

Vitalism in a New Zealand chiropractic program

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Abstract: Understanding both individual and organisational philosophical drivers in education is crucial. Within chiropractic, there has been great debate on the relevance of the traditional philosophy of vitalism due to the emphasis on evidence-based medicine in healthcare.

The purpose of this study was to critically examine the New Zealand College of Chiropractic undergraduate degree lecturers' perceptions and lived experiences of vitalism and how these are included in a modern curriculum. This research employed qualitative methodology using individual interviews to develop questions for focus groups that used semi-structured open-ended questions framed within a post-structural paradigm.

The results suggest that when defining vitalism these focus group participants utilise a construct of philosophy that is neo-vitalistic in nature. The data confirmed that the historical tension in chiropractic education between vitalistic and mechanistic philosophy is still apparent today. This research suggests that neo-vitalism may provide a bridge to lessen the tension in the education environment; curriculums can coexist with philosophy and evidence-based medicine.

Indexing Terms: chiropractic; education; vitalism; NZCC; philosophy

Introduction

Background

In 1897, the founder of chiropractic, Daniel David Palmer, opened Palmer College of Chiropractic in Davenport, Iowa, and chiropractic education was conceived. [\(link\)](#) Chiropractic institutions rapidly proliferated throughout the United States, and in 1965, the first recognised school outside North America opened in the United Kingdom; Anglo-European College of Chiropractic (AECC, 2017). Today, chiropractic education continues to grow internationally, predominately in private tertiary colleges. (World Federation of Chiropractic, 2013) (WFC) This is reflected in the professional growth which is largest in countries with recognised educational programmes such as New Zealand which in 2021 had 728-registered chiropractors. (New Zealand Chiropractic Board, 2021)

... Neo-vitalism and complex adaptive systems theory may offer a potential common ground. Continued dialogue and exploration from both mechanists and vitalists in the profession will be necessary to facilitate this concord'



In 1994 the *New Zealand College of Chiropractic* (NZCC) was established and received accreditation from the *New Zealand Qualifications Authority* (NZQA) in 1997, and from the *Council on Chiropractic Education Australasia* (CCEA) in 2002. The College has produced over 500 graduates who are eligible to practice worldwide. The NZCC is widely renowned for its vitalistic approach to chiropractic and was recently commended for its ability to teach a vitalistic curriculum with a clear evidence-based approach. (CCEA, 2016) The College is very clear on its philosophical standpoint. *'The philosophy of chiropractic is vitalistic in that it acknowledges the body's ability to self-regulate, coordinate and heal. This philosophy guides our curriculum, strategy, and culture throughout the College.'* (New Zealand College of Chiropractic, 2017, p. about us)

In a 2009 WFC conference on chiropractic education, it was identified that philosophy is an important component of the chiropractic curriculum, it was suggested that it be included in the education of all chiropractors. (WFC, 2009) A contemporary definition of '*curriculum*' comprises an institution's overall student experience; the term has grown to embrace all learning experiences at an educational institution and includes planned, hidden, and taught curriculums (see table 1). A curriculum is both the courses taught and an area of study in and of itself, every curriculum should represent the creators' philosophy and ideals. (Ornstein, 1987)

Underpinning a curriculum is the epistemological basis of its developers and the philosophy that forms its development. (Toohey's, 1997) The hidden curriculum, where the learner is unaware they are learning, is most often driven by teachers, and organisational and cultural subtexts. (Hafferty and O'Donnell, 2014) Those who teach within a curriculum have an impact on the philosophy of that curriculum/ (Margolis, 2001) As a result, it is critical to comprehend the idea behind a programme by understanding the ideologies of those that deliver course content.

Table 1: Types of Curriculums*		
Type/name of the curriculum	Description	Reference
Official or planned	That written in formal documents	Toohey's 1997
Stated or formal	The curriculum that is the concern of the disciplines' specific accreditation bodies and that is stated in curriculum documents	Fraser & Bosanquet 2006
Taught	That which is expressed by the teacher by the teacher in the classroom environment	Prideaux 2003
Learnt	Is what the student learns	Barnett & Coates 2005
Assessed	Within which students are formally evaluated; testing occurs according to the stated and intended outcomes	Hafferty & O'Donnell 2014
Hidden	All that is taught and not written in the official documents including content and unknown undercurrents	Margolis (2001)
*Editor note: The plural of curriculum may be either curricular or curriculums. The author chose the latter		

