

The Learning Ultimatum: Why facilitated learning is vital for nurturing authentic-agape, uplifting, indelible, future-intelligent leaders who collaborate meaningfully and innovate purposefully.

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The Learning Ultimatum: Why facilitated learning is vital for nurturing authentic-agape, uplifting, indelible, future-intelligent leaders who collaborate meaningfully and innovate purposefully.

ABSTRACT

The subject of innovation management continues to gain momentum, and its importance in the context of advances in Artificial Intelligence, has never been more prominent.

This paper explores the roots of innovation, which can be traced back to our individual and collective education experience. Peter Senge's presentation to a delegation of 500 schoolteachers (Senge 2019) suggests that we all went to the same school, referring to the industrial age driven education system, where we were treated in a 'machine-like' manner. Using the analogy of a conveyor belt, Senge questions why we all start at age 5 and continue for up to 13 years, all being taught (not learning) the same facts, in the same way, at the same pace.

We will explore Senge's comments in more depth to assess the extent of systemic impact caused by 'learning facts by rote,' based upon extrinsic control (reward or punishment), as opposed to intrinsic motivation derived from enquiry and facilitated learning.

This paper considers the interconnectedness of Learning, Leadership, Collaboration, and Innovation. It explores leadership authenticity and learning as fundamental antecedents to catalysing meaningful collaborative working practices which both enable and drive purposeful innovation.

The paper follows a pathway which examines industrial age driven educational culture in schools, businesses, and other organisations with the aim of discovering the seeds of change that 'authentic-agape-leadership' (AAL) could propagate.

The thesis can be summarised as follows:

1. Our education system has the potential to enhance collaborative behaviour by focusing on purpose-driven, facilitative, and peer-to-peer learning exemplified in (Hargreaves, Boyle et al. 2014b).
2. Facilitative and peer-to-peer learning-enabling education is an antecedent for developing leadership skills including collaborative team-working which recognises the value of peers with different views, approaches, and perspectives.
3. The paper introduces the term Authentic-Agape-Leadership (AAL), to focus on the positive side of authenticity, demonstrating love and holding fast to what is good.
4. The democratisation of Artificial Intelligence with its potential for good and bad societal outcomes, accentuates the urgent need for future intelligent AAL highlighted by (Landesz, Tamás 2018) and (The How Institute, Seidman 2022)
5. Developing AAL and collaborative teamworking is essential for creating an environment which is most conducive to fostering innovation and leading in a culture of change.
6. The humanistic soft skills, the timeless threads in the innovation tapestry, which are considered throughout this thesis, mediate the level of purposeful innovation which organisations, across multiple sectors, can achieve.

1.00 Introduction

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1.01 Dissertation Route-map

What began as a well-defined linear plan, following a pathway from educational learning as a platform for developing AAL, enabling meaningful and deep collaboration, creating an ideal environment for innovation, has revealed a high level of interdependencies between these four topics.

Research via ethnography and selected books written by experts in the fields of business performance, systems thinking, education, learning, collaboration, and innovation, has created a far less linear picture. The interdependencies and interconnectedness of each 'stepping stone' results in a more ecosystemic model, driven by AAL which practises Systems Thinking.

Tracing back to our common experience of primary school education, we can quickly identify with the following account included in (Rogers 1983c).

Dr Julie Ann Allender was a trainer of teachers who would use a training exercise that required trainees to close their eyes and imagine that they were entering their respective primary schools at the beginning of a school day. The trainees were asked to:

- Spend 10 minutes picturing their classrooms including the layout of the desks.
- The position of the teacher's desk
- What was on the walls.
- The atmosphere of the classroom

This exercise was used with 195 students and after completing their imaginary journeys back to childhood, the students were invited to share their recollections. Invariably except for one student, the layouts of the classrooms were all regimented in single or double rows of desks, never moved, and some nailed to the floor.

The next question was to explore how these classrooms affected learning. Students were asked to brainstorm or throw out words that came to mind on a board under the category of words that describe learning. The left side of the board was for positive comments and the right side for negative. Invariably the right side of the board filled up quickly with very few positive comments recorded.

The negative comments related to discipline, behaviour, punishment, hidden agenda items, grades, tests, etc. - nothing to do with learning! The positive side included escaping school, holidays, lunch, and meeting friends – again, nothing to do with learning!

On reflection for most of these 195 students, their experience of school included 'fear, failure, humiliation, resentment and constriction.' The content of the courses never came up in their memories. The open question which is posed by many of the authors referred to in this paper was (Rogers 1983c): "Why do we as a community, continue to insist on a school experience that damages, when a proven alternative exists."

This paper explores the calls from many quarters, over many decades, and even centuries in the case of John Amos Comenius (Sadler 2024) for significant educational reform.

What if:

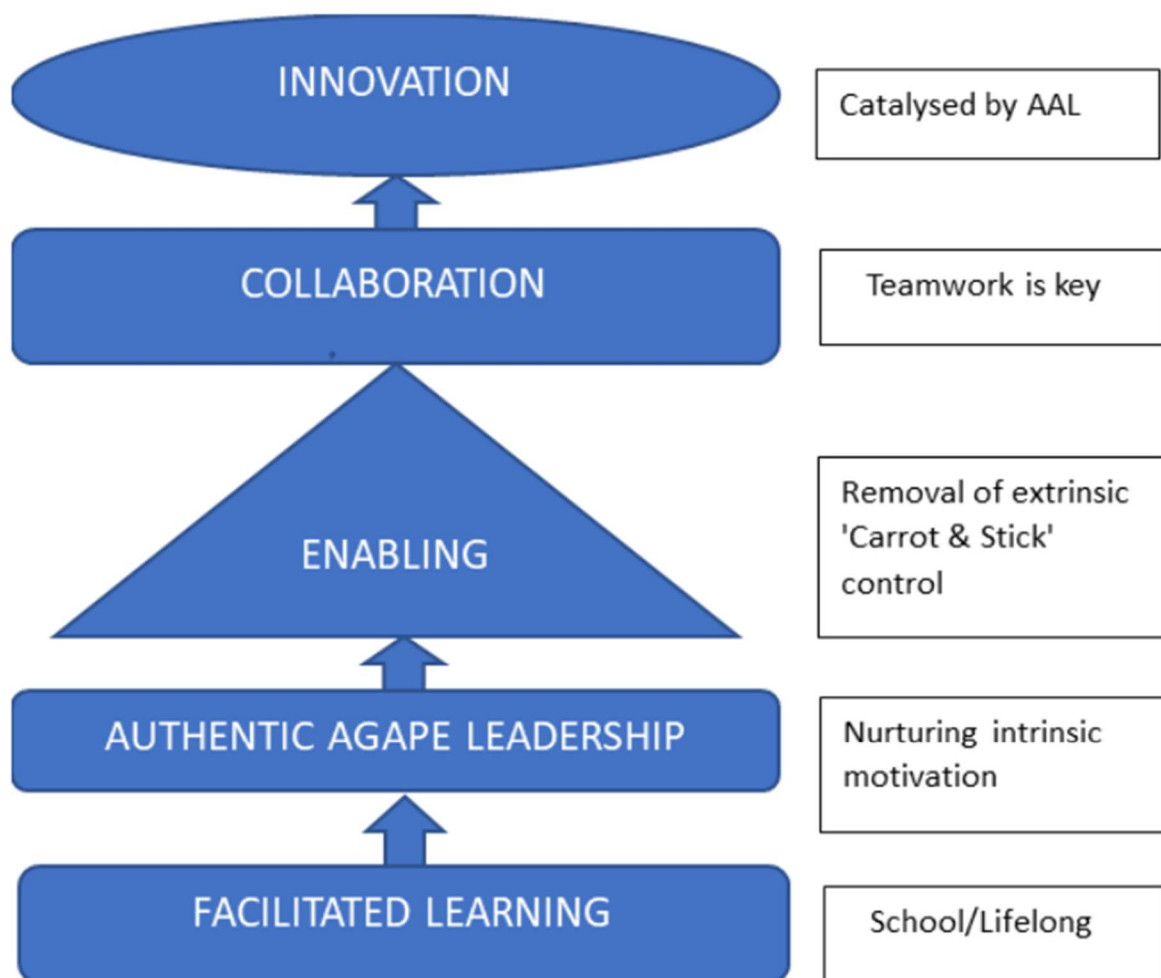
Primary school became a place where children:

- Recognise and appreciate their differences.
- Are released from classification by grades and test scores.
- Learn together through enquiry and discovery.
- Learn patience, tolerance, and the foundations of collaboration.
- Begin to understand the value of teams that help each other to learn.
- Can avoid being placed on a conveyor belt and treated in a machine-like manner.
- Appreciate diversity and different learning styles and preferences.
- Experience an environment of psychological safety, love, and trust.

It is not a big 'leap of faith' to see how meaningful learning, leadership, collaboration, and creativity would flourish in these conditions.

However, understanding that most of us will have memories of primary school that mirror those of Dr Allender's trainees, how can we address the learning gap which comes from our experience of *Ancient Learning Theory* (Wilson 2021d) and our resulting mental models.

1.02 Diagram of Dissertation Route-map



Source - Author

1.03 Mental Models

Our mental models are the unseen and unspoken assumptions (Senge 2006c) that form the basis of our patterns of thinking, our quick-thinking reactions to people, situations, or things we see, hear, touch, feel, and taste.

These mental models, our paradigms, have been formed from infancy through our experiences of family, education, friendships, crucible moments including conflict, relationship breakdown and abuse. Each one of us, is unique, with our own mental models, created by our individual backstories which develop the patterns of thoughts, feelings, and reactions we each experience.

Stephen Covey and Peter Senge both advocate challenging our mental models in a manner that exposes these unseen assumptions to self-reflection. Another term used for this process is mindfulness.

Understanding ourselves, challenging reactionary thinking and reflecting on why and how we have developed our unique thought patterns, forms the platform for deeper personal development, as opposed to forced, quick-fix, positive-thinking, crack-covering wallpaper.

Dr W Edwards Deming was a deep thinker, able to challenge macro-scale mental models. Deming's approach to quality management had an astounding impact in helping to rebuild post-war Japan, then belatedly his work was recognised in North America, and eventually worldwide. Deming made an indelible mark on many leaders and his legacy continues through the Deming Institute. According to Peter Senge, Deming was the first person to recognise that schools and businesses were identically exposed to inappropriate industrial age management practices (Senge 2006a).

Deming gave his withering, emotionally charged, verdict on 'Industrial Age Management' as a cover note to Peter Senge's book, *The Fifth Discipline* where he wrote:

"Our prevailing system of management has destroyed our people. People are born with intrinsic motivation, self-respect, dignity, curiosity to learn, joy in learning. The forces of destruction begin with toddlers—a prize for the best Halloween costume, grades in school, gold stars—and on up through the university. On the job, people, teams, and divisions are ranked, reward for the top, punishment for the bottom. Management by Objectives, quotas, incentive pay, business plans, put together separately, division by division, cause further loss, unknown and unknowable." (Senge 2006a)

Why is education of vital importance for developing leaders for the knowledge age?

According to Stephen Covey, in his contribution to the book title 'The Leader of the Future 2' (Hesselbein, Goldsmith 2006a), what Deming identified as industrial age management practices are not suitable for the knowledge age. Covey's whole person perspective provides important insights for twenty-first century leadership.

Knowledge Age Leaders:

- See the potential in others, supporting, encouraging, and equipping them to be the best they can be.
- Entrust others with responsibility, enabling them with scope to be creative.
- Affirm others uniting, inspiring, and motivating them in pursuing a shared vision.

1.04 Learning through love and trust

The review of selected literature, YouTube videos (presented by some of the authors of selected books), and websites, has been a fascinating and sometimes emotional learning experience. The agape love (Systems Analysis Laboratory 2014), AAL (Academy for Systems Change 1999), humility, empathy, and honesty of these authors/presenters has been and continues to be deeply engaging and inspiring.

Carl Rogers, in his book 'Freedom to Learn for the 80s' shares many stories about meaningful learning, one of which is summarised as follows (Rogers 1983b):

- Alvin White (an unusual teacher of mathematics) recounted his inspiring story about a shared experience with a multi-disciplinary team of M.I.T students.
- The M.I.T. Division for Study and Research in Education offered Alvin a visiting professorship together with an invitation to lead a seminar of his choice for the 1976 spring term.
- This presented an opportunity to consider questions common to all disciplines, which were therefore rarely studied at all.
- Alvin proposed a series of questions about the acquisition of knowledge, the limits of certainty, and the relationship between general and scientific knowledge.
- 12 students were scheduled to meet twice a week from 9.00 to 10.30 AM.
- Discussions quickly extended until noon with everyone cancelling other appointments to attend.
- The group reported on, considered, and discussed the writings of various authors in search of answers.
- Students invited their professors to join the group.
- Visitors would ask permission to attend.
- One student felt that the seminars' appeal to visitors was that 'openness, honest listening, and caring for each other were evident.
- All contributions were received in a non-judgmental manner.
- No one was forced to speak.
- The final question considered was – Our present knowledge in the arts, humanities, and sciences is the legacy of creative imagination. How can this legacy influence education at all levels?

During the last week of term, time was set aside to discuss and evaluate the seminar and why it was so successful. The transformation of a multi-disciplinary group of students, a visiting professor, other professors, and external visitors had all found the seminars compellingly appealing.

One student commented that this was the first course where her presence in the room had made a difference. This sentiment resonates with the words of Stephen Covey where leaders enable others to find their voice (Hesselbein, Goldsmith 2006a).

Reflecting on the seminar, Alvin White pondered over why the seminar had been so satisfying and what could be learned from the shared experience. An unexpected answer emerged, which came from one of the students in a moment of insight, was: Love and Trust (Rogers 1983b).

1.05 Research Approach

The interconnectedness of learning, leading, collaborating and innovating has been the subject of ethnographic research in a local foodbank. The value of this research has been to experience the relationship between these four elements in a manner that reflects the literature selected for review and inclusion in this paper.

A learning organisation, according to (Senge 2006b) (1) adopts Systems Thinking; (2) encourages Personal Mastery; (3) challenges its Mental Models; (4) builds Shared Vision and (5) promotes Team Learning.

Whilst there is scope for improvement, the local foodbank is improving its organisational learning capabilities and ethnography has confirmed how the five disciplines are collectively practised by its trustees, staff, and volunteers.

1.06 Literature Review

The approach to researching the relationship between education/learning, leadership, collaborative working practices, and purposeful innovation encompasses a broad cross-sectoral literature review including seminal book titles, together with a selection of peer reviewed journals, some insightful TED Talks, YouTube presentations and other web-based articles.

The congruency of the principles and findings from different sectors is both significant and enlightening and by distilling and synthesising the key findings this paper aims to suggest vital ingredients for deepening our understanding of what enables and drives innovation.

Deeper work, advocated by Michael Fullan and Cal Newport, has been undertaken in discovering the essential interconnectedness of the 4 elements in the 'timeless-threads-of-innovation' tapestry...and there is scope to go much deeper!

Using the UWTSD online library the search terms applied returned the results shown in the following table:

Search Terms Applied	In Title	Anywhere in record:	In Subject
'Authentic Leadership' and 'Collaboration' and 'Innovation' and 'Education'	0	68	2
'Authentic Leadership' and 'Collaboration' and 'Innovation'	0	112	3

After conducting a review of the 68 journals from the narrower search including the four interconnected topics under consideration, it became clear that tracing innovation back to education and learning, via collaborative practices catalysed by authentic-agape, uplifting, indelible and future-intelligent leadership has been the subject of very few papers.

In the absence of many relevant PRJs matching the search criteria, a wider search on agape leadership yielded some valuable results, and when combined with consideration of authentic leadership traits, conveys a leadership style which this paper refers to as Authentic Agape Leadership (AAL).

The research subject therefore necessarily involved examining several seminal books covering the 4 research elements, which opened some fascinating insights into similarities between industrial age education and business management practices.

The selected book titles, foundational to this thesis, are listed in Appendix 7

2.00 ETHNOGRAPHIC RESEARCH – the operations of a local foodbank

2.01 Introduction

The following observations are based on ethnographic research undertaken by the author over a period of 3 years, within the context of a local foodbank, during which time some significant ecosystemic changes occurred.

The experiential observations and findings were derived from regular involvement in the activities of a well-established Trussell Trust Foodbank franchise.

During the research period 'The Trussell Trust' expanded its vision and mission statement to read "Our vision is for a UK without the need for food banks." (TT Strategic Plan 2024). The accompanying 5-year strategic plan explained how TT would work towards realising its vision and purpose.

The rationale for beginning this paper with ethnographic research is that it brings to life many of the principles and findings of leading authors in the deeply interconnected fields of business, education, leadership, collaboration, and innovation.

2.02 Researcher role, duration, and scope

Volunteering includes several responsibilities and duties, the most important being to ensure that all clients are treated with unconditional dignity and respect, and welcomed into a friendly environment where they feel supported, heard, and understood.

Volunteers are trained in Safeguarding, H&S, and each centre has staff trained in administering First Aid.

2.03 Initial core service provision – Emergency Food Parcels

Clients are greeted by a reception team who sensitively record their details and then invited to enjoy some free refreshments in a cafe area whilst waiting for their emergency food parcels to be prepared.

Although this service provision is helpful in the short-term, there is always a sense amongst volunteers, of it being like applying a 'sticking plaster' to a deep wound or papering over the underlying societal cracks that are now appearing all too often.

2.04 Collaboration with other local church and community groups (Community Inclusion)

The foodbank has been supporting the local community for more than 12 years, having grown from a handful of volunteers in one village to a network of 6 centres across the local region with circa 100 volunteers and 3 full-time (equivalent) staff.

