Reimagining the VLN within a future-focused VLE: A scoping document.

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Future Makers

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1 Executive Summary

1.1 A network of virtual learning clusters has been operating successfully across New Zealand for more than 25 years, providing access to high quality online learning opportunities for learners where these are denied in their local context through (a) the course isn't available in their school or (b) timetable clashes mean the course isn't available for that student. The recommendations in this paper honour the work of this group and seeks to support and build on the contribution they make to NZ education.

1.2 The significant question that this report addresses is how the Virtual Learning Network (VLN) might be re-conceptualised in line with its original vision of being a national learning exchange, and grow to become a more integral part of the virtual learning environment (VLE), providing quality learning experiences for learners within the education ecosystem in New Zealand.

1.3 Schools and clusters involved in the 'current state' VLN have been required to 'fit' within the constraints of the current educational policy and regulatory frameworks. The main barriers to growth and sustainability are identified in five key areas:

- Lack of strategic alignment with other areas of the education system
- Lack of appropriate policy and regulatory frameworks
- Lack of strategic governance and leadership at a national level
- Lack of guaranteed resourcing within the envelope of MoE funding
- Lack of appropriate technical infrastructure and service

1.4 The recent COVID-19 response has highlighted significant inefficiencies in the current ability of the education system to engage with schools, teachers, learners and their parents/whānau when the familiar structures of schools as physical locations are no longer available. The lack of a core technical infrastructure and services to support the continuation of learning in a virtual manner, compounded by the high degree of inequity that exists across the system in terms of digital access, has exposed a significant risk to achieving the Ministry's vision of shaping an education system that delivers equitable and excellent outcomes for all learners.

1.5 The architecture for a virtual learning environment (VLE) outlined in this paper provides the economies of scale and benefits of system-wide integration of services that the VLN requires, and will enable the fundamental model of the VLN to become more universally recognised and valued – and applied across the whole sector as we move towards a 'blended learning' paradigm post COVID-19.

1.6 The proposed target state described in this paper will be fully integrated within the NZ education system, accessible to all learners in all schools across the country. It will enable a learner-driven, on-demand access to the range of learning experiences suited to individual learners regardless of location. The system will support learner, teacher and school self-service; a life-long record of learning and national brokerage of learning experiences at all levels

1.7 The proposed core digital infrastructure is designed to enable, not constrain the ongoing activity of the existing VLN-Community members and schools in the wider education community by providing nationally available digital services designed to alleviate many of the current stress points on the current operation of the VLN-C, and to enable the VLN to scale to involve many more learners, teachers and schools.

1.8 Looking ahead to what could be implemented to support the target state model in the New Zealand context reference is made to the Canadian 'consortia' model which has a number of features that could apply here in order to provide a sustainable funding supply while at the same time preserving the relative autonomy and value of the local clusters.

1.9 In seeking to bring initiatives such as the VLN into the 'mainstream' of our system it is important that all parts of the Ministry of Education are involved, specifically ESP, IT and ELSA. It is vital that representatives of these groups, together with stakeholder and 'expert group' representatives are involved regularly in the process of planning and implementing the recommendations in this report.

1.10 The recommendations made in the paper are organised into two sections; (a) the immediate actions to remediate issues and concerns for the current VLN clusters, and (b) the actions to achieve a longer term view of the operation of the VLN clusters within a broader Virtual Learning Environment (VLE) serving the population of all NZ schools and students. The recommendations are further organised based on the areas of responsibility of specific groups within the Ministry of Education.

2 Recommendations

The recommendations that follow are organised into two sections; (a) the immediate actions to remediate issues and concerns for the current VLN clusters, and (b) the actions to achieve a longer term view of the operation of the VLN clusters within a broader Virtual Learning Environment (VLE) serving the population of all NZ schools and students. The recommendations are further organised based on the areas of responsibility of specific groups within the Ministry of Education.

2.1 Immediate Actions

The immediate term actions have been developed in consultation with the VLN clusters, and will realise significant benefits in the short term while not detracting from what is addressed in the longer term recommendations that follow.