Philosophical viewpoints

Vitalism was the philosophy on which chiropractic as a profession was founded in the nineteenth century and is the main historical philosophy of chiropractic education. (Richards, Emmanuel, & Grace, 2016; Senzon 2010) Vitalism is traditionally defined as the theory that *'the origin and phenomena of life are dependent on a force or principle distinct from purely chemical or physical forces.'* (Oxford University Press, 2015, p. vitalism) Vitalism implies that living organisms are essentially different from non-living things, in that the phenomena of life involve a force or energy in addition to, and distinct from, the physical or chemical. (Wheeler, 1939; Bechtel & Richardson, 1998) A contemporary 'neo-vitalism' has been described as *'... a recognition and respect for the inherent, self-organizing, self-maintaining, self-healing abilities of every individual'*. (Life Source Octagon, 2009, p. 137) These are in contrast to mechanism, which proposes that life can be explained by physical and chemical components alone. (Callender, 2007)

The roots of vitalism are in the philosophy of biological science. (Senzon, 2003) Vitalism was popular until the late nineteenth century and continued to have advocates in the biology world until the mid-twentieth century. Since the middle of the last century, the tensions between these two groups of thought have created many debates in biological sciences and health sciences. (Callender, 2007)

This divide permeates throughout the chiropractic profession with some proposing that vitalism is a hindrance to the acceptance of the progression of the profession in mainstream healthcare. (Simpson & Young, 2020) Koch (1996) acknowledges the necessity of both mechanism and vitalism, positing that there are physical, chemical, and mechanical components of life that empiricists can measure. In chiropractic education, this tension may be visible at the student coalface where the philosophy driving a curriculum may be a crucial factor in making decisions about which institution to apply for.

Philosophy in education

Philosophy is included in many education courses. Educators are asked to unpack the epistemology and ontology behind their thinking processes. Budding educators are asked to examine the way they think about teaching to uncover assumptions and become critical educators. This is not as prevalent in first degrees for other professions, especially Western health professions, which are assumed to have an empiricist or positivist viewpoint. (Villanueva, 2005) The rise of evidence-based medicine (Goldenberg, 2005) has had the strongest influence on most Western healthcare professions, although vitalism continues to influence and be the main philosophical basis of alternative therapies and Eastern medicine.

Foundational chiropractic concepts are based on a vitalistic philosophy that centres on the art and science of correcting vertebral subluxations, defined as *'a self-perpetuating, central segmental motor control problem that involves a joint, such as a vertebral motion segment, that is not moving appropriately, resulting in ongoing maladaptive neural plastic changes that interfere with the central nervous system's ability to self-regulate, self-organize, adapt, repair and heal'*. (The Rubicon Group, 2017, p. policies)

Whilst research within chiropractic continues to grow, there remains a paucity of research on education, curriculum and its design. A literature review by Mrozek (2006) found seven articles had been written on curriculum design or review; one was on the design of a new degree programme and the other six concerned the development of a single course within existing degrees.

The purpose of the research which informs this paper was to investigate the ways that experienced chiropractic educators at the NZCC, implement vitalism in a philosophically-based chiropractic curriculum. This could also serve to offer pragmatic advice within the NZCC and provide a more cohesive approach to teaching vitalistic chiropractic in an evidence-based healthcare environment.

Methodology

Researcher positioning

Qualitative research seeks to understand the meaning people have constructed, qualitative approaches, and the positioning of the researcher. (Malterud, 2001; Sutton & Austin, 2015) The lens used for this research is based on pragmatism and post-structuralism. Pragmatism is traditionally a post-positive paradigm but is not exclusive to this paradigm. (Giddings & Grant, 2007) Post-structuralism acknowledges the unconscious forces that constrain or govern our behaviour and seeks to deconstruct discourse to uncover deeper, hidden meanings. (Peters & Burbules, 2004) To minimise the impact of the primary author's positionality on the analytic process, four criteria (see table 2) creditability, transferability, dependability, and confirmability were used to increase the trustworthiness of the data. (Lincoln & Guba, 1985)

Table 2: Methods used to reduce author positionality	
Method	How it was applied in this research
Credibility	The primary researcher re-visited the data multiple times
	Member checking was used for the accuracy of transcripts
Transferability	The methodology is described for other institutions for replication within their curriculum.
Dependability	Data gathering was repeated through the four individual interviews to inform the focus group questions
	Data gathering was repeated through the use of two focus groups
Confirmability	The use of verbatim quotes in the findings
	Participant review of the transcripts before data analysis

Sampling and Recruitment

This research was conducted in 2017 with academic staff (lecturers) teaching into the NZCC undergraduate degree. Faculty were invited to be a part of the project and given clear guidelines on the time commitment (30 minutes). Interviews and focus groups (FGs) were conducted onsite by an independent third party to minimise participants feeling obligated to be part of the project if they were uninterested. Participants were given opportunities to tell their stories through narrative and discussion.