Working closely with several churches and community groups has attracted a diverse group of volunteers, united in delivering the TT mission strategy. A culture of mutual respect and appreciation continues to deepen, and volunteers are becoming a source of leadership and inspiration as they sense client needs, considering what further help could be delivered.

The growth of the foodbank's activities required commensurate increases both in the number and skillsets of the trustees. A deliberate strategy was implemented to recruit trustees from outside the founding church group.

Wider representation in trusteeship has worked well, also serving to attract more volunteers. This inclusive culture has been reciprocated by other churches, both in terms of hosting foodbank activities, and volunteering to join the trustees.

Trustees meet at least quarterly, and leaders from each centre are invited to take part, to enhance communication and share innovative ideas.

2.05 Attracting volunteers to a community centric project (Social Inclusion)

Volunteer recruitment is driven by the conviction that helping in the foodbank centre enables them to make a meaningful contribution to the local community and being part of an interdependent team, gives each person a genuine sense of purpose (Fullan 2016d).

There is also a perceivable sense of expectation that positive systemic change can be affected by the combined services which are now available together with those that will come on stream soon.

2.06 Expanding core service to include benefit advice (Financial Inclusion)

A pivotal point arose when, in alignment with TT strategy, the foodbank received funding to employ a part-time benefit advisor. The rationale for this strategic move was that IF clients were able to access the benefits they were entitled to, then they would, in many cases, no longer need to rely on foodbank parcels to meet their basic needs.

Sadly, many clients who are entitled to PIP (Personal Independence Payment) support have their claims rejected by DWP (Department of Work and Pensions). Remarkably when appeals are made, approximately 7 in 10 are won by the claimant, and furthermore these appeal decisions are based on the same information originally submitted (Disability Rights 2022).

Clients who are struggling with mental health issues often feel helpless and in need of advocacy to access the support they deserve, which is precisely what the capable, compassionate, and inspirational benefit advisor provides.

For confidentiality, we will confer the name Hope to our benefit advisor, which is in keeping with the hope she injects into the lives of foodbank clients who reach out for her support. Hope successfully applied for (or appealed and won) claims amounting to more than £320,000

of annual benefit entitlement in the third quarter of 2023, transforming the circumstances of many individuals and families.

2.07 Expanding core service to include digital inclusion training (Digital Inclusion)

This success story is inspirational for the team of volunteers which extends to more than 30 people in the local foodbank centre.

Given the national roll-out of 'Universal Credit' which requires claimants to open an online account, computer illiteracy will become a severe problem.

Leading from the edge of our ecosystem of support services, Hope enlisted the support of Grace (*name also conferred*) and applied for grant funding to buy smartphones and tablets. Grace then enrolled for a training program to become a computer trainer and is now able to provide support for Universal Credit claimants.

Perceiving, seeing, acting, and addressing this issue was not a part of Grace's volunteering role. Neither was it expected of Grace, a key volunteer, to spend time training to become a competent computer skills trainer!

2.08 Collaborative partnership with local Housing Support Officer (Strategic Partnering)

A more recent development is the involvement of Faith (*name conferred*), a Housing Support Officer who attends foodbank each week helping to address housing or tenancy issues that may surface during Hope's work with foodbank clients.

The positive, synergistic impact of different support services working in concert has become increasingly clear, encouraging the team to explore further collaboration.

In this context the 'Social Services' ecosystem could be considered from the perspective of Public Finance, Health and (potentially) Education. System awareness poses many questions including:

- *What impact does food poverty have on someone's mental health?*
- *What are the implications for a family when a parent suffers from depression connected to food poverty?*
- *What effect does this have on the children in the family?*
- *What impact might this have on the children's education?*
- *What impact might this have on the children's mental health?*
- *What pressure might this place on Social Services?*
- *What therefore might be the aggregate cost resulting from DWP's rejection of eligible claims for PIP? (remember 70% of appeals result in claimants receiving money)*

2.09 What we do not know – Important systemic questions requiring Authentic, Indelible, Uplifting, and Future intelligent leadership.

Reverting to the level of benefit claims that are turned down by DWP poses several questions about unknown figures.

One of the most impactful quality management consultants of the twentieth century was Dr W Edwards Deming. Deming helped Toyota to lead the world in product quality and reliability and his picture sits alongside only 2 others in Toyota's HQ, being those of the founder of the company and the chair (Andre 2023).

Deming encouraged managers to consider the numbers they could not measure or know! Why? Because systems can be hugely complex, and insightful managers should consider factors that are not available from typical internal production metrics. According to (Senge 2006a) Deming said "You can only measure 3 percent of what matters".

What does this mean for our interest in the systemic impact of DWP benefit-claim decisions?

Here are some questions we cannot answer precisely but nevertheless must be considered because the answers will be determined by unknown and unmeasurable outcomes that are interconnected with DWP decisions:

1. How many claims are never made because potential claimants are dissuaded from applying based upon friends or relatives whose applications for benefit have already been rejected?
2. How many of these non-claimants fall into unsustainable debt?
3. What is the consequential impact upon the mental health of these people?
4. Who is telling their story in a way that can be heard?
5. What impact would this sorry situation have on children and other family members?

The key point for consideration is **systemic impact** beyond a decision to reject a benefit claim. The same principle can be applied to innovation outcomes which are mediated by authentic-agape, indelible, uplifting and future-intelligent leaders.

The question would then be how much innovation does not happen due to a dearth of facilitative learning, AAL, and meaningful collaboration?

Authentic-agape, uplifting, indelible, future-intelligent leaders are not restricted by their position or title and are often followed by others who are senior to them in terms of hierarchical structure within an organisation (Tineke Wulffers 2017e).

2.10 Outcomes - example of combined service impact for one client

If anyone has any doubts about the impact of storytelling, the recent ITV Drama about the plight of Post Office Masters and some unreliable software may help to appreciate its transformative power! (Forrest, Mitchell 2024)

Here is a real Food Bank story, one which has interconnected systemic outcomes, and clearly illustrates how significant value can be created, delivered, and captured when joined-up support services gather around a client in need.

(The names used are not real to respect individuals' confidentiality)

2.11 From Deprivation to Dignity: Noah's Journey with Hope

Noah's story is not solely about overcoming vulnerability; it is a testament to the resilient spirit and the transformative power of collaborative support.

Trapped in a cycle of isolation and hardship, Noah found himself rehoused by the council in a difficult and deprived neighbourhood. Past abuse and health issues weighed heavily on him, isolating him further and dimming his hope for a brighter future.

Then, a beacon of light emerged. His journey took a different turn when he crossed paths with the local foodbank. Seeing not just another client, but a man in need of more than an emergency food parcel, the staff recognised the depth of his struggle.

Hope, a benefit advisor, and one of the foodbank's unwavering advocates had the opportunity to meet Noah and listen to his story. With empathy and determination, she became Noah's champion, navigating bureaucracy and advocating for his safety and well-being.

Hope actively sought out support from the local council housing department (relating to erroneous demands for rent arrears), social services, a police community support officer (PCSO), the local health centre (Noah's GP), and DWP in connection with an application for PIP (Personal Independence Payment) which was subsequently granted.

Social connections developed as Noah engaged with the foodbank staff and the support network around him. This sense of belonging and community chipped away at the loneliness that had weighed him down, replacing it with hope and motivation.

Hope's advocacy helped and empowered Noah to take control of his situation. He was no longer adrift in a sea of paperwork and bureaucracy; he had a champion in his corner. This regained agency boosted his confidence and self-esteem, laying the foundation for further positive changes.

Finally, with access to healthcare, financial stability, and a haven, Noah's future looked brighter than it had in years. This optimism became a powerful motivator, propelling him to invest in his health and rebuild his life on a foundation of dignity and self-belief.

Noah's story is a poignant reminder that the ripple effect of compassion and collaboration can extend far beyond immediate needs. While the scars of the past may remain, Noah's journey illuminates the profound impact of providing not just a hand up, but a chance to reclaim one's life and rebuild a future filled with hope and dignity.

2.12 Developing links with other support agencies (Ecosystemic Inclusion)

The synergistic gains realised and experienced through collaboration have generated inspiration for applying this learning to explore how a foodbank can make a greater positive impact within the 'social services ecosystem.'

One suggestion, currently under consideration, is to recruit a social services support co-ordinator whose role would include:

- Developing, in collaboration with the Local Authority, a database of all specialist support service providers within the region
- Contacting each of these providers to set up effective communication channels and learn about their respective visions, missions, and strategies.
- Arrange inter-service seminars and events to enhance collaboration and shared purpose.
- Encourage storytelling, always ensuring that client confidentiality is paramount, to share inspirational outcomes, thereby encouraging participation in a growing social service ecosystem.
- Exploring partnership opportunities with Local Authority social services, which in the context of significant cuts in public expenditure, are coming under severe pressure and in danger of implosion.

2.13 Secondary Benefits - Mental health improvement (Systemic gain)

Noah's story serves to highlight what marginalisation means for an individual or family. Vulnerable individuals need holistic support, delivered by authentic leaders, wherever they may be within hierarchical structures.

Noah's mental health and sense of well-being have improved immeasurably. What might be the immeasurable unknown systemic benefit of Noah's improved mental and physical health? The answer must be, to a rational thinking person, that there will be a positive societal benefit comprising, but not limited to the following elements:

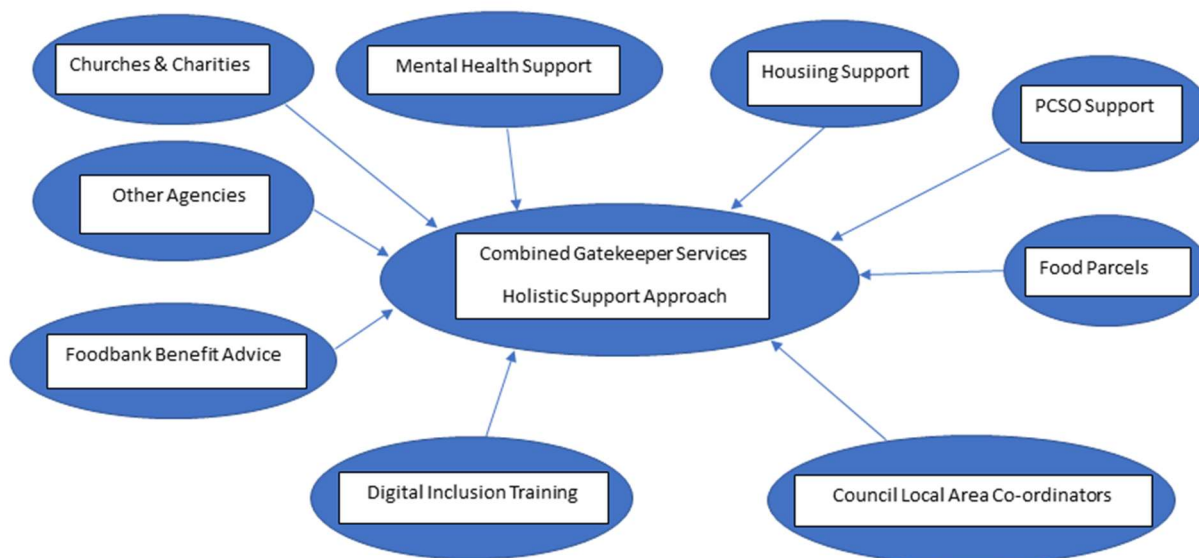
1. Less pressure on social services
2. Less pressure on mental health team
3. Less pressure on NHS
4. Noah has the potential to become a leader with a clear voice, based upon his personal story and life-learning experiences.
5. The potential impact that Noah can have by signposting other marginalised people to a Foodbank centre where hope is provided.

Industrial Age driven management culture looks to control, measure and reward (or punish) people. But as (Hesselbein, Goldsmith 2006a) explains we are not things that can be managed, we are people with hearts, minds, bodies, and spirits.

As Covey points out in (Hesselbein, Goldsmith 2006a), unless these realities are understood, and we experience 'Knowledge Age Leadership,' we will never be motivated to fulfil our potential as learners, leaders, collaborators, or innovators, irrespective of the organisations in which we work.

The expansion of collaborative partnerships will embrace the mental health teams across the region, to explore how we can develop an integrated approach to helping more people like Noah. The aim is that every service provider becomes a gateway for clients to access a more holistic solution.

2.14 FOODBANK OPERATIONS DIAGRAM



Foodbank Combined Service offering at time of writing this paper - Synergistic impact is evident in case study outcomes (see Appendix 3)

Source: Author

2.15 'Changes almost always start in an organisation close to the front lines' (The New Human Movement 2023)

(Madrazo, Senge 2011) emphasises the importance of leaders who build communities of collaboration and co-inspiration, who are not in positions of formal authority. This aligns with Senge's broader ideas about systems thinking, which encourages an understanding of interconnectedness and the ripple effects of actions within complex systems. It is precisely this reality that has been seen in Hope and Faith working powerfully together to help foodbank clients.

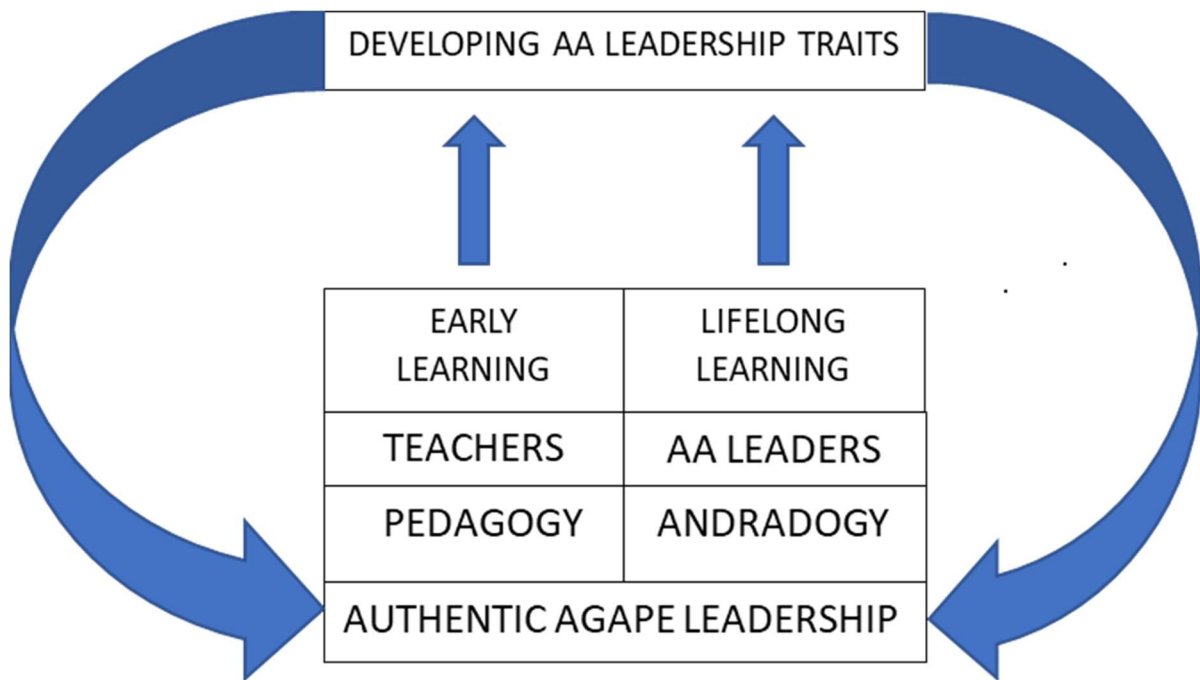
He argues that attempting to directly alter the core of a system, often composed of deeply ingrained structures and power dynamics, can be ineffective. Instead, focusing on fostering innovation and experimentation at the periphery, where individuals and smaller groups have more autonomy, can gradually create enough momentum to influence and redefine the entire system over time.

2.16 Feedback for positive change - 'feed and be fed by the system' (Fullan 2016d)

Conversational interviews with foodbank volunteers provide convincing evidence about the learning, leading, collaborating, and innovating culture which is being nurtured within the inclusive foodbank service ecosystem.

Capturing more stories like Noah's will be important in feeding memorable and inspiring outcomes back into 'the system.' In this way immeasurable benefits will begin to accrue through the collaborative efforts of multiple service providers.

DIAGRAM CONNECTING LEADERSHIP WITH LEARNING



Source: Author

3.00 EDUCATION & LEARNING

3.01 Voices Calling for Change.

Storytelling, quotes, and testimonies can be both powerful and memorable. Over the past six decades, stories and testimonies have been told and written which communicate a consistent and compelling call for educational reform.

Beginning in the 1960's (Freire 2017a) described the prevailing education system as 'an act of depositing, in which the students are the depositories, and the teacher is the depositor. Instead of communicating, the teacher issues communiques and makes deposits which the students patiently receive, memorize, and repeat.'

'In the banking concept of education, knowledge is a gift bestowed by those who consider themselves to be knowledgeable upon those whom they consider knowing nothing. Projecting an absolute ignorance onto others, a characteristic of the ideology of oppression, negates education and knowledge as a process of enquiry' (Freire 2017a).

Because banking education begins with a false understanding of men and women as objects, it cannot promote the development of what Fromm calls "biophilia" but instead produces its opposite "necrophilia."

Freire quoting Fromm, continues:

'While life is characterized by growth in a structured, functional manner, the necrophilous person loves all that does not grow, all that is mechanical. The necrophilous person is driven by the desire to transform the organic into the inorganic, to approach life mechanically, as if all living persons were things...Memory rather than experience; having, rather than being, is what counts. The necrophilous person can relate to an object - a flower or a person - only if he possesses it; hence a threat to his possession is a threat to himself; if he loses possession, he loses contact with the world...He loves control, and in the act of controlling he kills life.' (Freire 2017c)

Freire then posits that the banking concept of education transforms students into receiving objects, attempting to control their thinking and action, leading them to conform to the world, inhibiting their creative power.