(a) MoE Policy Group (ESP)

2.1.1 Review current funding options to identify ways of supporting the brokerage and coordination role at the local cluster level.

2.1.2 Scope a full review of EFT funding and specialist funding provisions in the Education Act.

2.1.3 Review policy frameworks regarding the status of those able to form, contribute to and facilitate virtual/online communities.

2.1.4 Undertake preliminary work to scope relevant regulatory changes required to bring blended activity within the bounds of everyday activity of schools (includes review of role of teacher, ability to utilise and fund non-teaching contributors, regulations relating to hours of opening and attendance requirements etc to bring these in line with the world of open, flexible and distance education).

(b) Early Learning & Student Achievement Group (ELSA)

2.1.5 Review all current activity within the VLN being funded from within ELSA and undertake a process to rationalise future spending to align with the strategic goals of the MoE (including equity funding and areas of special need etc.)

2.1.6 Continue use of short-term funding to address the pedagogical support and coordination roles within the current VLN (extending the provisions initiated under the COVID-19 response).

(c) IT Group

2.1.7 Cease support for the legacy technologies currently being funded by the MoE – including the VC bridge and licensing for Adobe Connect

2.1.8 Confirm a system-wide licence for Zoom as a provision in the first instance for the VLN schools, but with capacity to expand to provide this for other schools applying to use it for their online and blended learning initiatives.

2.1.9 Prepare a transition plan and timeline for the phasing out of the current ELGG platform and the introduction of new tools to support the VLN online communities (including the use of Edsby). The immediate focus should be on the establishment of a 'community space' to replace the current ELGG-based VLN groups. Details of the user requirements for this are outlined in section 13.5 of this document.

2.2 Longer term actions

2.2.1 Form a Future VLE working group comprising members of all three MoE groups mentioned below to collaboratively develop and provide oversight of an action plan to implement the recommendations made in this paper. This plan should identify specific roles and responsibilities for each group to ensure this becomes a key part of the MoE strategy moving forward. The group should have regular internal meetings and communications, and should engage with existing VLN members as well as more widely across the sector.

2.2.2 Provide this group with a terms of reference, budget, support and a timeframe to achieve the transformation plan required.

(a) MoE Policy Group (ESP)

2.2.3 Address policy actions identified in the policy review of 12.1.3 above. Note – policy work should seek to establish key roles and responsibilities for each of the three parts of the system (top, middle, local), including both regulatory measures as well as funding triggers.

2.2.4 Identify and address policy and funding requirements to be considered for the design of physical learning environments where teachers may increasingly be required or choose to operate in a 'blended' fashion (i.e. with f2f and online students simultaneously).

(b) Early Learning & Student Achievement Group (ELSA)

2.2.5 Commit to being a part of the strategic planning and implementation of the technology elements of the future state planning, in particular by providing specialist pedagogical input to ensure the design of such systems and interfaces are fit for purpose to meet the needs of teachers and learners.

2.2.6 Commit to ensuring that work being undertaken across all areas of ELSA are informed by and aligned with the opportunities provided by a well-designed digital environment.

2.2.7 Plan for and provide support for the professional development needs of teachers as they begin working more in the online environment – both in terms of personal competence and capability building, and also in terms of learning design for online teaching.

(c) IT Group

2.2.8 Ensure alignment between all planning for and implementation of the Virtual Learning Environment and establish an operating model of the VLN within this.

2.2.9 Specific areas of focus for the IT group to include:

2.2.9.1 Single sign on requirements (identity, access requirements) that integrate fully with a school's existing SMS.

2.2.9.2 Implementation of a full content strategy, including design of learning object repository, learner portfolio and associated platforms.

2.2.9.3 Design and implementation of an online learning environment as outlined in this paper, focusing on the provision of a user dashboard that brings to life the interoperability capabilities of such an environment.

2.2.9.4 Provide basic toolsets for those who have yet to access or use these (i.e. LMS feature set).

3 Context

3.1 This scoping document has been prepared at the request of Jonathan Shennan and is intended to inform the design work of the Digital Transformation Team within the MoE. This team is seeking to ensure that the current and future needs of the Virtual Learning Network (VLN) and associated online learning initiatives are appropriately catered for within the infrastructure and services requirements of the MoE's Digital Transformation Strategy. This strategy is being developed in accordance with the sector-wide Education System Digital Strategy that sets out a vision, goals and capabilities needed to equip students, educators and administrators for life and work in the digital age.