Semi-structured interviews

Individual semi-structured interviews were conducted with four senior management members whose teaching experience ranged from 3-20 years.

Focus Groups

Two faculty FGs were held, audio-recorded, and transcribed verbatim. To provide a non-threatening space for the non-chiropractor faculty to voice their opinion on a chiropractic-focused subject, one FG was exclusively made up of non-chiropractor faculty (n=3). These FG members were basic science lecturers and included medical doctors and those who held a PhD. The second FG consisted solely of chiropractors (n=15).

Data collection

Interviews were voice-recorded and notes were taken, lasting approximately 30 minutes. To ensure participant privacy, transcriptions were de-identified. Interviews were based on key, open-ended questions intended to gain a description of each participant's conceptions of vitalism in the

curriculum. Interviews were reviewed, and from these, questions were developed and clarified for the FGs (see table 3).

Table 3: Interview questions for focus groups
Focus group interview prompts
What is your understanding of vitalism?
Do you include vitalism in your courses? Please explain. (All or just some of your courses? Every lecture / some lectures / one lecture?)
How is vitalism expressed in your delivery? (Directly or indirectly? Please explain, what phrasing is used?)
How is vitalism expressed in your assessment? (Directly or indirectly? Please explain)
What areas of the curriculum (if any) do you believe vitalism cannot be included?

The FGs had a duration of 20 and 35-minutes. Each FG was asked the same basic questions in the same order, reducing interviewer effects and bias. (Cohen, Manion, & Morrison, 2013)

Data Analysis

Focus groups

The analysis began with iterative readings of the transcripts where variations in responses helped to construct preliminary categories of description. Over two weeks, the transcripts were re-read with the categories revised until there was '*a decreasing rate of change*'. (Marton, 1986, p. 42) Whilst categorisation was primarily the responsibility of the primary researcher, to assist with the large amount of data, the computer-assisted programme, NVivo, was used to assist with coding and further categorisation.

Document review

The curriculum, policy, and strategy documents of the NZCC were analysed thematically. Themes included terms related to vitalism and curriculum, and additional keywords and phrases were included after a semiotic analysis (Manning, 1994) of the interview and FG data.

Findings

Background of the focus group participants

At the time of data collection, participants had been teaching for between 2 and 40 years, with some holding management positions as well as teaching positions. Most held a chiropractic degree from various institutions from around the world. Qualifications range from professional Bachelor's degrees to PhDs, and most have or were in the process of obtaining a certificate in tertiary teaching. Some also had degrees in the basic sciences or business.

Questions

A summary of the overall findings of the data can be found in table 4: In the data analysis that follows, emerging themes will be exemplified through the use of indicative FG quotes. Context clarifications are noted in square brackets.

Table 4: Focus group data themes and findings		
Question	Themes	Overall finding
1	Traditional vitalism defined	Neo-vitalism used more
	Driven by the cultural ethos	
	Neo-vitalism definition popular	
	Concepts of holism	
2	Vitalism is: a. framed at the beginning of each course b. referred throughout the course	Vitalism included in some manner by all faculty
	Embedding of vitalism throughout the curriculum	
3	Vitalism expressed in numerous ways to differing degrees	Vitalism is delivered throughout the programme where possible
	Vitalism concept expansion through yearly student progression	
	Challenge of mechanistic material to view with a vitalistic focus.	
4	Vitalism assessment: a. Occurs in a concrete manner b. Occurs abstractly for the vitalistic concept being imparted c. Does not always occur	Vitalism is assessed directly where possible
		Greater clarity is needed as to how vitalism can be indirectly assessed in the programme
5	Vitalism inclusion throughout the curriculum	Vitalism can be included to some extent in all areas of the curriculum
	Challenge to include in mechanistic courses	

Focus Groups

1: Understanding of Vitalism

Participants expressed their understanding of vitalism in its more traditional definition. They further explained how a vitalistic understanding works for them given how the body works:

- ▶ Vitalism is the force behind life. It brings all the physical and mental forces together, not just in the human form, but in all life.
- ▶ Vitalism, in the more formal sense, is an acknowledgement that life's processes are made up not just of physical, chemical, or physical reactions and purposes alone. There is another non-physical force at work.
- ▶ Vitalism is more than just each individual system, and while you can break all those individual systems down into smaller and smaller parts and reduce them to their constituent bits and pieces, vitalism looks at the function of them all together in synergy.