This paper aims to go to the root of innovation, positing that its key antecedent is meaningful learning, which happens in a collaborative environment.

This requires a paradigm-shift in pedagogy in schools and in andragogy for adult learners. The cries of the ages for pedagogical change can be traced back to John Amos Comenius, described as 'a visionary reformer of schools.

"In 1631 he published 'Janua Linguarum Reserata'" (Gate of Tongues Unlocked), a Latin textbook that was radically different from the standard methods of the time. He replaced a focus on rote learning of Latin literary texts with a focus on phrases connected with everyday experience and arranged in a way that combined practicality, moral purpose and humour." (Smith 2017a)

In (Smith 2017b) Comenius said: "Too much learning is from books that offer a distant substitute for reality. Too many teachers set themselves up as guides while lacking their own inner store of wisdom. Too much teaching is the violent imposition on students of content that will not actually contribute to their flourishing".

These sentiments are echoed in the stark observations of Paulo Freire on twentieth-century education, supported by Carl Rogers in his book 'Freedom to Learn for the 80's'.

The Deming Institute, the legacy of Dr W Edwards Deming, has developed Deming's core principles and applied them to education. David Langford, a teacher and now a passionate advocate of Deming's approach to systems thinking, was one of the pioneers of applying Deming's principles for quality improvement into the classroom. These principles were not business techniques or formulae for quick fix solutions, they were a new way of approaching systems improvement.

Instead of blaming pupils for high dropout rates, poor test scores and grades, David Langford (Langford 2024) knew that something radical had to change in his school's performance. Having heard of Deming's thoughts in the context of changing education, he decided to contact him directly. Deming graciously invited Langford to attend his seminars without charge. Why?

Going Upstream

(Academy for Systems Change 1999) recounts "Deming said We'd have to go upstream - it's totally inadequate to concentrate our efforts on the corporate world because the corporate world is downstream from the more formative processes which are upstream. The last several years of his life he said again-and-again, and this was what was so frustrating to him,that really, if we don't start to focus on reinventing the processes of Education, there's no hope, and you know that, and I know that, We have to go upstream!"

In his book titled 'Indelible Leadership' Michael Fullan challenges the status quo in education by considering the fundamentals of a learning organisation and making insightful observations about the effectiveness of current teaching methods (Fullan 2016d).

Fullan's observations are consistent with those made by Peter Senge in his book titled 'The Fifth Discipline' which focuses on learning organisations and highlights the powerful learning capabilities of teams working together.

Much of what has been written about learning, in the context of education, over the past six decades, surrounds the ability of pupils to learn through enquiry and discovery.

In the book 'Uplifting Leadership', Singapore's education system was singled out for both its notable success and deliberate change of direction to pursue a policy of 'Teach Less, Learn More.' (Hargreaves, Boyle et al. 2014b)

So why did Singapore MOE (Ministry of Education) embrace 'the adjacent possible'? It was performing well according to the international academic metrics, so why change? Singapore

was on a higher rung of the ladder, the envy of other nations, but was the ladder up against the wrong wall?

It was time to change the position of the ladder and place it against the wall of learning, purposeful, collaborative, pupil-engaging, empathy-nurturing education, far removed from Freire's banking analogy.

While 'the-best-in-the-West' attempted to catch up with (what was now) the-least-in-the-East, Singapore changed its policy direction. A brief glance at the Singapore MOE website reveals much of what unfolds throughout this paper.

3.02 Shaping Future Citizens: A Look at Singapore's Educational Vision

A review of the Singapore Ministry of Education (MOE) website reveals a clear roadmap for education, meticulously crafted to prepare tomorrow's citizens for a dynamic and demanding world. Three key pillars – 21st Century Competencies, Desired Outcomes, and Educational Technology Journey – paint a clear picture of this vision.

First, the 21st Century Competencies '21CC' (MOE Singapore 2023a) framework delineates the essential skills and dispositions students need to navigate the complexities of the 21st century. It transcends academic prowess, emphasising social-emotional skills like critical thinking, communication, and collaboration. Students are empowered to become independent learners, problem solvers, and responsible citizens who value both innovation and empathy.

Next, the Desired Outcomes (MOE Singapore 2023b) set concrete expectations for student development at various stages of their educational journey. At the end of secondary school, students are envisioned to develop moral integrity, adaptability, and a collaborative spirit. By the time they complete post-secondary education, they are expected to be critical thinkers, innovative entrepreneurs, and lifelong learners, driven by a sense of purpose and a commitment to their community and the world.

Finally, the Educational Technology Journey (MOE Singapore 2023c) highlights how technology is harnessed to empower and equip students for success. It goes beyond digital literacy, focusing on personalised learning, blended learning environments, and the responsible use of technology to deepen understanding, spark creativity, and foster collaboration. Singapore's emphasis on technology integration ensures graduates are prepared to thrive in a digital world.

These three pillars interlace beautifully. The 21CC framework supplies the tools, the Desired Outcomes define the goals, and the Educational Technology Journey facilitates the path. Together, they create a robust educational ecosystem that aims to cultivate adaptable, innovative, and responsible citizens – individuals who can succeed in a rapidly changing world and contribute meaningfully to it.

This glimpse into the Singapore MOE website reveals a comprehensive and forward-thinking approach to education. It is a model worth exploring and adapting, with valuable lessons for educational systems worldwide who aspire to prepare their students for the exciting, yet

uncertain, future that awaits. It therefore reflects the views of Young Global Leaders in (Landesz, T., Varghese et al. 2023b) summarising the required traits of future leaders.

3.03 Pedagogical Transformation - The Cries of the Ages

The cries for positive change in education, have been both consistent and increasingly frequent over the past six decades.

Freire's frank analysis, of what he referred to as the banking concept of education was based on the following attitudes and practices:

- a) The teacher teaches and the children are taught;
- b) The teacher knows everything, and the students know nothing;
- c) The teacher thinks and the students are thought about;
- d) The teacher talks and the students listen – meekly;
- e) The teacher disciplines and the students are disciplined;
- f) The teacher chooses and enforces that choice, and the students comply;
- g) The teacher acts and the students have the illusion of acting through the action of the teacher;
- h) The teacher chooses the program content, and the students (who were not consulted) adapt to it;
- i) The teacher confuses the authority of knowledge with his or her own professional authority, which she and he sets up in opposition to the freedom of the students;
- j) The teacher is the Subject of the learning process, while the pupils are mere objects. - It is not surprising that the banking concept of education regards men as adaptable, manageable beings" (Freire 2017b)

In his final reflections Carl Rogers (Rogers 1983d) refers to a statement from a letter written by a professor of education in a university:

"It seems to me that schools not only murder feelings, they also destroy the power of thought and the capacity for learning anything outside of authority-stipulated, to-be-memorised isolated details – if that can be called learning! People are turned into appendages for assembly-line machinery. My heart is burning as I write this. The poisonousness of the school has never been so glaringly obvious to me before!" (Rogers 1983d)

Echoing the words of Deming in his comments on The Fifth Discipline (Senge 2006a) there is a discernible common thread of thought and concern regarding the systemic status quo within Industrial Age driven education methods.

However, seeds of hope are appearing and 'A Big-Tent Strategy for System-Wide Transformation' (Fine, Mehta 2024) "presents A Promising Proof Point for System-Wide Change based critically around Deep Learning. It explores real stories of sustained shift in Learning, Teaching and Leadership, driven by a relentless focus on creating the conditions for

all learners to develop the Six Global Competencies of Character, Citizenship, Collaboration, Communication, Creativity and Critical Thinking” (Fine, Mehta 2024).

4.00 LEADERSHIP

4.01 Uplifting Leadership

The essence of this topic is given in the introduction to the book titled 'Uplifting Leadership':

'Emotional and spiritual uplift is the beating heart of effective leadership. It raises people's hopes, stirs up their passions, and stimulates their intellect and imagination. It inspires them to try harder, transform what they do, reach for a higher purpose, and be resolute and resilient when opposing forces threaten to defeat them. Uplifting leadership makes spirits soar and pulses quicken in a collective quest to achieve a greater good for everyone, because we feel drawn to a higher place as well as to the people around us as we strive to reach it.' (Hargreaves, Boyle et al. 2014a)

Is there a pervasive dearth of authentic, uplifting, indelible, future-intelligent leadership across all sectors of our society? (Tineke Wulffers 2017e) states: " ...what the world is searching for now is a way of leading that is based on character and substance rather than style of leadership, and integrity rather than image or position...". Substituting the term 'moral leadership' (The How Institute, Seidman 2022) presents the following infographic:



Source (The How Institute, Seidman 2022)

Have we reached a cultural low point where necessity is calling out to anyone with an ear to hear? When so much noise is present it becomes difficult to hear the silent cries of the marginalised members of society. Social innovators are desperately needed to dream dreams, which when shared, will galvanise communities to dare to believe that change is possible. Uplifting, inspiring leaders who lead from their hearts with conviction, energy and determination are needed to catalyse change.

4.02 Future Intelligent Leadership

In (Landesz, Tamas 2023), titled 'Becoming a Future-Intelligent Leaders in 5 Easy Steps', Tamas Landes, a co-author of (Landesz, T., Varghese et al. 2023b) shared a personal story following a recent near-death experience. Tamas suffered from snow immersion suffocation (SIS) after falling into a snow-covered crevice in Norway and recounted his experience of gradually regaining consciousness in the rescue helicopter.

He described the event as a 'crucible moment' in his life and likened his personal experience to the pivotal moment we have arrived at globally, with the advent of AI.

Tamas then described 5 key attributes which Future Intelligent Leaders will need as we move towards 2050. These are summarised as:

Moving From Being:	To Becoming:
Authoritative	Adaptive
Conventional	Future Literate
A Follower	An Innovator
An Individual	A Team Player
Manipulative	Ethical

The 5 steps are expanded upon as follows:

1. Adaptability and Lifelong Learning – requires a mindset which continually seeks new knowledge and learning in the face of rapid technological change
2. Future literacy and communication skills will be key for leaders to convey the benefits, risks, and strategies associated with their decisions
3. Embracing and applying emerging technologies is an essential attitude to develop our innovation ecosystem
4. Encouraging cross-disciplinary collaboration to solve complex problems
5. Value based ethical decision-making (*reflecting the systemic impact of those decisions on all stakeholders*)

The book 'Future Intelligence - The World in 2050 - Enabling Governments, Innovators, and Businesses to Create a Better Future (Landesz, T., Varghese et al. 2023a) supplies fascinating insights into what the future might hold, through the eyes of a wide range of leading sectoral experts, including views from "business, government, media, non-profits, intergovernmental organisations, artists, and academia" (Landesz, T., Varghese et al. 2023a).

In the foreword to (Landesz, T., Varghese et al. 2023a) Dr Marga Gual Soler distils three essential characteristics for future intelligent leaders, who will be:

1. "**Planetary conscious:** First, leaders will recognize the interconnectedness of all life on Earth." (Landesz, T., Varghese et al. 2023a)
2. "**Scientifically literate:** The leaders of the future will reject science denialism and the distortion of truth, upholding facts and evidence as guiding beacons in decision-making." (Landesz, T., Varghese et al. 2023a)

3. **“Boundary-spanning:** Breaking free from silo thinking and echo chambers, the leaders of the future will become polymaths. They will seek diverse knowledge and skills, connecting seemingly unrelated disciplines to foster innovation and progress, and dismantling barriers to collaboration and mutual understanding.” (Landesz, T., Varghese et al. 2023a)

In answering the question posed about future leadership attributes, one reply included the following observations:

David Aikman Co-founder and chief executive officer of ESG DAO:

“Leadership in 2050 and beyond will be more southern, more eastern, more empathetic, more holistic, and more sustainable... They (*younger generations*) reject the ‘hustle culture’ and an economic system which is based on exploitation and extraction of value. They seek value- and mission-driven companies and organizations to work for. They embrace diversity, of all forms, with sincerity. They are interconnected in ways that my generation could never imagine.” (Landesz, T., Varghese et al. 2023a)

Stephen Covey (Hesselbein, Goldsmith 2006a) in ‘The Leader of the Future 2’, concluded: “Leadership in the Knowledge Worker Age will be characterized by those who find their own voice and who, regardless of formal position, inspire others to find their voice. It is leadership when people communicate to others their worth and potential so clearly, they will come to see it in themselves. Therein lies a bright and limitless future” ((Hesselbein, Goldsmith 2006a)

4.03 Indelible Leadership

Deming made an indelible impression on Senge which was powerfully conveyed during a presentation made to teachers at the 1999 Teaching for Intelligence Conference (Senge 2019).

In his book titled ‘Indelible Leadership: Always Leave Them Learning’ (Fullan 2016a) uses the term deep leadership and indelible leadership interchangeably and offers the key insight that in the context of learning, students are undervalued ‘change agents’ with the potential to transform the current education system’s ‘status quo.’

The essence of indelible leadership, according to Fullan, is embodied in six key leadership attributes (Fullan 2016a).

1. *Combining moral imperative with uplifting leadership* – Uniting colleagues with a sense of shared meaning and purpose, in addressing a need that will make a significant difference.
2. *Mastering content and process* – Ensuring that all voices are heard, then making meaning of the progress that is being made by the team, and feeding this back so everyone can check that this forms the basis for group coherence. Avoiding the trap of ‘being right at the beginning of the meeting’ (or process) will be an essential trait for leaders to embrace.
3. *Leading and learning in equal measure* – Learning with colleagues is essential to remain in touch with the group progress and fosters a flatter peer-to-peer structure, where leadership is more functional than positional.

4. *Seeing students as change agents* – Including pupils/students will open untapped opportunities to catalyse change and mobilise 'professional capital'.
5. *Feeding and being fed by the system* – Respecting and rejecting the 'status-quo' means fully understanding what drives (and limits) the current system, before considering what sustainable improvements could be introduced.
6. *Being essential and dispensable* – This means multiplication of the seeds of indelible leadership through authenticity, inclusion, and inspiration, resulting in collective dynamic leadership at all 'positional' levels. The benefit for everyone is that the process continues as leaders move into new roles.

The aim of indelible leadership is to produce the following learning outcomes referred to as 'the 6 Cs' (Fullan 2016a): Character; Citizenship; Collaboration; Communication; Creativity; and Critical Thinking.

These precisely match the desired outcomes found in the Singapore MOE website underlining the need to grasp the adjacent possibilities afforded by facilitative learning practices.

Fullan includes examples of how students, released and enabled by teachers, are becoming agents for change as co-learners. In one instance, (Fullan 2016c) describes how a student asked her teacher if she could use a new 3D printing package to produce a sculpture. The teacher agreed, having no prior experience of using the software herself, and became a co-learner in the project.

One key point made in (Straus 2002) is the need for inclusion of all the stakeholders in making decisions that affect them. By overlooking any stakeholders within a specific systemic context, be it education, business, academia, or government, collaborative efforts will be sub-optimal at best or fail entirely. In his preface Straus states: 'Collaboration assumes, for example, the dignity and value of every human being, and each person's right to be involved in decisions that affect his or her life.'

4.04 Authentic Leadership

In the preface to his book 'How to make collaboration work' (Straus 2002) states:

Before you get into the substance of the book, I want to point out that collaboration is not value-free. It's based on some mental models and core values about people and what is possible when people work together. The ideas in the book require certain *heart-sets*, as well as *mind-sets*, to be properly implemented. Collaboration assumes, for example, the dignity and value of every human being, and each person's right to be involved in decisions that affect his or her life. I try to surface these underlying values

Source: (Straus 2002)

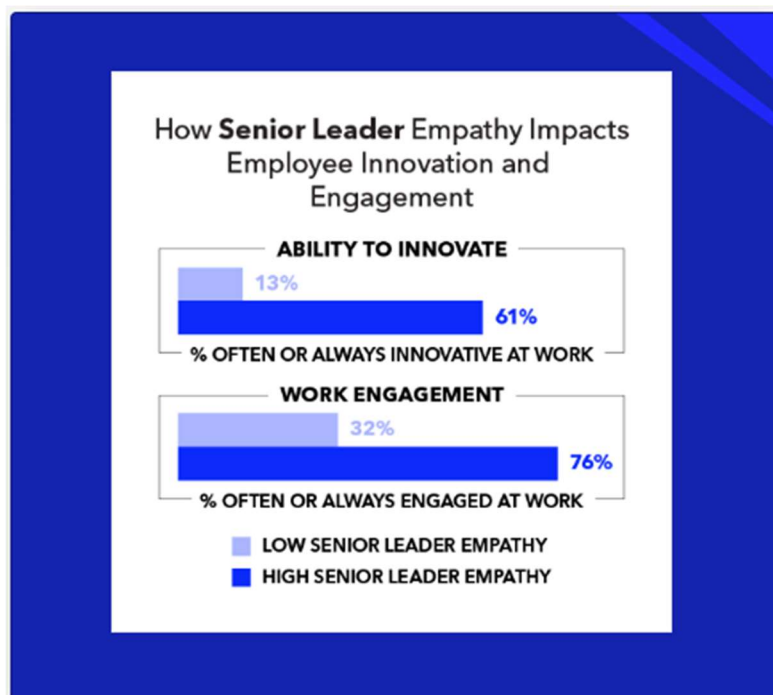
This underlines the dependency of deep collaboration upon Authentic-Agape-Leadership. The subject of authentic leadership has been well covered in the literature however our 'Upstream' approach reveals a hugely significant 'adjacent possibility' for nurturing and developing authentic-agape-leaders from an early age.