3.2 The ICT Investment Plan agreed to in June 2019 includes several key digital initiatives to support effective, coherent, system-wide adoption of technologies for education, including:

- Enable an integrated, connected online learning environment, accessible to educators and to students and those who support them anytime, anywhere.
- Provide core digital services and infrastructure to free up educators and providers to focus on delivering a quality education, reduce costs, and improve efficiency.

3.3 The information and recommendations identified in this document are intended to inform the shape and operation of the VLN into the future that will be enabled within the proposed Virtual Learning Environment (VLE) identified as a key part of the ICT investment plan.

4 Methodology:

The following activity was undertaken in the process of preparing this report:

4.1 Review of key documents and reports

A summary of key documents and reports is listed in appendix 2

4.2 Interviews with key stakeholders

Stakeholders interviewed included:

VLN Primary - Rachel Whalley

OLC - Sara Field (Volcanics), Sue McCarthey (HarbourNet), Amanda King (FarNet), Andrew McKnight (WelCom), Wayne Buckland (principal, Bream Bay College)

NetNZ - Darren Sudlow, Trevor Storr & Ken Pullar

4.3 Workshops with key VLN staff

An initial meeting was held in Wellington on Thursday 16 March with leaders from within the VLN community from across New Zealand. (see appendix 1 for programme agenda). Participants were:

VLN Community: Rachel Whalley & Lucie Lindsay (VLN Primary), Sara Field (Volcanics), Sue McCarthey (HarbourNet), Amanda King (FarNet), Andrew McKnight (WelCom), Darren Sudlow, Trevor Storr & Ken Pullar (NetNZ)

Ministry of Education: Clare Old (policy), Chris Harwood (ELSA), Sophie Smith (policy), Martin Rothbaum (digital transformation)

A further workshop had been anticipated, but in the event of the COVID-19 lockdown, all further communications were held virtually.

4.4 Working with/alongside key MoE personnel from affected areas

5 Problem definition

5.1 This paper seeks to address the following challenge:

> *How might the Virtual Learning Network (VLN) might be re-conceptualised in line with its original vision of being a national learning exchange, and grow to become a more integral part of the virtual learning environment (VLE), providing quality learning experiences for all learners within the education ecosystem in New Zealand?*

5.2 Consideration is given to the following:

5.2.1 The VLN community has an active membership of clusters of schools that are currently providing a valuable service for learners who are unable to access the courses/learning they desire within their local context.

5.2.2 The MoE has been supporting the VLN in a variety of ways, including ongoing payment for online services that are no longer used.

5.2.3 There is considerable potential for the expansion of online teaching and learning approaches within the schooling system, building on work of the VLN, but recognising also the growth in use of online environments across all areas of the schooling system to enable engagement in learning experiences that are not confined to the time/space dimensions of a physical school.

5.2.4 The VLN online groups environment is currently hosted on an outdated platform that has not been supported from some years – despite this, many groups are still active in this environment.

5.2.5 The current policy and regulatory environment for schools does not adequately address the needs and activities of the VLN community, making it difficult to easily recognise the enrolment of learners with multiple providers.

5.2.6 The lack of integrated support systems means teachers and learners in the VLN are required at times to maintain multiple logins, and student information cannot be easily aggregated to a single reporting view.

5.2.7 The MoE is currently involved in the design and development of a Virtual Learning Environment (VLE) as part of its Digital Transformation Activity. This includes the capacity for the activity of online groups and the provision of tools and systems to support online learners and their learning.

5.2.8 The VLE design integrates with a number of areas of MoE activity, including the development of an online content repository (replacement for TKI) and the design of curriculum, assessment & student record.

6 Background

6.1 The importance and potential of open, flexible and distance education has been recognised by successive governments as a crucial part of New Zealand's future for more than three decades.