A more prominent theme emerged, which encompassed that of neo-vitalism. Both FGs expressed the utilisation of a neo-vitalistic definition rather than an older vitalistic definition. Interestingly, some participants considered vitalism to exist on a continuum and not a mutually exclusive dichotomy. It was acknowledged that the neo-vitalism definition could be more suited to an academic environment:

- ▶ I tend to think more about neo-vitalism, with neo-vitalism being more about the body's ability to self-regulate, self-coordinate, adapt and heal.

- ▶ The body has an innate ability to self-coordinate, self-heal and self-regulate itself.
- ▶ Neo-vitalism is really the stance that we take in education at the New Zealand College of Chiropractic; it is more an acknowledgement that living systems are self-regulating, self-coordinating, and ultimately self-healing.

Another concept that arose during the FGs and interviews was holism. Holism refers to the theory that the whole organism functions at a higher level when it functions as a whole, rather than just the functions of the individual parts of the organism summed:

- ▶ It is almost like the butterfly effect – change one little thing and then it affects the whole system.
- ▶ Yes, the whole is more than the sum of the parts.

Comments on holism and the application of vitalism on larger scales were brought up several times. Additionally, participants expressed a more complex and overriding view of vitalism; consistent with a transition from vitalism to a complex systems theory or complex adaptive theory:

- ▶ The vitalistic understanding can apply on a larger scale too; to the earth, to other living beings, and to the universe.

2: Course inclusion of vitalism

In both FGs, the majority of participants felt that they included vitalism in their course. In the chiropractor FG there were two differing responses. When probed, differences in the timing of the inclusion of vitalism become apparent. Some framed vitalism at the beginning of the course, infrequently, or when the opportunity arose:

- ▶ So usually, at the very beginning of each of these papers, I emphasise the fact that we care as chiropractors, and we are dealing with an intelligent system that has a self-regulating, self-healing power.
- ▶ I incorporate it as frequently as possible. It may not be in every lecture, but the concepts relating to how the body is designed to heal itself generally come up at some point.
- ▶ You are not going to do it every lecture. It's a one-off, you know, you get that approach to it.
- ▶ Some lectures I would include it in. Some lectures I find it more difficult to include vitalism than others, so I include it where I can, where I know it's appropriate.

Another trend was the view that vitalism was embedded in the entire curriculum. In several responses, the participants indicated that vitalism was included in the whole course and embedded into the curriculum:

- ▶ There is a vitalistic theory overlaying the top of it, or a vitalistic lens that you look through.

I think vitalism could be a mindset, really. You can still learn things that are mechanistic but have a vitalistic approach to it.

Some participants viewed vitalism as an educational philosophy as well as a health philosophy and use it as a guiding principle to organise their lectures. Participants acknowledged that the vibe of vitalism in the College was driven by the leadership team:

- ▶ Vitalism is a thing you can teach, but it is also a way of delivering your teaching or a way of organising something or allowing something to be organised within itself.
- ▶ It's part of our curriculum; it is an envelope around the institution.

3: Vitalism delivery

Concerning how vitalism was expressed in the delivery of their courses, it was indicated to be either generally, frequently, openly, or generally discussed whilst in others in a less apparent fashion, or a combination thereof:

- ▶ Well, in some courses we directly talk about vitalism and vitalistic principles, and 100%, we have that frank discussion and say this is where science fits into this model.
- ▶ I think we express vitalism indirectly as frequently as possible; it's intertwined within the content of the curriculum.
- ▶ I am implying that the body's clever at doing what it's doing and I may not say that it's vitalism so probably both directly and indirectly. So, maybe in the lectures that I'm saying I am using vitalism, that's where I'm using it directly, but probably in my other lectures I am not actually saying it, but I'm doing it indirectly.
- ▶ So, in all my papers I embed it.

A theme emerged of the development of vitalism concepts being expressed in the delivery of the programme through each year's progression. Relating to specific course delivery, the chiropractic FG participants indicated that vitalism was often discussed in the patient management portion of their courses:

- ▶ I guess we're giving them a base of very didactic learning and then trying to put it into understanding via experiential learning [clinical portions of the programme] in a vitalistic environment. In fact, you can see that transition in the brain when we get to third or fourth year.
- ▶ You can't teach [vitalism] when you're first introducing those concepts. Like the technique courses, you need to introduce the processes, but then later in the programme we can start teaching more vitalism.
- ▶ Our teaching is probably more mechanistic in the first two years of the programme, but then as we go through years three and four we start to... we call on more of that vitalistic process. So, it kind of evolves.