Authentic leadership:

1. Operates at all levels of an organisation and is not confined to positional leadership - "As authentic leaders lead by a presence that can transcend their position, their leadership can have a 360-degree influence" (Tineke Wulffers 2017c)
2. Inspires others to lead authentically - "Every one of us on this planet can become a leader by building that inner AL Compass that will allow us to stay grounded whilst growing towards our highest potential. For each of us, what is below the soil-line needs to be examined and aligned so that there is congruence between whom we are, and what we believe our leadership purpose, vision and values need to be. Furthermore, we need to examine how our belief systems and our emotional and mind states can empower us to become effective, for the greater good of all." (Tineke Wulffers 2017d)
3. Leads from the heart (see appendix 4 for reflections on AAL manifested in the life of Dr W Edwards Deming)
4. Builds and nurtures sustainable trust - (Tineke Wulffers 2017b) states " As an authentic leader's ethical behaviour is infused into the organisational norms and relationships, the inter-relational trust between the leader and followers increases."
5. Enables and releases followers (and other leaders) to be the best they can be as stated in (Hesselbein, Goldsmith 2006a) as follows: "Leadership in the Knowledge Worker Age will be characterized by those who find their own voice and who, regardless of formal position, inspire others to find their voice. It is leadership when people communicate to others their worth and potential so clearly, they will come to see it in themselves. Therein lies a bright and limitless future."
6. Respects, includes, and listens to every stakeholder affected by decisions, thereby enhancing collaboration (Straus 2002)
7. Enables an organisation to derive valuable insights from all stakeholders/personnel and supports everyone in achieving organisational goals

8. Displays empathy at all levels, sensing and developing what matters to colleagues, which is powerfully portrayed in (Van Bommel 2021)
9. Forgives, is kind and displays gratitude - (Kets de Vries 2013) asserts "Forgiveness is one of the factors that differentiates exceptional from mediocre leadership... Forgiveness offers people the chance to take risks, to be creative..."
10. Recognises each person has a unique and valuable perspective which will enrich collaborative teamwork
11. Fosters self-accountability and taking responsibility for what needs to be done (Fullan 2016b)
12. Acknowledges mistakes and recognises that teams are vital for meaningful collaboration and deep work

(Van Bommel 2021) reports on the survey of a diverse group of 889 employees in the United States about the benefits of empathy. 'Significantly 61% of people with highly empathic senior leaders report often or always being innovative at work compared to only 13% of people with less empathic senior leaders' (Van Bommel 2021).



Source: (Van Bommel 2021)

(Tineke Wulffers 2017a) establishes the 'high bar' for AAL citing one of Nelson Mandela's letters written during his imprisonment as follows:

I hereby dedicate the research shared in this book to a truly authentic leader, our beloved Tata Madiba – Nelson Mandela, who passed away at the age of 95 on 5th December 2013. When I read his published notes, and letters to loved ones during his 27 years in prison, now published in a book called *Conversations with Myself*, I realised that Madiba had found the secrets of the development of authentic leadership. This was despite the fact that in those days there were very few publications on authentic leadership, what it was, its impact, and criteria for developing such leadership. It felt to me that he could have written the books on such leadership, as the following letter from his Kroonstad Prison to his wife, dated 1 February 1975 illustrates¹.

Source (Tineke Wulffers 2017a)

...the cell is an ideal place to learn to know yourself, to search realistically and regularly the process of your own mind and feelings. In judging our progress as individuals, we tend to concentrate on external factors such as one's social position, influence and popularity, wealth and standard of education. These are, of course, important in measuring one's success in material matters and it is perfectly understandable if many people exert themselves mainly to achieve all these. But internal factors may be even more crucial in assessing one's development as a human being. Honesty, sincerity, simplicity, humility, pure generosity, absence of vanity, readiness to serve others – qualities which are within easy reach of every soul – are the foundation of one's spiritual life. Development in matters of this nature is inconceivable without serious introspection, without knowing yourself, your weaknesses and mistakes. At least, if for nothing else, the cell gives you the opportunity to look daily into your entire conduct, to overcome the bad and develop whatever is good in you. Regular meditation, say about 15 minutes a day before you turn in, can be very fruitful in this regard. You may find it difficult at first to pinpoint the negative features in your life, but the 10th attempt may yield rich rewards. Never forget that a saint is a sinner who keeps trying.

Source (Tineke Wulffers 2017a)

This impactful book presents some powerful examples of authentic leadership including the life story of Nelson Mandela, which highlights some vital lessons in personal reflection, mindfulness, and development.

4.05 Agape Leadership

(Sojan, Srinivas 2024) state that AL “is a type of leadership that places the well-being and growth of individuals, communities, and society at the forefront.” Favourable outcomes include “increasing trust, motivation, performance, respect and collaboration in which people can thrive and reach their full potential” (Sojan, Srinivas 2024).

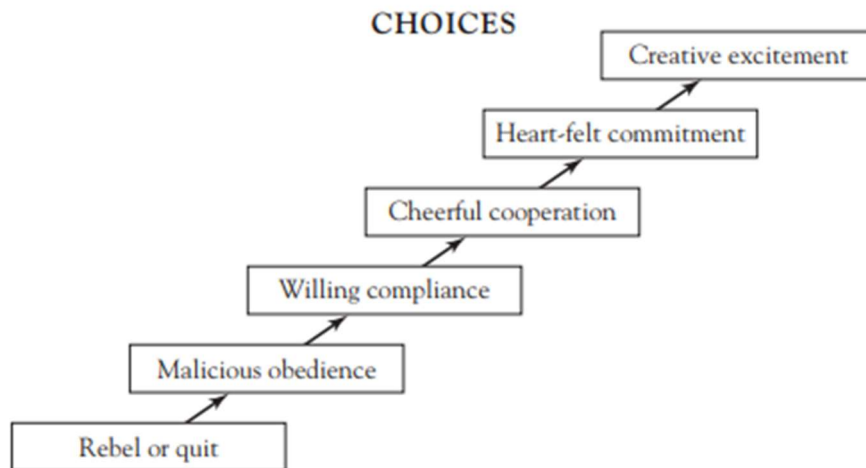
(Hummels, Nullens 2022) considers the views of Levinas, calling for an ‘agapeic turn’ to management and organisation, which includes an increased focus on self-determination and self-organisation. The aim is to shape organisations in ways that allow everyone throughout the business to flourish and grow (Hummels, Nullens 2022).

(Hesselbein, Goldsmith 2006a) calls for leaders who ‘inspire others to find their voice’. Covey explains “If you study all philosophy and religion, both Western and Eastern, from the beginning of recorded history, you’ll basically find the same four dimensions: the physical-economic, the mental, the social-emotional, and the spiritual” (Hesselbein, Goldsmith 2006a)



Source: (Hesselbein, Goldsmith 2006a)

Covey states that respecting the whole person is therefore essential if leaders want to motivate colleagues to be fully engaged in pursuing an organisation’s strategic purpose. The extent to which agape leadership is experienced will determine the level of response and commitment made by colleagues/followers as shown in the next diagram:



Source: (Hesselbein, Goldsmith 2006a)

Agape leadership, embracing, uplifting, indelible and future-intelligent leadership traits, should, according to Covey, result in the highest level of follower response, and when combined with authenticity, create an environment which catalyses both heart-felt commitment and creative excitement.

A memorable account is given by Alfie Kohn in a seminar aimed at helping teachers to understand the application of Deming's principles to education. He recalls the wisdom of his late colleague Peter Scholtes recalling Peter's response to an executive who asked him how he should get rid of all the 'dead wood' in the organisation. Peter's memorable and insightful response was "I think the question you meant to ask is why are you hiring live trees and then killing them?" (Kohn 2015).

The point being made by Scholtes is that agape leadership would enable people to thrive in a supportive environment, where leaders manifest empathy, kindness and understanding. This accords with (Van Bommel 2021) which confirms that leadership empathy positively mediates both abilities to innovate and levels of work engagement, the antithesis of 'dead wood'!

4.06 Authentic-Agape-Leadership (AAL) Qualities in an exceptional mentor

First some helpful maths:

Authentic Leadership + Agape Leadership = Authentic-Agape-Leadership

This explanation is made simply because being authentic does not guarantee being morally sound, as someone can be authentically bad! (Chamorro-Premuzic 2021) makes this point well, saying: "To be sure, being true to your values isn't always a good thing either – as we have learned from Mao, Hitler, and Stalin – you have to actually have good values, to begin with".

A testimonial from his mentees to J. Randall "Randy" Curtis, MD, MPH (Boss, Creutzfeldt et al. 2022) - (Testimonial provided in full in Appendix 6)

Unconditional Love and Support: The testimonial repeatedly emphasises Randy's unwavering support, describing him as a high tide that lifts all boats. He sees potential in each mentee and provides fertile ground for their talents to flourish. This agape love extends beyond professional development, encouraging them to pursue passions and prioritise families.

Humility and Selflessness: Despite his accomplishments, Randy maintains remarkable humility. He does not seek recognition, embodying the quote "It's amazing what you can accomplish when you do not care who gets the credit." (Truman 2024) He focuses on empowering others, not imposing his agenda, and celebrates their successes genuinely.

Enthusiasm and Inspiration: Randy's infectious enthusiasm motivates those around him. His emails often have exclamation points, reflecting his passion for work, mentees, and family. This positive energy inspires mentees to view challenges with optimism and work towards their goals.

Mentorship with Integrity: Randy leads with honesty and integrity. His driving force is improving patient care, aligning with the core principle of agape love – selflessness for the greater good. He exemplifies transparency and ethical conduct, setting a high bar for those he mentors.

Building a Supportive Community: Randy recognises the importance of community in leadership. He encourages mentees to collaborate with people they love, fostering meaningful connections and enhancing sustainability in challenging fields. He proactively creates supportive structures through regular meetings, expectations, and accountability, equipping mentees to thrive.

Transformational Guidance: Randy goes beyond simply sharing his technical expertise, offering transformational guidance. He builds confidence, guides mentees towards informed choices, and provides emotional support through challenging moments. He is a mentor who genuinely cares for their well-being and growth, not just their professional achievements.

Legacy of Love and Empowerment: The testimonial concludes with mentees striving to emulate Randy's example. His mentorship leaves a lasting impact, inspiring them to continue his legacy of making the world a better place with love, empowerment, and integrity, embodying the essence of AAL. In summary, Randy demonstrated AAL through unconditional love, humility, enthusiasm, integrity, community building, transformational guidance, and leaving a legacy of empowerment. These qualities, deeply woven into his mentorship, have profoundly impacted his mentees' lives and careers.

4.07 AAL in the context of Foodbank

Connecting the leadership principles from the selected literature with life-learning and leading, exemplified by ethnographic research undertaken in a local foodbank project, the actualisation of concepts become clear.

1. A clear purpose and mission unite staff and volunteers to be the best they can be in helping clients to access all the support they need
2. Supplying emergency food parcels was never going to be anything more than a stop-gap measure, which has driven the expansion of services to include benefit advice and working more closely with the local housing support office.
3. The notable success achieved for Noah was not an isolated case, and the growing impact of 'leading from the edge' of the social service system is inspiring greater collaboration both vertically and horizontally. An example of this is that Faith, the housing support officer, has spoken to her line manager about the positive impact of working alongside Foodbank, and shared inspirational stories.
4. A culture of listening and learning, with a common purpose of delivering impactful support, ensures that every volunteer and staff member has a voice that will be heard. Trustees are deeply connected to the activities of the Foodbank with more than half of them being volunteers ensuring that governance is neither siloed nor hierarchical.
5. Mutual trust and respect for and between staff, volunteers, clients, and trustees is the culture within which services are delivered. This extends to other service providers who collaborate with foodbank.
6. Regular meetings enable and invite feedback and suggestions from all stakeholders to improve the effectiveness and extent of the services being offered.
7. Financially, socially, and digitally marginalised people are brought back from the margins and welcomed into an environment that extends friendship, compassion, empathy, and genuine hope. Listening, hearing, and seeing individuals as precious and unique, helps them to regain their self-respect.
8. Bridging the gap between the way things are and the way things could be better sums up the evolving mission and purpose of foodbank.

Authentic-Agape-Leadership development is taking place and inspiring others to follow. Forgiveness, kindness, patience, acceptance, and inclusion define a culture which Peter Senge (Systems Analysis Laboratory 2014) and Darlyne Bailey would refer to as 'agape', a Greek word translated as unconditional love.

5.00 COLLABORATION

5.01 Collaborative Professionalism

In his book title Collaborative Professionalism, Andy Hargreaves explains the importance of developing a collaborative culture among professionals resulting in open dialogue, mutual support, and trust.

Definition of Collaborative Professionalism (in the teaching profession)

'Collaborative Professionalism is about how teachers and other educators transform teaching and learning together to work with all students to develop fulfilling lives of meaning, purpose, and success. It is organised in an evidence-informed, but not data-driven, way through rigorous planning, deep and sometimes demanding dialogue, candid but constructive feedback, and continuous collaborative enquiry. The joint work of collaborative professionalism is embedded in the culture and life of the school, where educators actively care for and have solidarity with each other as fellow professionals as they pursue their challenging work together and where they collaborate professionally in ways that are responsive to and inclusive of the cultures of their students, themselves, the community, and the society (Hargreaves 2018c)

Embracing joint ownership of shared challenges, collaborative professionals work together to find new ways of improving the learning environment and outcomes for every student. In this context, teachers become team players recognising that their shared purpose is best served by helping each other and their students to become the best they can be.

An insightful example of collaborative professionalism came from Fanling Kau Yan College, with over 700 students, on the outskirts of Hong Kong. A primary focus for Fanling is self-regulated learning (SRL), which involves students taking individual and shared responsibility for their learning (Hargreaves 2018b)

SRL requires teachers to become facilitators of learning and lessons are structured accordingly. Here are the eight steps which SRL lessons are structured around:

Figure 3.1 The eight steps of SRL at Fanling.

1. **State and share objectives.**
2. **Guide the learning to follow.**
3. **Discuss in student pairs or groups.**
4. **Show what they have been learning on a small chalkboard.**
5. **Present this to each other and the class.**
6. **Get public teacher and class feedback.**
7. **Test what has been learned through worksheet exercises or iBoard demonstrations.**
8. **Conclude the lesson.**

Source (Hargreaves 2018b)

Open Class (Hargreaves 2018b)

Fanling invites visitors to contribute to the development of SRL lessons and teachers who were once nervous about the prospect of having their lessons criticised by visiting principals from other schools, now embrace constructive criticism as part of their improvement process.

This attitude is enabled by a collaborative culture among teachers, reflected in classrooms where teachers feel more able to be their authentic selves, knowing that they are part of a supportive team who are all looking to find new ways of enhancing and improving the learning environment.

Lessons structures and content are owned collectively by teachers who all use the same approach and are all looking for improvements. In this context visitors who bring added insight and experience are regarded as allies in the development of SRL lessons and methods.

Trying innovative ideas, sharing the outcomes, and adjusting accordingly, are part of the learning process for collaborative professionals. Indeed, when children are in an environment where teachers become facilitators of learning, they will enquire, try things out, make mistakes, and learn!

Revisiting (Senge 2019) he asked his audience of schoolteachers "How do children learn?" The reply "when they make mistakes" eventually emerged, and the point was well made about traditional educational methods and metrics, such as test scores, punishing or rewarding children based on their ability to memorise facts.

This is an example of teamwork, togetherness, and collaborative professionalism, creating a psychologically safe environment for teachers to invite support, in the form of constructive criticism, for the shared purpose of catalysing and improving learning for pupils. This shared purpose is amplified when visitors are invited to raise questions, concerns, or criticisms in a structured manner following their 'open class experience.

In this respect, teachers are learners in the subject of enabling students to learn and manifest leadership authenticity, which has a positive impact on constructively critical visitors. Poignantly, teachers in Fanling explain "If students fail, it is not because they do not want to learn but because they do not know what to do."

Another remarkable story comes from Columbia's Escuela Nueva project:

Figure 6.4 The *Escuela Nueva* theory of change, as indicated by a dynamic representation of key words, principles, and graphics.



Source (Hargreaves 2018a)

The pictogram (re Escuela Nueva) narrative is:

A pedagogical model that transforms the conventional school and the way we learn

Made possible by:

- Effective experiential training
- Micro-centres promoting professional learning networks
- Learning guides that promote dialogue and interaction
- Promoting child-centred, student-driven learning
- A new role of the teacher as facilitator
- Different learning paces
- Creative collaboration
- Democratic participatory values
- Strong school-community relationship

Resulting in:

- Happy, capable, confident youth
- That learn to learn
- Fostering development of cognitive and social competencies (necessary for)
- Peace and democracy

Vicky Colbert, one of the founders of Escuela Nueva together with her colleagues, began the project in incredibly challenging circumstances:

Interviewed by *The New York Times* while she was receiving her WISE prize, Colbert reflected on how *Escuela Nueva* had begun:

When you see these isolated, invisible schools, why wait for big educational top-down reform from the government? We started the fire from the bottom up, by making small changes in classrooms and working with rural teachers to improve morale, results, and resources.⁵

Source (Hargreaves 2018a)

5.02 Escuela Nueva: Cultivating Learning through Agape and Empowerment (Hargreaves 2018a)

Introduction

Escuela Nueva, a beacon of educational reform, transcends methodology. It is a philosophy, including child-centredness, student agency, agape love, and an enduring paradigm shift. Founded in Colombia by Vicky Colbert and colleagues, driven by an "agape love for children," Escuela Nueva combats traditional, rote-based learning with meaningful, self-directed, and collaborative experiences.

Child Centricity

At the heart of Escuela Nueva lies the belief that every child holds immense potential. Multi-grade classrooms, once a necessity, become breeding grounds for peer learning and mentorship. Students, not passive receptacles, become architects of their learning journey. They set goals, choose learning routes, and collaborate with peers, fostered by "student guides" that provide self-paced activities and cater to individual needs. This shift in power dynamic redefines learning into a joyful exploration, nurturing intrinsic motivation and a life-long love for knowledge.

