

Different approaches in the clinic
The early days in your clinic

• How did you approach the patient?
• Which techniques did you use?
• What type of therapist were you and are you now?
In therapy or in teaching?  
Or both?

Difference in:

physical therapy mp
&
osteopathic mp
Logical

Gary's Weather Forecasting Stone

Condition:
- Stone is Wet
- Stone is Dry
- Shadow on Ground
- White on Top
- Can't See Stone
- Swinging Stone
- Stone Jumping Up & Down
- Stone Gone

Forecast:
- Rain
- Not Raining
- Sunny
- Snowing
- Foggy
- Windy
- Earthquake
- Tornado
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Uniqueness...

Practitioner-centred
Identity strong/distinct, defends traditional theories/principles, biomedical view, emphasises hands-on skills

Collaborative
Identity less defined, critical of traditional theories/principles, biopsychosocial view, emphasises communication skills

Empowerment
Identity less defined, critical of theories/principles, biopsychosocial view, emphasises educational skills

- I don’t need patients to dictate what I do. I didn’t spend all this time training for a patient, who doesn’t understand osteopathy, to tell me how they want me to treat and manipulate their joints. (P1)

- I spend lots of time discussing and explaining what the options are with patients. I’ll say, “this is what I can do to treat this with osteopathy and this is what you can do”. (P7)

- By giving patients choice it treats them as an adult and gives them autonomy...so they are in control. (P6)
...conception of practice

Influencing factors
- Educational experience
- View of health and disease
- Epistemology of practice knowledge
- Theory-practice relationship
- Practitioners’ perceived therapeutic role

Conception of practice
- Technical rationality
- Professional artistry

View of osteopathy
- Practitioner-centred
- Collaborative
- Empowerment

Therapeutic approach
- Treater
  - Body (Low level)
- Communicator
  - Person (Equal level)
- Educator
  - Patient (High level)

Interacting with patient and interpreting cues

Approach to clinical decision-making and level of patient involvement
- Practitioner-led
- Shared
- Patient-led

Level of patient involvement

Therapeutic goal
- Practitioner takes control and responsibility
- Practitioner shares control and guides patient
- Practitioner facilitates learning and control with patient

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So, there are different treatment styles

What is the therapy outcome?
What puts the adverse in ‘adverse events’? Patients’ perceptions of post-treatment experiences in osteopathy – A qualitative study using focus groups (Manual Therapy, Volume 17, Issue 4, August 2012, Pages 305-311)

Patients commonly report effects post/R/, often regarded as adverse events

Study: used 3 group discussions (n=19) to explore patients’ perspectives; 4 emergent themes (and 23 sub-themes). Analysis: to a conceptual model EPOC: Expectations; Personal investment; Osteopathic encounter; Clinical change, under an overarching construct, the ‘global osteopathic experience’.

EPOC has a profound impact on a patient’s post-treatment experiences and their perception of what is adverse: disparity between patient perceptions and clinical definitions of adverse events; awareness by practitioners of this disparity is essential for effective clinical management.
What does the patient ... expects?

• Treatment,
• explanation,
• click ‘no pop, no job’
• Something personal
• ...
Who heals the patient?
The inner physician

Each patient carries his own doctor inside him. They come to us now knowing this truth.

We are at our best when they give the doctor who resides within each patient a chance to go to work.

- Albert Schweitzer
The PS framework
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Roles of the teacher through the ages

In the dark ages: The ‘sage on the stage’

In PBL times: ‘Guide on the side’

‘Buddy with study’

‘Ally on the fly’ (learn together)
Roles of the teacher

• Teacher as decision maker
• Recourses' curator
• Learning opportunities co-creator (learning together)

To be a good teacher means you know all the answers, yes or no?
Yes? No, it’s just the opposite, talk and find the solution together.
Tim Wilkinson (New Zealand)
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Therapist - Teacher
‘we partner with the person to bring them towards their best Full Health as a whole unit of body-mind-spirit.

Releasing the obstructions to health in the least invasive manner - using our hands. An osteopath can work with any person/patient wherever they are in health - any person can benefit. AT

An osteopath is only a human engineer, who should understand all the laws governing his engine and thereby master disease.
"I never teach my pupils, I only provide the conditions in which they can learn."

Albert Einstein
1879-1955

Fascilitator
Student or InnerPhysician?
Brainstorm
Take home

• What did you learn?
• What are you going to practice?
• How will you implement your plan?
• What time frame?
• What reward?

• Yourself
FAIL, NO & END

FAIL = (F)IRST (A)TTEMPT (I)N (L)EARNING

Effort Never Dies

EXT OPPORTUNITY

END