The faculty teaching the clinical courses seemed to separate the content more than those that teach the professional practice courses, who in turn also separated vitalism content more so than basic science lecturers. Some chiropractic FG participants expressed difficulty in including vitalism in their course delivery. Some participants expressed difficulty in knowing how to approach teaching a diagnostic tool or process with a vitalistic focus:

- ▶ I think when we're going through the diagnosis portion that's mechanistic, but when it comes to managing the patient, you're coming [from] a vitalistic point of view. Then looking at it from a vitalistic point of view as patient management, there is no one size fits all.
- ▶ I find it hard to include vitalism [in] my course; learning how to diagnose is a bit mechanistic.
- ▶ Taking the blood pressure. How do we approach that vitalistically?
- ▶ It's a mechanistic process, so how do you make that vitalistic?

4: Vitalism Assessment

A range of vitalism being taught directly and indirectly was expressed in both FGs:

- ▶ We directly ask them about the vitalistic principles in multiple-choice and written examination, and also, we get them to debate concepts from more of a mechanistic or more of a vitalistic point of view.
- ▶ It would be more indirect. So, we'd ask them to explain how they might communicate with the patient with the expectation that they'll include neo-vitalism in it.

Some participants questioned whether vitalism should be directly assessed in their courses. Participants that included vitalism in their courses were not always aware of how vitalism was included in different areas of the curriculum, and in some circumstances, participants perceived it to be too difficult:

- Vitalism would be expressed in the assessment, where we try to get students to relate research to their patients with the chiropractic perspective of the way the research may relate to self-regulating, adapting, healing, self-coordinating. So, it's about communication and it's also about if we ask them to describe subluxation models, or how chiropractic works
- I think most of us expect to see some vitalism coming through in those presentations [In class presentations; group or individual], regardless of what the course actually is.
- It's probably not included in my assessments as my questions are all sort of black and white so I'm probably not assessing vitalism in my assessment at this point.

5: Curriculum exclusion of vitalism

Both FGs indicated that vitalism can be included to some extent in all areas of the curriculum. This could either be embedded in the curriculum, taught directly, or used to frame student thinking:

- I think you can embed vitalistic principles into all parts of our curriculum, even in business.
- Vitalism could be included in all subjects. It would maybe depend on how it was taught.
- Because the courses are all about the body and how they work, and the reason we're using chiropractic is to facilitate the body's ability to express itself better, so they should be able to include it in every aspect of the curriculum.
- I suppose it's almost a centrist type of learning. You're trying to work around that continuum and say yes, we need to include vitalism in everything, and we do, but we also need to include mechanism because that is physically what we're operating with.

Some chiropractic FG indicated that they believe that the basic science teachers would find it harder to incorporate vitalism:

- I think in most areas of the curriculum it can be included, but possibly with a twist. If you take something like the basic sciences, it's more of a challenge.
- There are some topics within the curriculum that would be very, very difficult, like the pathology-related courses, in those classes either addressing it or assessing [the students] in any capacity I think it would be very hard to address vitalism.
- It would be slightly difficult to include it in anatomy. Probably the practical things like radiography and maybe anatomy, but in everything else you probably could.

However, in actuality these non-chiropractic FG participants indicated that when appropriate, they use it regularly in the classroom, to indicate that the body is self-organising and self-regulating. This non-chiropractor FG also indicated that vitalism could be included throughout the programme:

- The more I'm learning about it, the more I think that it can be included everywhere in the curriculum.
- It should be able to because the courses are all about the body and how they work, and the reason we're using chiropractic is to facilitate the body's ability to express itself better, which is all part of vitalism, so [faculty] they should be able to include it in every aspect of the curriculum.

Document review

The NZCC curriculum, strategy documents, and website were analysed thematically to uncover where the College suggests the inclusion of vitalism in the curriculum. Themes included terms

related to vitalism and curriculum, and additional keywords or phrases were included after semiotic analysis (Manning, 1994) of the FG interviews. These words included:

- ▶ vitalism
- ▶ vitalistic
- ▶ neo-vitalism
- ▶ chiropractic philosophy
- ▶ philosophically congruent, and
- ▶ vertebral subluxation.

Table 5 describes where vitalism appeared in the institution's website and strategic plan documents.