Agape - The Fuel of Transformation

Colbert's leadership exemplifies "agape love," an unconditional love which translates into unwavering faith in children's abilities, fierce advocacy for their needs, and relentless pursuit of their holistic development. This love fuels Escuela Nueva's mission, fostering a nurturing environment where every child feels seen, valued, and capable. It empowers teachers, the cornerstone of the model, to embrace their crucial role as facilitators, collaborators, and guides, igniting a passion for nurturing young minds.

Authentic Agape Leadership (AAL)

Colbert's leadership extends beyond love. It embodies authenticity. Instead of imposing a rigid system, she collaborates with government and school administrators, tailoring Escuela Nueva to their unique contexts and needs. This collaborative approach fosters ownership and sustainability, ensuring that reform takes root and flourishes organically. It is a testament to her deep systemic understanding that true change requires partnership, not imposition.

Collaboration - Power in Unity

Escuela Nueva champions collaboration – not just within classrooms, but also with government officials, community leaders, and parents. This network of support extends beyond resource sharing. It builds a shared vision, where everyone becomes a stakeholder in children's

education. Collaboration ensures that learning extends beyond the classroom walls, weaving its way into the fabric of the community.

A Paradigm Shift - Moving Beyond Rote:

Vicky Colbert boldly calls for a pedagogical paradigm-shift. She challenges the traditional, teacher-centred model, arguing that it stifles critical thinking, creativity, and collaboration. Instead, she envisions a future where education empowers students to become "citizens of the world," equipped with 21st-century skills like problem-solving, communication, and collaboration. This vision resonates deeply, urging us to reimagine education as a process of self-discovery, as opposed to information transmission.

Innovation

Escuela Nueva stands as a testament to innovation born from necessity. As Vicky Colbert emphasises in (Colbert 2017), resource scarcity was not a roadblock, but a springboard for ingenuity. Faced with multi-grade classrooms and limited materials, they were not constrained, but creatively adapted. Student guides replaced expensive textbooks, peer learning flourished, and collaboration became a cornerstone.

This "frugal innovation" approach proved that effective education does not require exorbitant resources, but rather, a commitment to empowering children and unlocking their innate potential. By embracing limitations as opportunities, Escuela Nueva not only transformed individual lives, but ignited a global conversation about reimagining education from the ground up. This innovative spirit continues to propel them forward, adapting to diverse contexts and ensuring that every child, regardless of circumstance, has the chance to learn meaningfully.

Of course, the founders and leaders of *Escuela Nueva* can and do appeal to the moral purpose of their work. Sometimes obstacles can be overcome by inspirational leadership and by believing in the moral purpose of their teaching. Principals such as Narda, for example, see the value of *Escuela Nueva* and allow their teachers, such as Carlos, to actively participate in the micro-center so they can deepen their understanding of it and spread it to others. But not everyone is like Narda. In Carlos's words, "the goal is to make the new teachers fall in love with the model." Inspired by love and affection and a pedagogy of hope, Carlos believes that teachers will see the value of collaboration and the larger *Escuela Nueva* model and let nothing stand in their way to become better teachers for the students of rural Colombia.

Source (Hargreaves 2018a)

Escuela Nueva provides a microcosm of this thesis, connecting education with authentic-agape-leadership, collaboration, and innovation, driven by AAL (Hargreaves 2018a).

5.03 Making Collaboration Work

In the Preface to his book 'How to Make Collaboration Work' David Straus gave a powerful recollection of providing some training about meeting facilitation for fifteen university professors from Eastern Europe. These clients had lived their whole lives under totalitarian regimes, which had recently been overthrown. The training was delivered in Austria.

The professors were keen to learn about non-adversarial approaches to conflict resolution and problem solving. The course was well received and one year later these same fifteen professors visited David in San Francisco to learn how to train others to become facilitators.

David and his team had spent considerable time and effort in preparing suitable training materials for the course. Three thick ring-binders outlined how to run a facilitation training program, what to say and when to say it together with exercises for each section of the course.

Halfway through the course, much to the surprise of David and his colleagues, their 'Eastern European friends' politely handed back the training manuals saying, "We know that your course is built on a few powerful ideas" they explained "Make sure that we have those ideas in our hearts, and then we will sing" (Straus 2002)

5.04 Collaboration and Systems Thinking – Authentic Leaders' Foresight

At the 30-year anniversary of the Systems Analysis Laboratory at Alto University in Finland (Systems Analysis Laboratory 2014) Peter Senge delivered a 'heart-on-sleeve' message to the delegates which was memorable for several reasons including his recollections of:

A tale of regret in Los Angeles – 'Paradise Lost' (Systems Analysis Laboratory 2014)

An example of fragmented decision-making resulting in the destructive transformation of Los Angeles from a land of orange and lemon groves to a city handicapped by health-threatening air pollution. Sadly, no leaders considered the future generation stakeholders, failing to give them a voice in the unfettered race to develop and build in pursuit of short-term profit, blind to systemic consequences.

Peter Senge asked the rhetorical question: Did anyone wake-up in the morning and think, what a wonderful day for destroying the orange and lemon groves and causing air pollution? Of course not, he quickly answered. But day-by-day, that is what happened to the point where warnings are now regularly issued to stay indoors because of poor air quality.

Peter lamented the reality of rarely being able to see the mountains due to the smog floating over the city and bemoaned the loss of the miles and miles of orange and lemon groves.

What if someone had seen and forewarned the community? Would unregulated capitalism have simply quashed concerns, in the promise of a brighter future, when in fact, the sunlight would soon be dimmed!

A tale of hope in Mexico – Collaborative Authentic Systems Thinkers (Systems Analysis Laboratory 2014)

Peter Senge tells the story of the clam fishery in La Paz in Mexico. The sea of Cortez, which provides 80% of Mexico's seafood, hosts many fishing communities.



<https://www.goworldtravel.com/visit-la-paz-mexico-sea-of-cortez/>

The clams had been overfished and legislation to prevent further degradation of the fishery was hard to enforce.

A team of marine biologists was assigned to join 'Nos' (NGO), to sense and learn how the fishing community in La Paz could become part of the restoration process, instead of 'racing for the last fish.'

The NGO ('Nos' which means 'we') aided by an academic team including PhD graduates, decided to set up their base in an old building in the heart of the fishing community.

The next step taken was to build a football pitch for the children who had nowhere to play their favourite game, which proved to be an immense success. The children formed a team, and their parents became fanatical supporters!

The plan was unfolding, and the next stage was to encourage the community to embark upon an organic farming project. 'Nos' offered training and resources, and the fishing community

embraced the project. The organic produce meant that food was available for both consumption and sale in local markets.

The fishers who transitioned to farming were proud of their achievements, and a byproduct of the project was that land was managed and cared for, creating a further sense of pride among the community. All the while, with a focus on farming produce, NO FISHING took place.

Clams regenerate quickly and over the course of a couple of years, the census of clams had grown from near zero to approximately 3 million. The fishers agreed that stocks should grow further, and self-regulation ensured that no fishing would recommence until the target was reached.

What can we see from the approach taken by the marine biologists and 'Nos' about systems intelligence? AAL is clear in the empathetic respectful consideration given to developing a sustainable and collaborative action plan. The plan involved understanding what mattered to the community and that food was a necessity. Recognising that the children needed somewhere to play, and then constructing a football pitch, was both considerate and strategic, winning hearts and minds.

Wisdom won the day and self-regulation was the fruit that came from understanding and making provision for the needs of the fishing community.

Given this successful outcome, how might we evaluate alternative strategic options, in the absence of AAL.

- *Would policing and enforcing the NO FISHING rule have been effective and sustainable?*
- *Without the alternative organic farming enterprise, how would food be obtained?*
- *What would the children do without food and somewhere to play?*
- *How could the community have been persuaded to stop racing for the last fish?*

Final Words of Hope – “We are a loving, systems-intelligent species” (Systems Analysis Laboratory 2014)

In closing Peter Senge shares some heartfelt observations about bridging the gap in our systems understanding, referencing the observations of one of his former lecturers at MIT, Hugo Maturana, an eminent biologist. Hugo said that humans are a loving species which Senge connected with our innate systems intelligence, suggesting that they are the two sides of the same coin.

5.05 Collaboration Reflections

Escuela Nueva was born in the heart of someone who cared enough to listen to the unheard cries of children with little or no hope of gaining a meaningful education.

A system was developed to help teachers in their mission to improve learning outcomes for students in schools with scant technology resources. Collaborative professionalism rode on the shoulders of AAL, and a powerful loving pedagogical movement was born.

As Dr W Edwards Deming reflected, as did the university professor (and former teacher) in Carl Rogers' reflections (Rogers 1983d), we must STOP treating people as objects to be managed by fear and reward.

What if our children:

- Experience a loving classroom environment (Belle 2023) where teachers are enabled to be the best they can be, fully supported by peers, administrators, governors, and parents?
- Become beneficiaries of a paradigm shift where schools are exciting centres of learning, with children participating in peer-to-peer learning and where teachers act as professional learning facilitators?
- Learn to collaborate, develop empathy for each other, bridging racial and cultural differences?
- Are encouraged to enquire and learn about what matters to them?
- Are relieved from a life of tests to be better prepared for the tests of life?

Collaboration driven by AAL should catalyse the life-giving changes which are needed to break free from the gravitational pull of the status-quo in education.

Fanling College in Hong Kong embraces multi-stakeholder enquiry and criticism, delivered in a structured, respectful, and purposeful manner. Teachers do not hide from suggestions to improve the learning environments in which they thrive, supported by collaborative professionalism from their peers and co-pioneers of pedagogical excellence.

In Singapore, National resilience and transformation demanded a fundamental pedagogical change to achieve the desired outcomes in (MOE Singapore 2023b).

Vicky Colbert articulated the need for a pedagogical paradigm-shift which began with the formation of Escuela Nueva (Colbert 2017).

It is the pedagogy of purposeful learning, where teachers become facilitators and student-peers become teachers. This can become the incubator for AAL, where children are immersed in a loving, collaborative, encouraging, engaging and psychologically safe environment.

5.06 Collaboration in Action – Joining the ‘Leadership dots’

The foodbank story in Noah's journey highlights the power of collaboration across various leadership descriptions:

Uplifting Leadership

Collective impact - Hope exemplifies this by connecting Noah to a network of support (council, social services, healthcare) beyond the foodbank's resources. This collaboration ensures comprehensive support for his diverse needs.

Shared responsibility - The foodbank staff fosters a collaborative environment where everyone contributes to creating a welcoming and supportive space for Noah. This reinforces his sense of belonging and community.

Authentic Agape Leadership

Building trust and partnerships - Hope acts as a bridge, building trust and authentic relationships with other organisations on Noah's behalf. This collaboration is grounded in shared values of care and commitment to his well-being.

Leveraging collective wisdom - Hope does not solely rely on her own ability but seeks insights and resources from other professionals involved in Noah's case. This collective wisdom ensures a more holistic and effective approach.

Upstream Leadership

Systemic change through partnership - The foodbank collaborates with various organisations to address root causes like access to healthcare, housing issues, and financial support. This collaborative effort tackles upstream issues beyond the foodbank's internal capabilities, aiming for longer-term impact.

Co-creating solutions - Instead of imposing solutions, Hope works collaboratively with Noah and other stakeholders to understand his needs and co-create solutions that empower him and respect his agency.

Beyond these specific examples, the story highlights several key points about collaboration:

- Collaboration is not just about working together; it is about shared ownership and accountability for outcomes.
- Effective collaboration requires clear communication, trust, and respect for diverse perspectives.
- Collaboration can leverage the strengths of different individuals and organisations to achieve broader goals.

By integrating this collaborative spirit into the leadership frameworks, we gain a richer understanding of the impact achieved in Noah's case. It is not just about individual acts of leadership, but about a collective effort driven by compassion, trust, and a shared commitment to making a difference.

6.00 PURPOSEFUL INNOVATION

6.01 Introduction

Escuela Nueva gave us an example innovation driven by purpose as did the integrated approach adopted by 'Nos,' the Colombian NGO tasked with restoring the clam fishery in the Sea of Cortez.

Authentic Agape Leadership in the knowledge age (Hesselbein, Goldsmith 2006a) who inspire others (Hesselbein, Goldsmith 2006b), creating a psychologically safe environment for all voices to be heard, enhance the opportunities for purposeful innovation.

6.02 Empathy driven innovation

In 'Empathy is the mother of invention' (Demetriou, Nicholl 2022) identify the 'necessity factor' and the 'empathy factor'. The paper looked at how an empathy tuition procedure, for children in a design and technology project, would translate into enhanced creativity and 'creative empathetic abilities.'

The project task was to 'design a pack that brings together all the necessary equipment and information to effectively treat infant asthma by considering a range of stakeholders' (Demetriou, Nicholl 2022).

Children were given resources to stimulate an empathetic approach. The Designing our tomorrow (DOT) project 'aimed to bring authentic engineering design practices into the D&T classroom and.... challenged students to solve real-world problems.'

The conclusion of the research included the following statement: 'findings suggest that empathy with its emotional and cognitive components can be taught' (Demetriou, Nicholl 2022)

In the context of observations already made in the section on learning, given the social-emotional nature of the project, replacing 'taught' with 'discovered by reflective consideration of the needs of others' is more appropriate.

This paper posits that necessity and empathy are inextricably interconnected factors because empathy involves understanding the 'necessity of others.' It was from a deep concern for the future of Colombian children, in remote multi-grade classes, that Escuela Nueva was imagined and created.

A moving testimony from (Rogers 1983a) is provided in Appendix 2. The powerful impact of this account provides contextual evidence of empathy transforming a teacher's behaviour and approach to helping her pupils to learn.

6.03 Deep Work and Innovation

Tracking back from innovation through the facilitating antecedents of collaboration, leadership, and learning, the interdependencies become clearer.

The subject of learning surfaced as a key variable during the research of the timeless threads of innovation and remarkable congruence between the authors selected for in-depth analysis became apparent in the similarity of their assessment of the prevailing Western system of education.

Authors such as Peter Senge, Dr W Edwards Deming, Carl Rogers, Paulo Freire, Vicky Colbert, F W Wilson, Michael Fullan, David Langford and Andy Hargreaves, all state the need for a paradigm-shift in education. Broadly, this means a move away from conveyor belt, rote learning of facts, to learning by enquiry and discovery.

In (Senge 2019) Peter Senge recounts a story about a Hungarian couple he and his wife met whilst on vacation. In conversation the gentleman told Peter that he was a physicist and had studied at the prestigious Neils Bohr Institute in Copenhagen. The Institute attracted the sharpest minds and quickest thinking, academically excellent students. He then made a very telling observation that many of the students, felt that Bohr was not that bright, appearing slow. Bohr was not too enamoured or impressed by the fast reactionary thoughts of his proteges in their mental jousting. The gentleman continued to say of Neils Bohr, but "when he understood, he really understood"

This accords with F W Wilson, in his reference to the work of 2002 Nobel Prize winner Daniel Kahneman who uncovered the difference between fast and slow thinking. Wilson notes that Kahneman was a psychologist and not a neurobiologist however: "When we look at his work through the eyes of neurobiology, we see that slow thinking employs our most frontal, developed, and flexible brain structures, which in turn allows us to engage in "big picture" systems thinking" (Wilson 2021e).

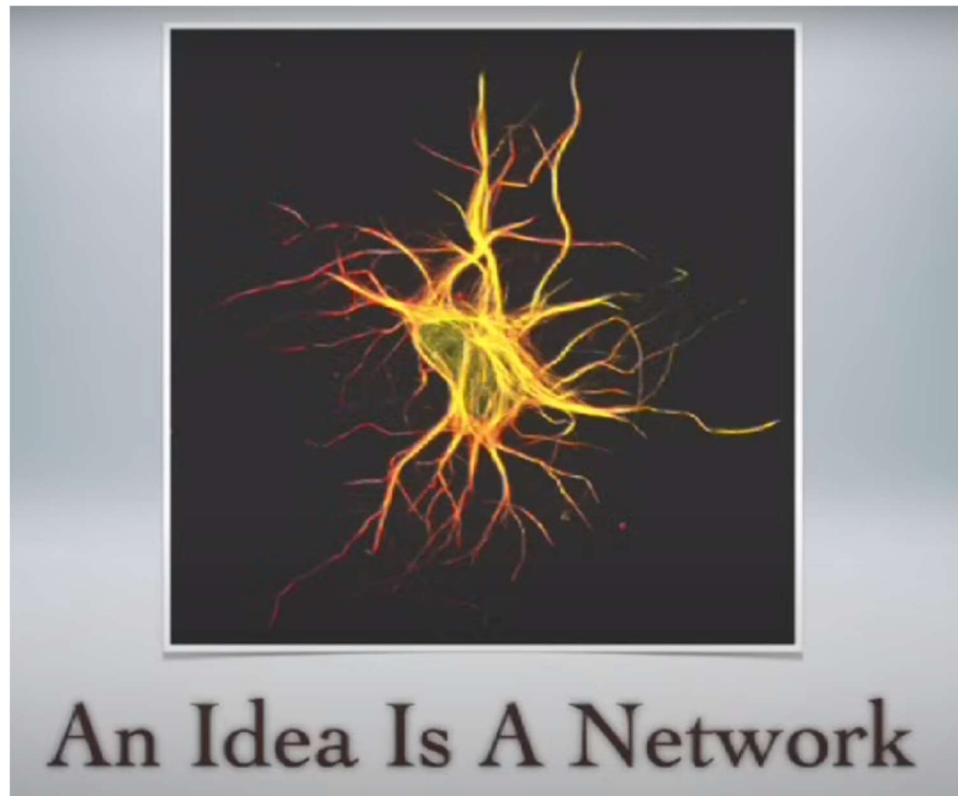
Wilson adds that slow thinking enables us to perceive how pieces of a system fit together, allowing us to predict more accurately the consequences of our actions (Wilson 2021e) *Slow-thinking and consideration are relevant to the systems learning and intelligence within the foodbank project.*

Significantly, Wilson points out "A review of history shows that virtually all the great innovations of humankind were achieved using a contemplative, slow thinking process" (Wilson 2021e).