6.2 Subsequent reports have identified that achieving the ideal 'future state' involves an 'end-to-end' view of the system-level requirements for support and investment.

6.3 While progress has been made at a national level in some areas (i.e. the physical and technical infrastructure), the progress towards a fully integrated, connected, sustainable solution has been characterised by a succession of 'ad-hoc' and/or 'short-term' initiatives that work outside or on the fringes of the current legislative and policy frameworks.

6.4 The Virtual Learning Network, as one of these initiatives, has managed to be sustained for 25 years through the efforts of principals and teachers 'on the ground', and with a level of support from the Ministry of Education.

6.5 The potential of online learning and initiatives such as the VLN to provide a vehicle for addressing some of the current strategic issues within our education system (e.g. teacher supply, initial teacher education, professional development and support, specialist subject expertise sharing etc.) has again become a focus of the current government and Minister of Education.

6.6 In seeking to bring initiatives such as the VLN into the 'mainstream' of our system it is important that we learn from the history of what has occurred, then take a future-focused view of what needs to be put into place to enable the sort of system re-design and activity that is reflected in the future state view. (i.e. we must avoid simply designing a policy approach intended to 'remediate' the shortcomings of the current approaches).

6.7 The recent COVID-19 response has highlighted significant inefficiencies in the current ability of the education system to engage with schools, teachers, learners and their parents/whānau when the familiar structures of schools as physical locations are no longer available. The lack of a core technical infrastructure and services to support the continuation of learning in a virtual manner, together with the high degree of inequity that exists across the system in terms of digital access, has been exposed as a significant risk to achieving the Ministry's vision of shaping an education system that delivers equitable and excellent outcomes for all learners.

6.8 The COVID-19 response included a number of options for learners to continue their learning from home, and teachers to teach from home, including the provision of 'packs' of material for those without digital access, an educational TV channel and a website providing support, advice and links to online learning materials and programs for students with the appropriate level of connectivity at home. Extra enrolments were made possible in programmes offered by the VLN-C, and access provided to NCEA-level resources from Te Kura and Open Polytech via the ClassroomNZ2020 portal. All of these responses, together with the various ways schools and teachers have made use of environments such as Google Classroom and Microsoft Teams to structure their own learning activities for their students at home, have highlighted the potential benefits for many learners (and teachers) of engaging with their learning online.

6.9 The potential for incorporating open, flexible and distance learning approaches across all of our system promises to usher in a completely new paradigm of educational opportunities for all New Zealanders, across all of life. We need to ensure that our future vision takes account of this, and that our core technical infrastructure, online services and policy design and legislative frameworks support this future.

7 Contribution of VLN to the education system as a whole

7.1 Distance learning clusters have been operating in New Zealand for more than 25 years now. The primary driver behind these being established was to expand access to high quality curriculum opportunities for students where those options are not available in their local school context.

7.2 Other benefits of operating in this way soon emerged, including

- 7.2.1 Networks of support for individuals or groups of learners in local schools with others of similar age/interests – a sort of 'virtual home room'.
- 7.2.2 Networks of support for teachers – including professional development opportunities provided across the network.
- 7.2.3 Sharing of professional resources and content across the cluster.

7.3 Operating as they have, the VLN clusters have enabled thousands of students to remain in their local communities and with their families while completing their learning through to the end of secondary school. Records of achievement and further studies at tertiary level reported by the VLN clusters would indicate this approach has been as successful, if not moreso, for VLN students as for for those graduating from traditional face to face programmes.

7.4 In addition, the VLN clusters have enabled many teachers to develop professionally and continue at the leading edge of their field while remaining in the schools they are teaching from.

7.5 Wider community benefits have also been reported as a result of school rolls being maintained, family units remaining together and the downstream impacts on local businesses that continue to operate and thrive. (Stevens, K. 1995)

7.6 Addressing issues of equity is the most significant contribution of the VLN to the schooling system as a whole in New Zealand. This includes:

- 7.6.1 Catering for the needs of learners through expanding curriculum choices for learners at all levels of the schooling system.
- 7.6.2 Providing access to high quality teaching for all learners regardless of location/context.
- 7.6.3 Providing opportunities for professional growth and recognition for teachers – outside the bounds of the existing system.
- 7.6.4 Building communities of practice to enrich both learner and teacher development and provide for sustainability and support through learning pathways.
- 7.6.5 Provides a basis for resource development and resource sharing to support curriculum teaching and learning.