Table 5: NZCC documentation references to Vitalism: Exemplars		
Document Type:	Location in documentation:	
Strategic plan	Strategic Objective: teaching and learning section:	Body of document/ General
	To integrate vitalistic principles in all teaching and learning. (New Zealand College of Chiropractic, 2016, p4)	This includes further integration of vitalistic principles and frameworks that guide the practical work completed by student interns. (New Zealand College of Chiropractic, 2016, p7)
	To have a state-of-the-art Chiropractic Centre that integrates our vitalistic curriculum. (New Zealand College of Chiropractic, 2016, p4)	To refine further the staff orientation programme to promote the culture and a clear understanding of the College's chiropractic philosophy. (New Zealand College of Chiropractic, 2016, p17)
Website	The philosophy of chiropractic is vitalistic in that it acknowledges the body's ability to self-regulate, coordinate and heal. This philosophy guides our curriculum, strategy, and culture throughout the College (New Zealand College of Chiropractic, 2017).	
	The philosophy of chiropractic emphasises the body's inherent tendency towards health and overall wellbeing (New Zealand College of Chiropractic, 2017).	

Course outlines

All 59-course outlines of the curriculum were examined for inclusion of vitalism or vitalistic principles. Using the identified keywords above, the learning outcomes, synopses, and weekly content lists of each course outline were evaluated. The keywords were identified 39 times in 27 separate course outlines as follows:

- ▶ Learning outcomes: 16 occurrences
- ▶ synopsis: 8 occurrences
- ▶ weekly content lists 15 occurrences

These findings suggest that course outlines contribute to the inclusion of vitalistic concepts in the curriculum, however, may not account for the widespread use of vitalism by all lecturers as indicated by the FGs.

Discussion

The findings of the FG and semiotic analysis of college documentation, suggest that most faculty members, from both chiropractor and non-chiropractor FGs, predominately understand vitalism in a neo-vitalistic paradigm. They define vitalism as a body that is capable of self-organising, self-regulating, and self-healing. This confirms recent research suggesting that within the profession, neovitalism is becoming the predominant definition of vitalism in chiropractic. (Richards, 2016)

At the NZCC vitalism is included across the curriculum as seen in the document review and FG interviews. In summary, table 6 highlights both the document review and FG findings as to how the concept of vitalism is imparted, albeit to differing degrees.

Table 6: Methods by which NZCC lecturers impart vitalism in their courses	
Overarching method	Course example
Setting the scene	In introductory classes, students were asked to consider the self-organising, self-regulating, and self-healing properties of the body as a guiding principle
Part of the overt curriculum	Written in the course outlines of classes such as chiropractic philosophy
	Vitalism is defined, and the historical influence of vitalism on the profession is presented and discussed
Regularly mentioned in course delivery	Used to give context to many parts of the course topics or as a discrete topic when the opportunity arises.
	Vitalism contrasted with other approaches
Embedded in course delivery	Is the basis for decision-making and is reflected in assessment e.g. technique application courses
An underlying educational philosophy	Guides the management of the classroom and the assessment of learning

The FG findings highlighted a gap where the concepts of vitalism could be further assessed both directly and indirectly. This could be an opportunity to enrich the programme and include faculty development and training.

In some areas of the curriculum, it is not appropriate to talk about vitalism directly. Whilst a vitalistic point of view may affect the focus of the delivery, it could be too contrived to include it in the content of an assessment. There are however many places where in assessments an expected answer needs to include acknowledgement of the self-healing, self-organising, and self-regulating nature of the human body, and/or the role of the nervous system in this process. Perhaps greater faculty awareness to simply acknowledge and consider vitalism in their course assessment (in the same way in which they consider evidence-based answers) may be all that is needed?

Confidence in being able to bring together both mechanistic and vitalistic parts of the curriculum, or to explain something viewed as mechanistic from a vitalistic lens, was variable. This may also be an area to develop and further train faculty, where faculty could be set up with mentors, who have a deeper understanding of neo-vitalism, to help them develop appropriate links to neo-vitalism within their subject area.

When considering vitalistic assessment in the chiropractic FG, a challenge was identified in how to assess student vitalistic thinking versus assessing vitalism as a topic. The participants indicated that they felt the mechanistic assessment was very black and white, where small components of content were examined separately. In contrast, the vitalistic assessment was considered amorphous, with

multiple correct answers being possible; the student's ability to justify their point was paramount. The FG indicated that there was an increase in vitalistic assessing as the student progressed into the clinical portion of the programme. This aligns with both NZCC documentation and a potential underlying expectation or culture for NZCC lecturers to be able to guide students to include both evidence-based and philosophical considerations in both assessments of, and actual patient management.

Does what we do match what we say?

The FGs uncovered that within the curriculum the course outlines contribute to the inclusion of vitalistic concepts. Vitalism is widely mentioned even when it is not stated in the course outlines. Concerning the assessment of vitalism, the course outlines were consistent with the FG findings where only 16 of the 39-occurrences of vitalistic assessment were apparent in the learning outcomes. Assessment is based on the learning outcomes, thus if vitalism is absent from these, the concept cannot be directly assessed.