6.04 Adjacent Possibilities – A New Perspective

In his TED Talk 'Where Good Ideas Come From' Steve Johnson shares his thoughts on how innovation happens, which is rarely in isolation over a short span of time.

Collaboration, networking, and cross-disciplinary idea sharing or borrowing are cited as enabling factors in the quest for ideas that translate into purposeful innovation (Johnson 2010).



Source (Johnson 2010)

Johnson suggests "a new idea - is a new network of neurons, firing in sync with each other, inside your brain. It's a new configuration that has never formed before. And the question is: How do you get your brain into environments where these new networks are going to be more likely to form? And it turns out that, in fact, the network patterns of the outside world mimic a lot of the network patterns of the internal world of a human brain" (Johnson 2010)

6.05 Innovation in the context of Foodbank

Slow thinking, a key antecedent for systems thinking, continues to consider how foodbank staff and volunteers can deliver impactful support to its clients.

Observation of clients' needs reveals gaps in skills and experience needed to supply the blanket of care to wrap around individuals and families. Seeing unmet needs, the WHY, catalyses careful consideration about the HOW to deliver more holistic help.

Outcomes, Developments and Outlook

- Shared purpose drives and enables collaboration
- Collaboration results in greater impact
- Storytelling inspires all stakeholders and drives further collaboration
- Clients share their good news stories with family, friends, and neighbours
- Successful outcomes uplift the community, generating hope
- Volunteers are mobilised by compassion when needs are perceived
- Social, financial, and digital inclusion services are developing
- Collaboration with mental health professionals is nascent
- Observation reveals that Learning, Leading, Collaborating and innovating are systemic interdependencies
- Trustees are facilitators and co-learners with staff and volunteers
- Information from the frontline services continues to be fed-back into foodbank ecosystem to guide and shape its improvement and growth
- High volunteering to staff ratios of 95% enhances the viability of the project

7.00 SUMMARY OF KEY RESEARCH FINDINGS

7.01 Considerations – Education and Learning

Some Sobering Points

Dr W Edwards Deming's cover note on Peter Senge's book 'The Fifth Discipline' poses a very deep question, and the answer requires slow thinking to consider the systemic consequences of clinging to the industrial age education system for so long.

The question posed by Deming's note is - how much 'unknown and unknowable' damage may have been caused by 'our prevailing system of management'? Deming believed that the same system applied to both businesses and schools – referring to the stick-and-carrot or punishment and reward system of control.

This same system was described by Alfie Kohn noting that "if an unfriendly foreign power had attempted to impose on America a mediocre educational system, it could have devised no better plan than to establish mechanisms for tightly controlling what students do at school" ((Wilson 2021b).

A 'disturbing study by Dr George Land (Wilson 2021b), examined the creativity levels of a group of 1,600 children. At age 5, 98 percent of them scored at the highly creative level. Just 5 years later in the traditional educational system, this figure fell to 30 percent. After another 5 years, only 12 percent were highly creative.

Slow thinking poses several questions, the foremost being, if we see 86 percent of children with falling creativity levels over 10 years in traditional education, how does this align with the need to nurture a generation of adaptable, resilient innovators?

'What made the difference? The amount of time they spent in the carrot-and-stick-driven educational system.' (Wilson 2021b)

"What we have concluded" Land wrote, "is that non-creative behaviour is learned." In effect, the system appears to prune out the brain's ability to be highly creative (Wilson 2021b)

Finally, Wilson refers to the view of the late psychologist John Condry who believed that external motivators are "the enemies of exploration" (Wilson 2021c)

Seeds of Hope - The Learning Code

Embracing, adopting and applying new knowledge bridges the gap between what is currently happening and what could happen. The Learning Code website includes a short video introduction explaining key facts (Wilson 2022):

- LEARNING IS A SELECTIVE PROCESS NOT AN INSTRUCTIVE ONE
- MEANING IS THE HOLY GRAIL OF LEARNING (NOT MEMORISATION)
- LEARNING HAS EVERYTHING TO DO WITH YOUR BIOLOGY AND NOTHING TO DO WITH A TEST SCORE
- IT IS THE STRUCTURE OF THE PROCESS THAT HAS FAILED US, NOT THE TEACHERS, NOT THE PARENTS AND CERTAINLY NOT THE STUDENTS (Wilson 2022)

“Peter Relic, past president of the National Association of Independent Schools made this heartbreaking statement: Our fanatical emphasis on testing and academic performance sends the wrong message. A test score is more important to us than who a child is as a human being. That means an immense loss in terms of human potential because we have defined success too narrowly” (Wilson 2021f).

“An example of The Learning Code science in action, it is now being used at Master's Academy in Calgary, Alberta, to help create the first school system in the world based on neurobiology, Here, learning now takes 20 percent less time, standardised test scores are 400 percent higher than the province average in the "Excellent" category, and - because the learning systems match the students' biology and how they naturally learn - behavioural issues have been virtually eliminated” (Wilson 2021a).

Alberta had developed a culture of collaboration and innovation from both government level and a strategic NGO (Alberta Innovates 2022). In 2016 The State of Alberta signed a MOU with Siemens (Siemens Canada Collaboration 2016) expressing its aims: “Areas both parties wish to collaborate on align with policy priorities of Alberta’s Government and include studies into the adoption of technologies and application of best practices that can: improve energy efficiency and reduce emissions, helping manage the transition from coal to renewables; improve the performance and reliability of Alberta’s energy infrastructure; support the creation of sustainable infrastructure including in the transportation, energy, and buildings sectors; enable the diversification of Alberta’s economy, including the transfer of key elements of Industrie 4.0 in the manufacturing sector; increase effectiveness and efficiency of the healthcare system; realize a strategy to create work-integrated learning opportunities” (Siemens Canada Collaboration 2016).

Seeds of Hope - Escuela Nueva

In (Colbert, Arboleda 2016) we find hope afforded by a pedagogical ‘paradigm shift’ where teachers became facilitators.

“The basic idea was to transform the conventional teacher-centred schooling practices into a learning-centred model that would integrate curriculum, teacher training, community

involvement and administrative strategies in a systemic and cost-effective way” (Colbert, Arboleda 2016)

“By design, Escuela Nueva shifted the conventional school model away from the transmission of knowledge to the social construction of knowledge. The new model was oriented by and promoted a child-centred active pedagogy, a new role of the teacher as a facilitator rather than a transmitter of information, and high involvement of crucial actors of this change—children, teachers, and communities” (Colbert, Arboleda 2016)

7.02 Considerations – Leadership

Leaders by function, not by title, are urgently needed in our rapidly changing world. Authentic-agapeic-leaders, empathetic, intrinsically motivated lifelong learners, who nurture inclusion, collaboration, and innovation.

Inspirational uplifting leaders who inspire others towards personal mastery, teamwork and systems thinking will enable organisations to learn and better adapt to a rapidly changing environment.

Teachers like David Langford who apply paradigm shifting principles, achieving spectacular results, and feeding these powerful outcomes back into the system, will become agents of change, in partnership with their students. This pedagogical seed-change is happening gradually according to (Fine, Mehta 2024), and needs to be encouraged and supported by informed administrators and governments.

Teachers acquiring and developing AAL skills, fully supported by children and parents, can become the catalysts for a learning revolution, promoting joy in learning, leading to a generation of young students who develop a love for lifelong learning (The W Edwards Deming Institute 2024). This love for learning will be essential for their twenty-first century competencies, as knowledge increases, and technology accelerates.

7.03 Considerations – Collaboration

Peer-to-peer learning naturally develops mutual support, respect, and appreciation. Understanding and discovering the unique talents of every child, steadily builds a culture of empathy, compassion and learning.

Supporting every child to become the best they can be, where teachers facilitate meaningful learning, and understand their students’ learning preferences, creates an appetite for learning among students, who instead of competing with one another for destructive grades, become collaborators in enquiry, discovery and learning.

To use an arable farming analogy, seeds are planted in the right soil, at the right time, and irrigated, to achieve the desired harvest. Authentic collaboration can develop naturally when our innate ability to learn is sensitively nurtured.

7.04 Considerations – Innovation

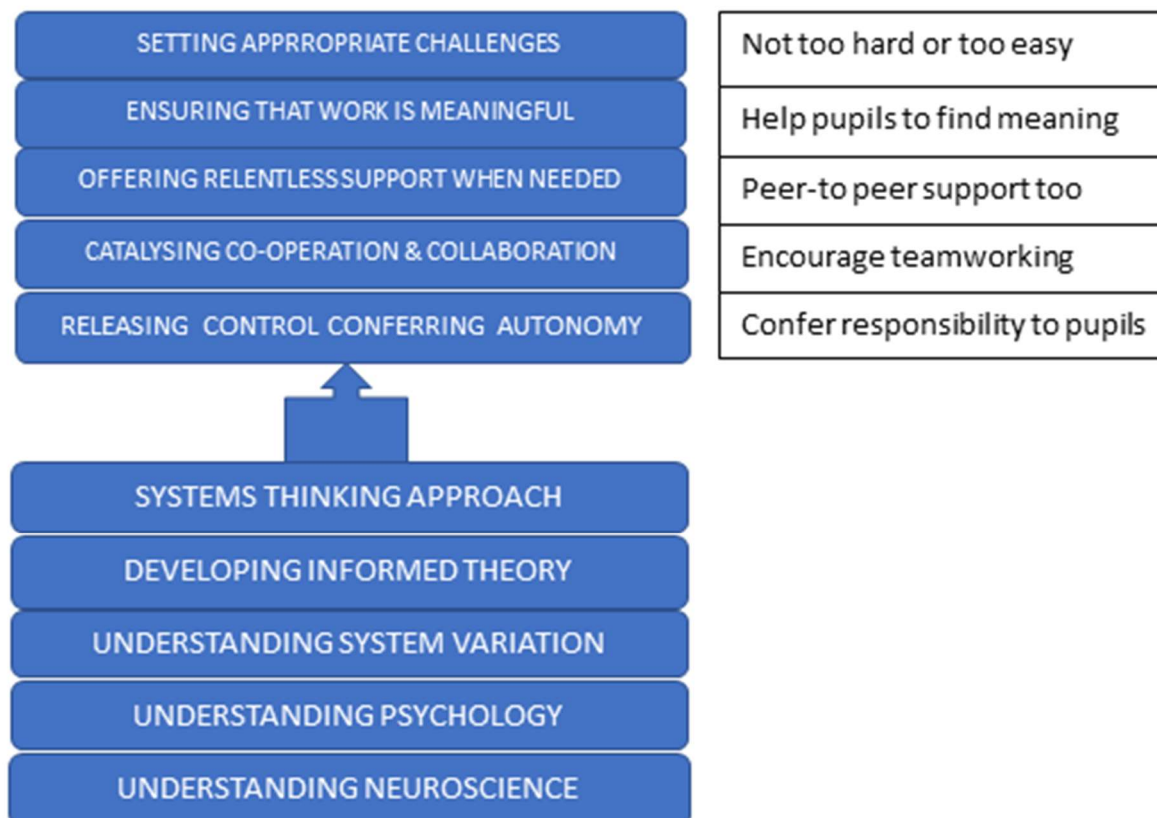
When authentic-agape-leader-learners, who may work in education, business, an NGO or government, lead purposefully with humility, empathy and clarity, then the ideal conditions exist for sharing ideas leading to innovation.

Singapore MOE's change of direction to TLLM was deliberate, purposeful and visionary. It was based upon a triple-helix strategic plan devised to prepare its young generation for the twenty-first century, with the necessary skills, competencies and attitudes needed for building resilience and valuable citizenship.

The Global Innovation Index analysis for Singapore (WIPO 2024) poses questions worthy of further research, however for now it should be noted that whilst it ranks 45 on student-to-teacher ratios, it ranks 2 in the world on PISA academic metrics. On the surface this suggests that peer-to-peer learning is making a significant contribution and TL is indeed giving way to LM.

7.05 Diagram showing intrinsic motivation enablers

INTRINSIC MOTIVATION DIAGRAM – based upon David Langford Presentation



Source - Author

7.06 Diagram showing extrinsic controls inhibiting motivation

MOTIVATION KILLERS – INNOVATION BUSTERS



GRADES & RANKINGS
REWARDS AND PRIZES
DEADLINES
THREATS
APPRAISALS
TESTS & EXAMINATIONS
HUMILIATION
PUNISHMENT
FEAR OF FAILURE

According to (Langford 2024), these are 'extrinsic' activators, not motivators and only affect behaviour when "the watcher is watching".

8.00 CONCLUSION

Teach less, learn more, principles advocated and adopted in Singapore are echoed in the words of Dr Russell Ackoff in a speech on 'Systems Thinking' (Ackoff 2015).

Ackoff observes: "the better the school is, the less teaching there is. You see the ideal school is one in which there is no teaching but a lot of learning, and that's the first fundamental myth about the educational system. The myth is that a good way to learn something is to have it taught to you, and that's absolutely false. Being taught is a major obstruction to learning! Now again, any reflection will make this clear, how did you learn your first language? Nobody taught it to you, you learned it. You learn to walk without having it taught to you, how to ride a bicycle, how to talk, all the essential things of life you learn without having them taught to you." (Ackoff 2015).

Author's summary of the transcript of (Ackoff 2015) is included in Appendix 8.

Teachers who become learning facilitators, co-learners, and friends of pupils, removing extrinsic 'stick and reward' control methodology, which has been proven to be demotivational, then introducing methods to support intrinsic learning and motivation, are urgently needed to inject life and hope into the education system.

Authentic-Agape-Leadership is also desperately needed in businesses, governments, and NGOs, to enable colleagues/followers to become lifelong learners. In (Hesselbein, Goldsmith 2006b), Darlyne Bailey's contribution to 'The Leader of the Future 2', interlaces perfectly with Steven Covey's insights about respecting the whole person. Bailey's key points are summarised as:

1. The Wisdom of Authenticity
2. The Power of Humility
3. The Self-Knowledge of Empathy
4. The Balance of Courage and Compassion
5. The Understanding of Faith
6. The Reflection of Patience
7. The Transcendence of Love

It would be remiss to exclude a well-known passage from The Holy Bible, often read at weddings, describing the nature of Agape love. The Amplified Bible translation of 1 Corinthians Chapter 13 verses 4-7:

⁴Love endures with patience *and* serenity, love is kind *and* thoughtful, and is not jealous *or* envious; love does not brag and is not proud *or* arrogant. ⁵It is not rude; it is not self-seeking, it is not provoked [nor overly sensitive and easily angered]; it does not take into account a wrong *endured*. ⁶It does not rejoice at injustice, but rejoices with the truth [when right and truth prevail]. ⁷Love bears all things [regardless of what comes], believes all things [looking for the best in each one], hopes all things [remaining steadfast during difficult times], endures all things [without weakening].

Authentic-Agape-Leadership will perceive the urgency of answering the call of highly credible and respected experts, understanding, and applying what is already known, to the pressing problems facing our current generation of new and lifelong learners!

Doing the right thing right, not the wrong thing better, is the only way ahead for leaders with ears to hear, eyes to see, and a heart to understand how to lead others to be the best they can be!

Details of recommendations for important further research are included in Appendix 9.

APPENDIX 1

A1.1 CASE STUDY 1 – COLLABORATIVE WORKING – Prepared by 'Hope' (Foodbank Benefit Advisor/Authentic Leader) and edited by Author – January 2024

Noah (conferred name) is a single person in his fifties. He has lived quite nomadically for a large part of his adult life, so he has lost contact with most of his family and has very few friends. He also has a history of being physically, verbally, and financially abused by some people who he thought were friends, so he is generally quite vulnerable. Noah settled in an area covered by foodbank and was housed by the council. He has some long-term health issues, particularly due to head injuries that he suffered whilst being mugged; so, he struggles with his paperwork and managing his correspondence.

Noah has been a regular at foodbank for some time as he was too ill to work and struggled to manage on his limited benefit income. Although the foodbank volunteers had previously asked Noah about claiming PIP (personal independence payment), he said he didn't want to, as he know lots of people who lied and made fraudulent claims to be on PIP, and he didn't want to be labelled like them. Plus, he enjoys walking with his support dog Jack, when he can, and he didn't want to feel he couldn't do that anymore if the government were paying him for "being disabled".

In mid-2023 Noah came to food bank in a very desperate state. He was clearly extremely ill, could hardly walk, he was struggling to breathe, and his legs were hot and swollen to the point that he couldn't get his shoes on. Although we wanted to phone an ambulance for him, Noah asked us not to, stating that last time he went to hospital they told him he had a DVT then made him walk home. Noah had no phone at that time, so was unable to call a taxi or anyone else to assist him.

Noah was also anxious that he would not be able to take his support dog Jack to hospital with him. In accordance with Noah's wishes, we avoided phoning 999, and instead telephoned his GP surgery and advised them of our concerns, and what Noah had said about the DVT. His GP surgery said they had no record of the DVT but, after much discussion about the sincerity of our deep concerns and Noah showing symptoms of infection, they agreed to send a doctor out to see Noah. We also spoke to the local PCSO who agreed to keep an eye on Noah and do welfare checks throughout the weekend.

The following week Noah returned to the food bank. He was still clearly ill but looked much better than he had. Noah explained that the locum GP did a home visit that same afternoon after our call and confirmed that Noah had a very severe chest infection. They gave him appropriate medication, and the GP also agreed to contact the hospital to investigate the DVT for further treatment to be organised. The GP also referred Noah to the Community Nurse to give him his medication and keep regular checks on him, as the GP was also concerned about Noah's well-being and isolation.