8 Alignment

8.1 In the past few years the work of the VLN has become more 'visible' across some parts of the MoE, but to date has not been fully embraced within the overal policy or legislative frameworks. The Education Amendment (Update) Act of 2017 introduced the concept of Communities of Online Learning (COOLs) which were intended to enable the operation of the VLN and other distance/online learning providers to be catered for within the 'mainstream' of education, however no changes were made to the policy frameworks that would allow the VLN to operate effectively within this new legislation.

8.2 More recently some work has been undertaken in three areas of the Ministry as they work towards a longer term, sustainable approach:

8.2.1 **ELSA** – teams within ELSA have historically been supporting various aspects of the VLN through specific grants and allocations, including funding for some of the shared services used by participating schools and clusters (e.g. online conferencing tools).

8.2.2 **Policy** – a paper has recently been prepared within the Policy team on 'developing a national approach to high quality online learning' which is intended to be submitted to the Minister of Education.

8.2.3 **Digital Strategy and Planning** – have been working on a digital transformation plan that involves replacing legacy systems with updated digital platforms to provide a coherent and managed solution across all Ministry services.

8.3 Key areas of strategic alignment with current policy development that is important to recognise alongside the content and recommendations of this paper include:

8.3.1 **Digital Transformation Plan** – within which sits the planning for a connected learning environment, much of which is also signalled in this paper as the vision for an online learning environment being scoped and planned for as part of the Digital Transformation plan should be the same as what is used for the VLN.

8.3.2 **Digitally Enabled Workforce** – part of the 'future of PLD' work undertaken by Pam O'Connell within ELSA, ref the commissioned paper titled "Digital Agency for Teachers" (Wenmoth, 2019). This paper makes the case for a digitally enabled workforce, and includes a section that deals with changes in perception of how and where teaching and learning occurs as a result of digital technology use. The report states; "*The increased access to and use of technologies, particularly mobile technologies, to support learning has led to increased personalisation and self-management of learning. Not only that, but it has created opportunities for learning to occur beyond the time/space bounds of a traditional school setting.*"

8.3.3 **CPA/MAG Report (2019)** – states that digital technology, and the efficiencies it enables, supports educators across the system to:

- easily access high quality resources that support curriculum, progress, and achievement
- access and use smart tools for designing, enacting, and inquiring into curriculum, progress and achievement
- connect with groups of educators grappling with similar issues to themselves
- contribute and share their knowledge and insights.

In addition the report identifies that digital tools are used often in the following contexts in education to:

- help parents and whānau to understand their child's progress, interests, and growing capabilities.
- teach learners in other learning sites
- select digital/online resources and tools to support ākonga learning.

8.3.4 **Future Workforce** planning – the Future Education Workforce working group within the MoE (2019) identified the following among their key shifts expected by 2032:

- The workforce is designed around the needs of the learner and whanau
- A collaborative approach to improving learning for all across a regional/national network of learning
- A dedicated mentor/advisor/coach knows and supports each learner throughout their time in a learning environment
- Innovative and flexible learning opportunities across a spectrum of teaching methods augmented by technology as appropriate
- Learning is integrated into the local and regional community across a broad spectrum of local bodies and business
- Multiple pathways into teaching that are attractive to those with a disposition to teach and from diverse backgrounds and experience

These shifts are all directly relevant to the current and future vision of the VLN, and are key pre-requisites to achieving the vision of the future VLN as outlined in this paper.