In the future, it could be recommended to encourage more use of neo-vitalism in the courses, that could be included in the course outline synopsis through programme committees. A review of these documents by relevant deans and heads of departments may help lecturers consider where vitalistic viewpoints can be included. The balance between our philosophical base and the evidence base in chiropractic needs to be more clearly explained within the course documents.

In high-level overarching documents such as the college website and strategic plan, the use of vitalism is apparent. These documents may likely have an impact on the culture and environment in which the lecturers work, creating a context in which vitalistic content is encouraged.

Mechanism and Vitalism

The chiropractor FG suggests that mechanism and vitalism may exist on a continuum (see figure 1), suggesting that the same content can be both mechanistic and vitalistic. The group also suggested that very mechanistic content cannot be vitalistic. However, an alternative way of thinking about this is that all content can be looked at through a different lens (see figure 2). Vitalism or mechanism become the points of view from which all content can be looked at; they provide a different philosophical stance.

Figure 1: A continuum; vitalism to mechanism

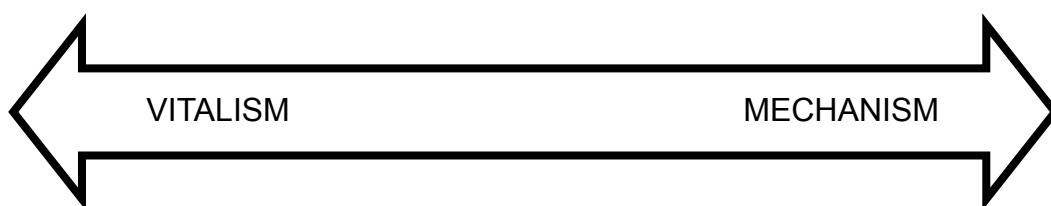
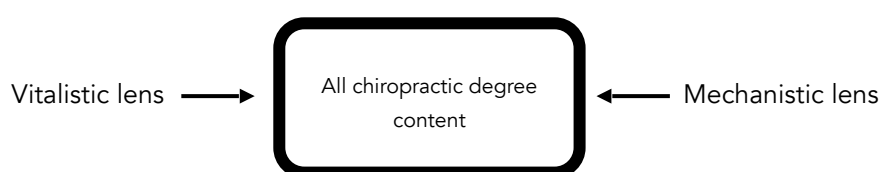


Figure 2: A model of the influence of philosophy on curriculum content



Potentially, it is not what any institution teaches, but rather how it teaches it. Another way to think about mechanism and vitalism is that these two philosophies are not in opposition; both can operate in the same environment. As Koch (1996) suggests, for a fully functioning healthcare system, we need both systems working together; where both systems can fulfil separate but important roles in the healthcare system.

Rather than viewing the two viewpoints as incompatible, the best solution for modern healthcare is for these duelling philosophies to co-exist and work together to solve healthcare issues. (Richards, 2016) Science and vitalism can co-exist in one curriculum; such as seen by the data derived from this study. Surely as professionals, we can agree that there is validity in both points of view and that we have much to offer each other, if only we could find that common ground?

Common ground

In recent decades, some researchers have endeavoured to find a place where the two groups can meet in the middle or find agreement. (Koch, 1996; Nelson et al., 2005; Richards, 2016) Nelson et al (2005) highlights a distinction between '*classical vitalism*' and a '*modern vitalism*' that can be accommodated by conventional biomedical science exemplified by the healing power of nature considered to be indisputable and useful and valid as a guiding clinical principle.

Another possible place of commonality could be borrowed from complex systems theory (CST). Callender (2007) explains that there are multiple connections between neo-vitalistic principles and CST. In the 1950s, Von Bertalanffy started biologists on a path to a new biology-based on CST, which was considered a replacement for the mechanism/vitalism clash by accepting that life was more than mechanical, but that the organising intelligence was not separate from the body. (Callender, 2007)

The scientific framework of CST explains how rules govern emergence, and the constraints mediating self-organisation and system dynamics. (Kaiser & Madey, 2009) Biologists who completely reject old vitalism, where the force was added from the outside, welcome the idea in CST and neo-vitalism that there is some kind of organisation that is distinctive to the living thing; an internal self-organising principle.

Senzon (2003) suggests that if CST were taught in chiropractic curricula, it could allow scientists and chiropractors to mutually benefit from a common understanding. Perhaps the chiropractic profession is better served to use alternatives such as neo-vitalism and CST to potentially better explain its principles to collaborate in science to offer a way forward?