We had further discussion with the Police Community Support Officer (PCSO) who said that he had visited Noah's home and had further concerns that he was at risk of cuckooing because

other people seemed to have access to Noah's property and bank account. Noah seemed to have some interaction with one of the local Council Housing team, but nothing appeared to be progressing. In discussion with the PCSO, we agreed that we would both raise a Safeguarding concern with the local Council; and that hopefully this simultaneous concern would cause action.

A Safeguarding email was sent by myself and the PCSO, and I copied in Noah's Housing Officer, and the Tenancy Support team, in recognition that they may also have raised concerns with Social Services. After a few calls with Social Services, and emails with the rent and housing team, a Safeguarding case conference was called, and Noah was eventually moved to an alternative property.

The Housing Officer who oversaw the move had unfortunately dated the exchange forms outside of the time normally allowed for the transference of Housing Benefit, and Noah had tried to do the forms himself but put the dates wrong again, which caused added complications. This caused Noah to get into debt with both the rent team and the Council Tax team, which caused Noah great anxiety that he would now lose his new home.

Working in collaboration with the local Council Rent Arrears Team, Council Tax Debt enforcement teams, as well as the Tenancy Support Team, the Council Tax Reduction team, and the Housing Benefit team, I acted as the main port of call for each department, and the frontline worker responsible for face-to-face interaction with Noah. By acting as the pivotal point of communication, I was able to assist Noah to make appropriate contact with all the Council teams responsible, to ensure that each team were aware of the circumstance and progress of the case and avoid debt enforcement that could have involved bailiff action and potential eviction from his new home.

In addition to this, I was able to identify legislation that enabled both teams to fully clear the rent and Council Tax arrears at no cost to Noah. This enabled each team to adhere to their duty of care, whilst also swiftly solving and closing their cases with minimal intervention or administration costs; and most importantly, allowed them to properly support a very vulnerable local resident without having to wait for a Social Worker or Care Provider to be allocated. Noah has remained happily in his new home with his full rent and Council Tax being covered by benefit ever since.

But this was not the end of the story. By continuing to work with Noah and illustrate to him that he did have care and health needs that were applicable to PIP entitlement, he consented to us making a PIP claim with him. I accompanied him to his medical assessment, to both enable him to get to the appointment on time, and to ensure that Noah's full circumstances were realised by the assessor. PIP was awarded, and this led to an increase in his ESA entitlement. During our contact with the ESA team, to get the additional passported entitlement in place, it was noted that there were some deductions being made to Noah's ESA payments. The DWP debt team confirmed that they were not enforcing any benefit overpayment, so we were directed to speak to the ESA team directly about the Attachment of Benefit. The ESA team were able to confirm that the deductions were being paid to the local Council under the reference "H" which usually meant Housing.

Having previously collaborated with the Housing and Debt Recovery teams, I was able to directly contact all the parties that had previously been involved in Noah's case and asked them to verify what these payments were; particularly noting their previous emails to me which confirmed Noah's debts had been cleared in full. I also advised them that, in previous cases I had worked on, issues like this had arisen when the Dual Housing Benefit award had been applied to the closed rent account, rather than the new active rent account. The rents team were able to access Noah's old rent account and verify that there was a credit of £177 sitting on the account, as we had suspected. The rent credit was transferred to Noah's new rent account, the deductions to Noah's ESA were stopped immediately, and the Housing team sent me a form to complete with Noah, so that he could be reimbursed the £45 of deductions that had been mistakenly taken from his ESA payments.

By collaborating with the various departments at the DWP and the local Council, and by using our relationship with Noah to encourage and assist him; we were able to make and maintain appropriate contact AND help him remain engaged with the relevant authorities until his case was fully resolved. Our teamwork was sufficient to enable the local Council to maintain their duty of care and avoid a very vulnerable person being left with no home and no income.

Noah is much happier in his new home, and he is overwhelmed with his new income which has enabled him to look at various options to improve his mental and physical wellbeing. Noah was assisted by our Digital Inclusion team and helped to access a phone of his own. In total, the additional income we were able to secure for Noah in 2023 was £18,976; with an ongoing increase to his benefit income of £190.95 per week in 2024. An email was sent to thank the main housing officer, who had been a great help in Noah's case.

APPENDIX 1 (Continued)

A1.2 CASE STUDY 2 – COLLABORATIVE WORKING - (Summary prepared by Hope)

CASE SUMMARY

- **Client with two children, son aged 3 and daughter aged 4.**
- **Client ex-partner had ADHD.** Not able to stay together as a family.
- Daughter showing signs of ADHD and making it very difficult for client to manage caring for them.
- When daughter started nursery/school, her teacher confirmed that she had concerns about daughter's behavioural issues and believed that there was an underlying cause beyond usual child development. Client was asked to complete an assessment form.
- Client completed form and clear indications of ADHD showing. Client returned form to school, and it was sent to the Educational Psychologist. Client spoke to other parents on forums about ADHD and was told to put in a claim for DLA (Disability Living Allowance).
- Client asked teacher if she could complete the DLA section on behalf of the school, at which point teacher became very awkward and said she could not do that.
- Client spoke to the ALNCo (Additional Learning Needs Co-ordinator) who said that the Educational Psychologist agreed that client's daughter needed to be further reviewed when she was 7 years old but is currently too young to be clinically assessed.
- Client put in claim for DLA, as advised daughter has care needs above those of an average child her age, and DLA claim was turned down because the school was not taking any interventions or completing any reports.
- Client is in a 3 bedroomed private rented accommodation but is only entitled to the 2-bedroom rate of Local Housing Allowance because of the age of her children. Client's daughter's behaviour causes her to be aggressive and violent towards her brother, particularly when it comes to sharing a room. Client's daughter should be entitled to a bedroom of her own, under the additional bedroom allowances for disabled children, but without the DLA the additional bedroom will not be allowed.
- Other client's children have been diagnosed with ADHD despite being younger than this child, so (it would appear that) the Educational Psychologist's policy is not based on clinical trials. If this child is assessed as having ADHD or behavioural issues, then the school would be compelled to put an ALN provision in place for her, which would cost money.
- We are challenging the DLA because their decision is not based on law. We have also successfully applied for a DHP to cover the rent shortfall, but this is only for a limited period.

APPENDIX 1 (Continued)**A1.3 CASE STUDY 3 – COLLABORATIVE WORKING** - (Summary prepared by Hope)**CASE SUMMARY**

- Couple with 5 children. Both members of the couple have health issues and need family to assist them with childcare. Middle child aged 15 years, shows symptoms of Autism, but school have told client that her issues are due to bad parenting. Client's daughter was also suffering violence and bullying at school, but school would not offer any chance to transfer.
- Client and husband both assisted to claim appropriate disability benefits. Client had claimed PIP, which was initially turned down as client did not want to admit all her difficulties, thinking that Social Services would take her children away if she did. We assisted client with PIP appeal and won.
- Client and husband were also assisted with their UC (Universal Credit) claim and the increased and appropriate elements were awarded.
- Despite having no diagnosis of Autism, we put in a claim for DLA which was awarded. Once DLA was awarded, school had a completely different attitude. Many more additional sources of support and positive comments were made to client. Client's daughter had an appropriate 'Educational Statement Assessment' completed and was moved to a different school with an Additional Needs team.
- Client and family all showed signs of improved health and wellbeing. Client's Autistic daughter also reported less suicidal thoughts and was much happier.
- In total, with our intervention, this family had their income increased by £2,820.74 per month, but most importantly, they got the recognition and assistance that they deserved from the school system.

APPENDIX 2

This account is taken from *Freedom to Learn for the 80's* authored by Carl Rogers (Rogers 1983a)

Excerpts from pages 30-32 covering the section titled 'AN ILLUSTRATION OF CLASSROOM CHANGES' are reproduced in part, to provide context for the outcome of pedagogical changes made in an Algebra class.

We sit in a circle, kids teach kids. But in these classes we don't just learn math. We learn about life..... (Rogers 1983a)

I now can communicate with other people; I get along better with my parents; I care deeply about many things, and I noticed things that I never noticed before. All this change in me came about because of this new method..... (Rogers 1983a)

....A fellow... The things it's done for my geometry class cannot be put in words on paper. But it all came about because Mrs Moore was honest with us and with herself and took this small step. The things this small step did for me and the class and my education and my outlook on life just cannot be said adequately. I've gotten to learn so much about so many people in that class and I've gotten the will to work on geometry (Rogers 1983a).

A girl writing to Mrs Moore... I finally got myself believing that teachers were robots programmed to hurt people. I finally realised that I had to shut them out and not listen to them for the scared me out of my mind. My 3rd grade math teacher would call me stupid, lazy, and ungrateful when I messed up on a quiz or didn't understand my homework. She scared me so that when it was trying to take a test, I was so scared of flunking that I flunked every one. My parents thought it was because I wasn't studying enough, so all my privileges were taken away and I was made to go to bed at 7:30 so that I would be rested for my next terrifying day at school.... It was like a dream - here a teacher was finally realising that her students need her and want her to be their friend and to help them to understand many puzzling things! When I left your class, I felt like crying out to everyone that someone does care (Rogers 1983a)

APPENDIX 3

The Application of Deming's Principles to Education (The Deming Institute 2024)

The Leander Independent School District's Deming-Inspired Transformation

The Leander Independent School District (LISD) in Texas offers a compelling case study of how Dr W. Edwards Deming's theories can be applied to transform K-12 education. This summary delves deeper into the story, exploring the district's motivations, challenges, and the lasting impact of Deming's philosophy on its educational approach.

A Spark Ignited: Recognising the Need for Change

The journey began with the recognition that existing practices weren't meeting the aspirations for student success. As Monta Akin, Assistant Superintendent for Instructional Services, recalls, "It all started with the feeling that we could do better." This desire for improvement resonated with the entire district, setting the stage for a transformative journey.

Discovering Deming: A Serendipitous Encounter

While flipping through television channels, Akin stumbled upon a documentary about Deming's work. The documentary resonated deeply, prompting her to delve further into his ideas. Despite initial challenges in interpreting Deming's concepts for K-12 education, Akin's determination led her to attend a seminar on Deming's principles applied to education, facilitated by David Langford, founder of Langford International, Inc. This seminar marked a turning point for LISD, providing them with a practical framework for implementing Deming's ideas in their educational context.

Embracing the Deming Framework: Core Principles Adopted

LISD's transformation embraced several key Deming principles:

- Systems thinking: Recognising that all aspects of the educational system are interconnected and interdependent.
- PDSA Cycle (Plan, Do, Study, Act): A continuous improvement cycle for developing, implementing, evaluating, and refining educational practices.
- Focus on intrinsic motivation: Cultivating a love for learning in students rather than relying solely on external rewards.
- Humanistic management: Valuing collaboration, trust, and respect among all stakeholders.

The Road to Transformation: Overcoming Obstacles

Implementing Deming's principles wasn't without challenges. One significant obstacle was the prevailing culture of teacher evaluations. Akin and her team understood that the fear associated with annual evaluations hindered collaboration and innovation. They advocated for a revamped evaluation system, focusing on ongoing professional development and self-improvement, which resonated with Deming's emphasis on "driving out fear."

Deming's Legacy Endures: Reflected in LISD's Core Concepts

While Deming's specific ideas might not be readily evident in every classroom setting, his influence permeates LISD's core concepts. "The Leander Way," for instance, emphasises building, thinking, and creating, aligning with Deming's focus on continuous improvement and holistic development.

Furthermore, the "LISD Graduate Profile" outlines the desired skills and competencies for graduating students. This profile translates into a clear aim for the entire educational system, mirroring Deming's emphasis on a defined system objective. Notably, the profile emphasises students leaving the system with "a passion for learning they had when they entered," echoing Deming's philosophy of intrinsic motivation.

The Leander Learning Model: A Visual Representation of the Deming Influence

The Leander Learning Model visually depicts the district's educational approach. It presents a comprehensive framework encompassing various practices and philosophies, including the aforementioned "The Leander Way" and "LISD Graduate Profile." The model's design emphasises interconnectedness and student-centricity, further reflecting Deming's principles.

Beyond Transformation: A Commitment to Continuous Improvement

LISD understands that transformation is not a destination but a continuous journey. The district's commitment to ongoing improvement is clear in its dedication to using data to inform further refinement of practices. This dedication has translated into significant positive outcomes, including:

- Closing the achievement gap between different student groups.
- Increasing high school graduation rates.
- Achieving higher standardised test scores.
- Maintaining low teacher turnover rates.

The LISD Story: Supplying Hope for Educational Innovation

The Leander Independent School District's journey exemplifies the transformative potential of Dr Deming's principles in K-12 education. While the specific context and challenges of different educational systems might vary, the LISD case study offers valuable insights and inspiration for educators worldwide seeking to improve the educational experience for all students.

It serves as a powerful reminder that genuine desire for change exists.

APPENDIX 4

Reflections upon the life of Dr W Edwards Deming – An Authentic Agape Leader

Deming's Authentic Agape Leadership: Beyond Systems Thinking

(Andre 2023) explores W. Edwards Deming's contributions to Japan's post-war economic recovery, highlighting his leadership qualities beyond his expertise in systems thinking. These qualities align closely with the concept of Agape leadership, a philosophy emphasising selfless love, empathy, and service to others. Let's delve deeper into Deming's actions and their connection to Agape leadership:

- **Selfless Service:** Deming's refusal of compensation and his redirection of royalties towards the Japanese people exemplify his **unconditional giving**. This act goes beyond mere monetary assistance, demonstrating his genuine concern for the well-being of others, a core tenet of Agape leadership. It signifies his commitment to a greater good and his desire to empower the Japanese people to rebuild their lives, not simply fulfil a contractual obligation.
- **Compassion:** Deming's immediate response to the suffering he witnessed in Japan underscores his **deep empathy**. He didn't simply acknowledge the hardships; he took proactive steps like providing food and advocating for better treatment. This action demonstrates his ability to connect with the emotions and struggles of others, a crucial aspect of Agape leadership. It shows his willingness to go beyond theoretical systems and address the immediate needs of individuals facing hardship.
- **Hope:** In the face of widespread despondency, Deming's belief in Japan's potential for recovery stands out as a beacon of **hope**. His "prophecy" of their economic revival wasn't just a prediction; it was a declaration of faith in the resilience and capacity of the Japanese people. This instilled a sense of optimism and fuelled their motivation to rebuild. Agape leadership recognises the power of hope and actively fosters it within individuals and communities. By believing in them and their potential, Deming empowered the Japanese people to take ownership of their future.
- **Humility:** Despite his expertise and success, Deming never displayed any sense of superiority toward the Japanese. This **absence of arrogance** is another key characteristic of Agape leadership. He treated everyone with respect and dignity, regardless of their circumstances. This approach fostered a sense of trust and collaboration, essential for fostering collective action toward a shared goal. By treating the Japanese people as equals, Deming created an environment conducive to learning, growth, and innovation.

In conclusion, Deming's actions in Japan go beyond demonstrating his expertise in systems thinking. They showcase his embodiment of Agape leadership principles: **selfless service, compassion, hope, and humility**. These qualities played a crucial role in inspiring the Japanese

people, fostering collaboration, and ultimately, paving the way for their economic revival. Deming's story serves as a powerful reminder that effective leadership transcends mere technical skills and requires a genuine commitment to the well-being of others, fostering trust, and nurturing potential. It highlights the transformative power of leading with the heart, not just the mind (Andre 2023).

APPENDIX 5

Summary and key questions arising from ethnographic research

To summarise our findings and underline the key point of measurable and unmeasurable information we will begin by asking what measurable existing system drivers affect the operations of each service provider in isolation.

1. Housing Department - collects outstanding rents due from its tenants. This was the case for Noah, before Hope suggested that the Housing Department had made an error! If we follow this through to a non-collaborative outcome, the Housing Department would have continued to seek redress from a vulnerable tenant who did not owe any money whatsoever. The consequential costs would have been more unnecessary stress for Noah and the time wasted by the rent arrears team in chasing a non-existent debt.
2. Foodbank Emergency Food Parcel Service – supports individuals and families who experience delays in receiving state benefits following a change in their circumstances. Other valid reasons for needing support are also recognised, and the short-term 'sticking plaster' helps to alleviate acute crises. The known measurable metrics relate to numbers of Foodbank vouchers fulfilled each week together with the number of people and children fed each week. However, in the absence of a more integrated approach, this can only be a shallow solution to a deeper problem. This perceived reality has been the main driver for Foodbank staff, volunteers, and Trustees, to embrace a more comprehensive approach in meeting the needs of its clients by focusing on how to make an immeasurable, yet significant ecosystemic improvement.
3. Foodbank Benefit Advice service – ensures that clients are receiving all the state benefits they are entitled to. The known metrics are available from a system called 'Advice-Pro' which reports on the number of clients helped together with their associated positive financial outcomes. In isolation, this service makes a positive and more sustainable difference for Foodbank clients, nevertheless it is often augmented by working alongside the housing support and digital inclusion teams.

Again, the known single-service performance metrics are very often overshadowed by the unmeasurable collective-effort outcomes of collaborative partnerships.

Here are some questions which arise from life-learning in the foodbank project:

- Do you feel able to make a difference or do you feel that the 'system' is too big to change?
- Do you feel able to make suggestions that will be listened to, or are you reluctant to suggest anything because of intransigent or rigid 'system' rules that 'must be adhered to'.
- Do you have a sense of shared vision and purpose with your organisation as you carry out your duties?