8.3.4 **Te Tāmata Huaora – Te Reo Māori in English-medium schooling** (ERO) - highlights the need in NZ schools to extend the workforce provision for teaching te reo Māori. P.21 of the report states; "*The supply of specialist teachers of te reo Māori is limited, and the relative geographic isolation of many schools also presents challenges to access. It would therefore be sensible to consider opportunities for delivery through existing Kāhui Ako|Communities of Learning or other types of school cluster where economies of scale could be achieved. Another possibility is to make greater use of digitally-enabled teaching from a distance, allowing the system to better share its existing teaching capacity. Furthermore, as with any other situation in which schools draw on external expertise, ensuring that there is a staff capability-building component to the provision will increase the usefulness and sustainability of the effort. There may also be benefits for learners to see their teachers learning alongside them, modelling enthusiasm, commitment to and progress with te reo Māori.*"

8.4 A successful approach to achieving a 'future VLN' must be based on a fully integrated view of the VLNs contributed to a successful, future-focused education system. In preparing this proposal conversations have been held with senior staff in both groups with all concerned agreeing to contribute to the preparation of what is proposed here in order to achieve a coherent, system-wide solution plan.

9 Development of the VLN

The table on the following pages illustrates the development of the VLN since it was formally introduced in 2003. The first column summarised the characteristics as per the original vision and drivers, while the middle column captures the key points about how it is operating today. The third column summarises the key features of the 'future VLN' as it is becomes an integral part of the way education provision is supported in New Zealand.

Table: Development of the VLN from 2003 to the Future State

	Original Concept (2002)	Current state	Future State
Intent	A national network of rural/regional clusters of schools, enabling access to a wider range of curriculum choices sharing teaching resources using online technologies. Focus: equity of access	An informal consortium of three key sub-networks of schools/clusters (NetNZ, OLC, VLN-P) enabling access to a wider range of curriculum choices sharing teaching resources using online technologies. Focus: equity and sustainability	A future-focused, virtual learning network that is embedded within the overall VLE architecture of the NZ education system, supporting a blended learning future for all learners. Key focus: equity, quality, ubiquity
Scope	Clusters of rural and regional secondary/area schools where access to breadth of curriculum is limited due to roll size and/or availability of specialist teachers.	Each sub-network (NetNZ, VLN-P and OLC) taking responsibility for the design and structure of their operation, but collaborating to continue with provision of courses at a national level where required.	Available to all learners in all learning contexts in New Zealand. Complementing the activity of other distance education providers (Te Kura, Open Poly and various community and business providers).
Capability/capacity	Professional development needs catered for mostly within the clusters themselves. Drawing on expertise of earlier clusters (i.e. Cantatech), commercial providers and NZ Correspondence School.	Professional development needs are catered for predominantly within each of the sub-networks and/or clusters within these, and at times, as a collaborative approach involving members of all of the sub-networks, enabled by funding from the MoE.	Blended/online learning a focus of PLD activity – both as a medium for participation and as a focus for learning about. Process for credentialing online teachers.
Funding	A mix of commercial sponsorship (Telecom, asnet) and MoE from the ICT strategy discretionary funding to support innovations in key areas of that strategy.	A mix of funding models, including a number of 'grants' and one-off payments to schools and clusters. Reciprocity model adopted by some clusters, with schools contributing teachers able to access courses for their learners. Some level of direct contribution from schools to the operational costs in some networks. VLN-P operational costs met by the Ministry of Education	Staffing costs met through the EFT-based funding channels used to provide funding for educational providers across the system (including schools, special schools, alt-ed providers etc.) Support for DE coordinators in each cluster. Centralised support for instructional design of DE content and curriculum support All VLN funding included in the annual appropriations of government for education