Limitations

The primary researcher strived to maintain an open mind free from their institutional knowledge and experience, however, such knowledge could create unintended bias in data interpretation. Additionally, potential limitations related to ethical boundaries due to the managerial power relationship between the primary author and the participants are possible, however, this was somewhat mitigated by the use of a third-party interviewer. The third-party interviewer's lack of knowledge of vitalism may have limited potential lines of enquiry in the FGs, although this interviewer was chosen as having had some chiropractic experience as a patient and was also an experienced educator and interviewer.

Insider research can present challenges insofar that faculty may have felt pressure to comment according to a perceived expected narrative, rather than representing one's independent thoughts. This may have been minimised through the use of an independent third party. The transcripts appeared to have multiple voices, and low attendance was not reported by the independent third-party interviewer. During the FG discussions, there were several mentions of the courses that individuals teach. These were removed so that the participants cannot be identified. In doing so, there may be an occasional loss of context for the quotes.

As with most case studies, the sample size was small, hence these FGs may not be representative of NZCC faculty. As with all qualitative research, and especially case studies, a lack of generalisability

is another limitation. Strong opposition to vitalism is missing from the findings, but may well be found in other institutions.

The single-site case study method chosen may create an inherent bias due to the NZCC's vitalistic reputation which could impact the type of person attracted to teaching at this institution and influence hiring policies.

Further focus and future research

From the research undertaken, it was apparent that faculty (chiropractor or non-chiropractor) could gain from learning about how each other brings vitalism into the classroom. Future studies could seek the student's voices and measure their understanding of contemporary vitalism in a chiropractic curriculum.

Further research could be conducted in other chiropractic institutions to include a broader sample. A study such as this could be replicated in other colleges so those teaching institutions can have a greater understanding of the current use of vitalism in the curriculum as well as provide insight into the practice of its lecturers.

Any institution wanting to embed its philosophy into the curriculum could use this research and incorporate it into its own to develop a strategy on how to embed its philosophy into the culture of the institution. Alternatively, this research could be used to help develop a programme further. Bland (2000), Lyon (2014), and McLeod (2015) suggest that the philosophy and values of the profession and institution must contribute to any curriculum review process. Lyon, Nadershahi, Nattestad, Kachalia and Hammer (2014), in writing about curriculum review in dentistry, suggest that the first step to developing a curriculum is reaching philosophical agreement; this must occur before even considering what needs to be reviewed, and how.

Conclusion

The purpose of this research was to describe how a vitalistic philosophy is included in modern chiropractic education at the NZCC through the use of faculty FGs and semiotic analysis of College documentation. The intention was to give voice to faculty beliefs, understandings, and practices relating to vitalism's place in the curriculum.

The FGs were unanimous in their definition of contemporary vitalism but had varied ways in which vitalism was delivered in their classrooms. On a small scale, vitalistic themes of self-organisation were mentioned in introductory lectures. Comparatively, on a broader scale, vitalism was embedded in every lecture. Most of the FG participants claimed to include vitalism in some manner in their courses.

The findings of this research show that the FG participants in almost every course primarily used a neo-vitalistic philosophy to set the 'big picture' to frame the content delivered. They describe the vitalism they teach in the curriculum as a recognition of the self-healing, self-regulating and self-organising ability of the body. The data showed that neo-vitalism is embedded in almost every classroom environment; it is used in the clinical programme to select management plans for the patient, and in the decision-making process during each patient visit.

From an assessment perspective, only a few FG participants indicated they assess vitalism directly. Other participants indicated that vitalism may be indirectly included in their assessment, especially those teaching patient management classes.

At times, it was clear that the faculty were not aware of how their colleagues included vitalism in their delivery, thus opportunities for sharing practice in this area could be created. Analysis of the course outline documents revealed vitalistic content was apparent 39-times in the learning outcomes, synopses, or lecture topic lists of 27-courses. The faculty's indication that they directly assess vitalism in their courses was consistent with the number of courses that use vitalism in the learning outcomes from the course descriptors.

The document review was consistent with the FG responses. The data uncovered that there was congruency between NZCC documentation and culture, where vitalism was truly represented at the institution as part of the culture, rather than being restricted to a curriculum item.

The inclusion of vitalism in the strategic plan and website matched the comments made by faculty that there is a vitalistic culture or 'vibe'. There is a widespread embedded culture of contemporary vitalism at the NZCC which seems to have contributed to the inclusion of neo-vitalistic principles being more widespread than the course outline documentation would first suggest.

Neo-vitalism and complex adaptive systems theory may offer a potential common ground. Continued dialogue and exploration from both mechanists and vitalists in the profession will be necessary to facilitate this concord.

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