- What innovation has taken place within the last year which has, to your knowledge, improved your organisation's product(s), services(s) or business model?
- Do you feel that you were included in developing this innovation?
- What innovative ideas do you have which could improve your organisation's product(s), services(s) or business model?
- Is there anyone in your organisation who you could share your ideas with without you feeling embarrassed?
- Do you feel encouraged to share innovative ideas with your colleagues?
- To what extent do you believe that your voice is heard?
- How would you describe the leadership culture within your organisation?
- How much contact do you have with customers/clients which might enhance your understanding of their needs?
- How much cross-departmental interaction is there and are you encouraged to work collaboratively within your organisation?
- Is the management within your organisation based upon legacy hierarchical structure with an emphasis on position and authority, or has it become flatter and more functional in nature?

All these questions have relevance and meaning in foodbank operations and as we move through the four interconnected topics of learning, leadership, collaboration and innovation, further references will be made to the ethnographic research evidence, thereby actualising what might otherwise remain merely conceptual.

APPENDIX 6

(Boss, Creutzfeldt et al. 2022) **A testimonial to J. Randall "Randy" Curtis, MD, MPH**

The Sojourns Scholar Leadership Program was founded in 2014 by the Cambia Health Foundation to enable emerging palliative care leaders to execute impactful projects and grow as national leaders in the field. Since the program's inception, J. Randall "Randy" Curtis, MD, MPH has been deeply involved in this vital endeavour: serving on the advisory board and personally mentoring eighteen scholars. Randy has sharpened our thoughts, guided our growth, and imparted wisdom in the process.

Despite graduating from the Cambia program, most of us have maintained a relationship with Randy because his mentorship is so cherished, and transformative. He has a thoughtful way of building our confidence when needed and nudging us towards informed choices when we veer off track. Randy leads from a place of love and is the epitome of a generous mentor. Those who have had the honour of his mentorship have experienced this love and generosity in a profound way; it has given us strength through some of our most challenging professional moments as academics and leaders.

Each of us has been forever changed by our professional and personal relationships with Randy. Since early 2021, when Randy shared the news with us that he was diagnosed with bulbar onset amyotrophic lateral sclerosis (ALS), we have sought a way to honour his commitment to us. This Festschrift offers us this opportunity to publicly share his profound positive impact on our careers and more importantly, our lives. From hosting one of us in Paris during his sabbatical to taking our urgent calls about contract negotiations and grant proposals, he's been available to us whenever we've needed his guidance. Narratives from Randy's Sojourns Scholars mentees provide consistent themes of his mentorship: unwavering support, enthusiasm, kindness and humility, honesty and integrity, supportive structure, and community—and a template for those who wish to mentor others with excellence.

Unwavering support: Randy's unwavering support for his mentees is congruent in every narrative about his mentorship. He consistently describes mentorship as "the best part of (his) job," and "exactly how (he) wants to spend (his) time." He makes us feel that he recognizes something in us that deserves to be seen by others. His quiet confidence and resilience inspires those around him to greatness. One mentee described him as "high tide—all boats rise in his presence—even those moored on the shore, anxious to jump into the water." Another said, "The beauty of being mentored by Randy, is realizing that (he) does not expect you to be him. (He) is unabashedly invested in "you" and seems happiest when his mentees are pursuing their passions and interests." He has seen seeds of talent in each of us and provides fertile soil for them to grow.

Enthusiasm: Randy's enthusiasm is contagious: about his work, mentees, and family. It isn't an email from Randy if it doesn't have more than one exclamation point! When someone has accomplished as he expresses enthusiasm about the impact of one's work to improve patient care, it makes seeing it to completion seem both possible, and easier. As one mentee

described, "After every monthly meeting, I felt like I could levitate...view my challenges from a different perspective."

Kindness and Humility: He demonstrates unmatched kindness and humility. He is attentive to the little things and knows how to inspire those around him. He also knows instinctively when and how much to push us in our journey, when to let us cry, when to make us laugh, and when one of his own stories of a similar experience might make us feel a bit better.

Honesty/Integrity: Randy's driving force in medicine has always been improving care for patients and their families, and he is a living example of the quote from Harry Truman: "It's amazing what you can accomplish when you do not care who gets the credit."

Supportive Structure: Randy proactively creates a supportive structure that allows mentees to thrive. He is intentional about regular meetings, expectations, and accountability. He often shares useful rubrics on prioritizing tasks or thinking strategically about complex problems.

Community: Randy knows and teaches the value of creating a supportive community and encouraging collaborations with people we like, or even love. Since our clinical and academic work challenges all of us, this key advice enhances meaning, and sustainability.

Randy is a brilliant physician and researcher and an incredible human being. He is consistent, steady, and supportive without ever imposing his agenda. He has encouraged us to be our best selves as we create our own unique paths. Along the way, we've learned life lessons from him as he has encouraged us to work with people we love, develop interests outside medicine, and spend as much time as possible with our families. As clinicians who have been deeply influenced, securely guided, and lovingly mentored by Randy, we proudly strive to emulate his example and continue his legacy of making the world a better place for our patients and their families, and for our colleagues, trainees, and friends.

To Randy, with love. Your Sojourns Scholars mentees.

APPENDIX 7

Details of selected book titles included in literature review

Book Title	Author(s)
Indelible Leadership	Michael Fullan
Uplifting Leadership – How Organisations, Teams, and Communities Raise Performance	Andy Hargreaves, Alan Boyle, and Alma Harris
Authentic Leadership Effectiveness	Dr Tineke Wulffers
Future Intelligence 2050	Tomas Landesz et al.
Upstream	Dan Heath
The Leader of the Future 2	An edited collection of leadership insights from multiple Authors including Peter Senge, Stephen R Covey and
The 7 Habits of Highly Effective People	Stephen R. Covey (with fresh insights from Sean Covey)
Where Good Ideas Come From – the natural history of innovation	Steven Johnson
Pedagogy of the Oppressed	Paul Freire
Freedom to Learn for the 80's	Carl Rogers
Deep Work	Cal Newport
Market-Led Strategic Change – Transforming the process of going to market	Nigel F. Piercy
Creativity, Inc. - Overcoming the unforeseen forces that stand in the way of true inspiration	Ed Catmull
The Art of Innovation – Lessons in creativity from Ideo, America's leading Design Firm	Tom Kelley
Mapping Innovation – A playbook for navigating a disruptive age	Greg Satell
Leading in a Culture of Change	Michael Fullan
Cracking the Learning Code	F W Wilson
Collaborative Professionalism	Andy Hargreaves
The Fifth Discipline – The Art and Practice of The Learning Organisation	Peter M. Senge

The literature review was designed to uncover ecosystemic elements which are key determinants of purposeful innovation.

During this extensive literature review, the significance of education and learning came to the fore as important antecedents in context of leadership, collaboration, and innovation.

APPENDIX 8

A speech on 'Systems Thinking' delivered by Dr Russell Ackoff (Ackoff 2015)

Summary of Speech

Rethinking Education: A Summary of Dr Ackoff's Critique and Proposed Redesign

Dr Russell Ackoff's lecture presents a scathing critique of traditional educational systems, highlighting their shortcomings in preparing individuals for the complexities of the real world. He argues that the current methods, with their emphasis on rote memorisation and compartmentalised knowledge, fail to equip students with the critical thinking, problem-solving, and design thinking skills necessary to navigate the interconnected challenges of the 21st century.

Critique of Traditional Education:

- **Disciplines: Artificial Boundaries and Fragmented Learning:** Ackoff challenges the very notion of disciplines, arguing that they create artificial boundaries within the vast domain of human knowledge. This compartmentalisation misrepresents the interconnected nature of reality and hinders our ability to address complex problems, which rarely fall neatly into pre-defined categories. By separating subjects like physics, chemistry, and biology, we create the illusion that they exist in isolation, neglecting the crucial interactions and interdependencies that are fundamental to understanding the world around us.
- **Exercises vs. Real-World Problems:** Traditional education often focuses on exercises and questions presented as problems with predetermined solutions. This approach fails to capture the essence of real-world problem-solving, which requires understanding the context, formulating the problem accurately, and acknowledging the potential for solutions to create new problems. By treating problems as static and decontextualised exercises, we deprive students of the opportunity to develop critical thinking and problem-solving skills applicable to the messy and ever-evolving challenges of the real world.
- **Solving vs. Dissolving Problems:** Even when addressing problems within disciplines, the focus often lies on "solving" them through temporary fixes, neglecting the potential for a more permanent and systemic solution. Ackoff proposes the concept of "dissolving" problems, which involves redesigning systems to eliminate the root causes altogether. He uses the example of the faulty matchbook design to illustrate this point. Instead of simply printing a warning label (solving), the solution involved redesigning the matchbook to prevent accidental ignition (dissolving). This highlights the importance of not just finding temporary solutions but also addressing the underlying issues that create the problem in the first place.

Proposed Redesign of Education:

- **From Problem-Solving to Mess-Solving:** Ackoff argues that the focus of education should shift from tackling isolated problems to understanding and addressing the full complexity of real-world situations, which he refers to as "messes." These messes encompass the interconnectedness of problems, the lack of clear-cut solutions, and the ever-evolving nature of real-world challenges. By focusing on mess-solving, education can equip students with the ability to analyse complex situations, consider multiple perspectives, and develop creative solutions that address the interconnectedness of the real world.
- **Design Thinking as a Core Competency:** Dr Ackoff emphasises the importance of design thinking as a core competency in the redesigned educational system. Design thinking equips individuals with a human-centred approach to problem-solving, focusing on understanding the needs of users, brainstorming creative solutions, prototyping, and iteratively improving upon them. By integrating design thinking into the curriculum, students can develop the skills to not only analyse problems but also actively create solutions that address the complexities of the real world.
- **Redesigning Education from the Ground Up:** The most radical aspect of Ackoff's proposal involves a complete overhaul of educational institutions. He argues that the current system, built upon the foundation of disciplines, is fundamentally flawed and incapable of fostering the necessary skills for the 21st century. Instead, he proposes a system that prioritises understanding the whole (reality and its complexities) before creating specialised parts (disciplines). This would involve a curriculum that emphasises interdisciplinary learning, encourages critical thinking and problem-solving skills, and equips students with the tools to navigate the interconnectedness of the real world.
- **Overall, Dr Ackoff's vision for education is a radical departure from the traditional model.** It calls for a shift in focus from rote memorisation and compartmentalised knowledge to fostering critical thinking, problem-solving, and design thinking skills. By understanding the interconnectedness of the world and equipping students with the tools to address "messes" rather than isolated problems, education can empower individuals to become active participants in shaping a better future.

APPENDIX 9

Suggestions for further research based upon (Loong 2004)

In 2023 Singapore was ranked 5th in the world in the Global Innovation Index. Looking at the education related metrics, it ranked 2nd for PISA scores in reading, maths, and science despite only ranking 45th in student-teacher ratios. Does this suggest that the TLLM strategy is bearing fruit, and that peer-to-peer collaborative learning is making a positive impact?

It is difficult to definitively attribute Singapore's high PISA scores solely to the Teach Less, Learn More (TLLM) strategy and its emphasis on peer-to-peer collaborative learning. While the impressive ranking suggests these elements might be contributing factors, other aspects of Singapore's education system also likely play a role in its success.

Here are some reasons why it's difficult to draw a direct cause-and-effect link:

Single data point. It is challenging to isolate the impact of TLLM and peer-to-peer learning on PISA scores because other factors, like Singapore's strong cultural emphasis on education, curriculum structure, and resources invested per student, also contribute significantly. A single year's data point does not provide enough time to observe long-term trends and rule out other influencing factors.

Multiple factors in play: PISA scores are influenced by diverse factors beyond teaching methodologies, including socioeconomic background of students, family engagement, and access to quality learning resources. It is impossible to completely separate the impact of TLLM and peer learning from these other factors.

Limited evidence. While TLLM emphasises collaborative learning, research on its long-term impact on PISA scores specifically is still evolving. Determining its definitive effectiveness requires further research and controlled studies.

While a definitive conclusion is currently beyond reach, Singapore's high PISA scores alongside its implementation of the TLLM strategy do suggest that collaborative learning could be a valuable component of an effective education system. However, it is crucial to acknowledge the complex interplay of multiple factors contributing to Singapore's educational success.

Further research and long-term data analysis are needed to fully understand the impact of TLLM and peer learning on academic performance, while also considering the influence of other aspects of Singapore's educational system.

This research could provide valuable insight and understanding for education in Wales. The recent announcement of major changes in steel production in Wales and the resulting job losses calls for a national resilience which was so evident in Singapore in the late 90s. The triple helix approach, embodied in Prime Minister Lee Hsein Loong's speech, was all about doing the right thing right! Jettisoning political agendas and simply doing the right thing is what is called for.

PRIME MINISTER LEE HSIEN LOONG'S NATIONAL DAY RALLY 2004 SPEECH, SUNDAY 22 AUGUST 2004 (Loong 2004)

The speech discusses the importance of education in Singapore, particularly focusing on primary and secondary education. It emphasises the need for a shift from rote learning to a more integrated approach that fosters character building, critical thinking, and individual talents.

Here are the key points:

- **Education is crucial for preparing young people for the future:** It goes beyond academic success and aims to equip them with life skills, values, and the ability to deal with challenges.
- **The current education system needs improvement:** While acknowledging past improvements, the speech calls for a "qualitative leap" by incorporating diverse learning methods, individualisation, and experiential learning.
- **Importance of dedicated teachers and principals:** The success of schools hinges on committed and passionate educators who can implement innovative approaches.
- **Increasing resources and teachers:** The plan includes adding more teachers to primary and secondary schools, allowing for smaller class sizes and specialised teaching.
- **Reducing workload and rote learning:** The speech advocates for cutting down on excessive homework and rote memorisation to allow for creativity, exploration, and critical thinking.
- **Parental support for innovative approaches:** Parents are encouraged to support schools' efforts in implementing new teaching methods and character-building initiatives.
- **Importance of mother tongue languages:** The speech emphasises the significance of learning mother tongue languages, particularly Chinese, for identity, regional integration, and future job opportunities.
- **Tailored language teaching:** It proposes a modular approach for Chinese language learning, catering to different abilities and interests with varied difficulty levels and modules.
- **Developing bilingualism:** The plan aims to nurture a small group of students who are proficient in both English and Chinese through intensive programs and scholarships.
- **Multicultural society:** The speech recognises the importance of multilingualism in Singapore's multicultural society and highlights the need to enhance the teaching of other languages like Tamil and Malay.

Overall, the (part of the) speech (relating to education) emphasises the need for a comprehensive and evolving education system that equips students with the skills and knowledge necessary to thrive in the 21st century, while preserving Singapore's unique multicultural character.

The phrase "teach less, learn more" (TLLM) appears in the speech as a **call for a shift in educational approach** from **teacher-centred instruction** to **student-centred learning**. It emphasises the idea that **simply increasing the amount of information taught does not necessarily equate to better learning**. Instead, Lee Hsein Loong proposes:

- **Reducing rote learning and excessive workload:** This allows students to engage in **deeper understanding, critical thinking, and exploration**.
- **Focusing on quality over quantity:** By focusing on **effective teaching methods** and **individualised learning**, students can achieve a **more comprehensive and lasting understanding**.
- **Shifting the responsibility:** By **empowering students** to take ownership of their learning through **active participation** and **experiential activities**, they become more responsible for their own knowledge acquisition and retention.
- Therefore, "teach less, learn more" does not imply a reduction in teaching altogether, but rather a **transformation in the teaching style to facilitate deeper and more meaningful learning**.

The key phrase "**teach less, learn more**" highlights the important shift from a **teacher-centred, traditional information-delivery model** to a student-centred, **facilitation model**.

Traditional model:

- **Teacher-centred:** The teacher is the primary source of information, delivering knowledge through lectures and presentations.
- **Passive learning:** Students passively receive information, focusing on memorisation and rote learning.
- **Emphasis on content:** The focus is on covering a specific curriculum and ensuring students can recall factual information.

Facilitation Model:

- **Student-centred:** The teacher acts as a facilitator, guiding and supporting students in their learning journey.
- **Active learning:** Students are actively involved in the learning process through activities, discussions, and projects.
- **Emphasis on skills:** The focus is on developing critical thinking, problem-solving, and other essential life skills, using knowledge as a tool.

Therefore, the "teach less, learn more" philosophy emphasises that effective learning is not solely dependent on the amount of information delivered by the teacher. Instead, it underscores the importance of creating learning environments that empower students to actively engage, explore, and build their understanding. The teacher's role shifts from being a dispenser of knowledge to a facilitator, guiding students in their independent learning journey.

APPENDIX 10

A collection of key quotes from authors and experts referred to in this paper

Whereas 'banking education' anesthetizes and inhibits creative power, problem-posing education involves a constant unveiling of reality (Freire 2017d)

We know, in short, that it is possible for any teacher to move in the direction of becoming more real, more sensitively understanding, more caring in relation to his or her students (Rogers 1983e)

Future leaders shall be role models, representing a new set of values that inspire new generations to lead with heart, compassion, emotional intelligence, care, education, and kindness. Authentic leadership traits such as adaptability, collaboration, creativity, emotional intelligence, entrepreneurship, ethics, resilience, self-awareness, and social awareness will be crucial for future-generation leaders (Landesz, T., Varghese et al. 2023b)

But you have to know every student, provide individualised teaching, coaching where needed, and help the pupils to learn beyond the classroom and in life, through interaction. They call it "experiential learning". It's a big word, but what does it mean? It means you have to think of new ways to get them to engage, to do something and, by doing something, to hoist in an indelible experience (Loong 2004)

Now there's an old aphorism that you may not have heard since it's not widely circulated among - goes as follows:
An ounce of information is worth a pound of data;
An ounce of knowledge is worth a pound of information;
An ounce of understanding is worth a pound of knowledge and;
An ounce of wisdom is worth a pound of understanding.
So, we have a hierarchy of the content of mind – data, information, knowledge, understanding, and wisdom - of increasing importance as you approach wisdom - but the allocation of time in the educational system is inversely related to the importance of these contents (Ackoff 2015)

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