Technology	Video conferencing, email, emerging use of WWW environments. Brokerage website and online community platform (www.vln.school.nz)	Legacy systems (Adobe Connect, VC bridge and ELGG platform) still funded by MoE Variety of 'next-gen' systems being used and funded by schools (Zoom, Hail, Google Classroom etc.)	Nationally provisioned: - Online Learning Environment (includes elements listed above in funding) - Online community space - Learning exchange
Pedagogy	"Course" model, one-teacher with one class. Based on existing practices in schools – distance education pedagogy based on course delivery to virtual classes. 1 hour video conference per week and 3 hours independent study in local context. Set timetable for VLN classes, students withdraw from local class to participate for the one hour online.	"Course" model, one-teacher with one class remains dominant – distance education pedagogy with emerging models of learner-led approaches. Mix of synchronous and asynchronous engagement, some initiated by and among learners.	"Learning" model, with opportunity for learners (with parents/whānau support) to navigate access and participate in the learning experiences they need, independently and collaboratively. Emphasis on supporting individual learner journey, based on learner profile. Continuity of learning experience through life.
Structures	"School" and "course" the focus of learning architecture. Students fully enrolled with 'host' school, 'host' principal responsible for accounting for their learning progress. Remote teacher responsible for planning, delivery and assessment of courses, then responsible for communicating achievement to the 'host' school. Some schools making provision for a teacher with time/responsibility for supervising distance learning students in their school – based on the models used for dual enrolled Correspondence School students.	"School" and "course" the focus of learning architecture. Students fully enrolled with 'host' school, 'host' principal responsible for accounting for their learning progress. Remote teacher responsible for planning, delivery and assessment of courses, then responsible for communicating achievement to the 'host' school. Most schools operating with an eDean, and clusers appointing an ePrincipal following the model developed in a MoE-funded pilot from 2006-2008	Schools remain the focal 'hub' for learners to identify with, providing oversight for wellbeing and learning support of learners, and as a focus for cultural, sporting and community engagement. Learning experiences may be provided from a range of places other than schools (e.g. GLAM sector, ITOs, community agencies) Unified virtual learning environment (VLE) enables far greater learner-centric approach, with auto-generated user schedules and record of learning maintained.

10 The Original Concept

The following quote is from a document describing the history and development of the VLN in New Zealand over the past 25 years.

> *The Virtual Learning Network (VLN) has been a part of the learning landscape in New Zealand since 2002. Originally developed as a brokerage of educational service provision for students in rural and remote schools in New Zealand, the VLN has provided a mechanism for enabling these students to gain access to areas of the curriculum and specialist studies that aren't available in their local school context. Despite this length of its existence, and the benefits it has provided for large numbers of learners and their communities, the VLN has not yet been recognised as an integral part of our education system, depending instead on the goodwill, passion and vision of groups of individuals and the occasional support from philanthropists and government. (Wenmoth, 2019)* [1]

The paper explains the original drivers and vision for the VLN and the ways it has evolved over the years, and should be referred to as a companion or background document to this current paper.

A summary of key points from the 2019 Wenmoth paper that are relevant to the current paper here are:

10.3 The VLN started as a 'ground-up' approach to providing support and coordination nationally to several regional school clusters where distance learning was being used to expand learning opportunities for students across the cluster.

10.4 Originally coordinated from within Te Kura (The NZ Correspondence School), the VLN received initial financial support from the Ministry of Education to:

10.4.4 establish an online environment (platform) to serve as a national 'brokerage' of information and the exchange of courses among and between clusters across New Zealand, and

10.4.5 provide the technical infrastrcuture, including a video conferencing bridging service that could be used by all schools in the network.

10.5 Initial support for capability and capacity building within these clusers was provided by external specialists, including the NZ Correspondence School (now Te Kura). The Ministry of Education later provided additional support to fund specific roles within each of the clusters as a way of addressing some of the extra workload issues identified by the clusters themselves – these included an e-principal for each cluster and an e-dean within each participating school. This funding was provided as a pilot for approximately three years.

10.6 As part of its ICTPD programme, in 2005 the MoE sought to establish a platform that could be used to support the establishment and ongoing activity of 'communities of practice' among and between the increasing numbers of ICTPD clusters. The decision was made to use the VLN online platform (ELGG) for this purpose as it provided all of the functionality required, and so a distinction was made between the use of the platform to provide support for the VLN Groups (i.e. communities of practice), and the VLN Community (i.e. the clusters of schools providing online learning support across the network)

Over the past decade or so the VLN Community has sought to find ways of sustaining its activity given the lack of MoE support (either through direct funding or through policy and regulatory changes that would mean funding could flow to this area of activity). This has resulted in the current state

[1] Wenmoth, D (2019) Virtual Learning Network in New Zealand: History and Future Thoughts accessed online: https://www.futuremakers.nz/articles-and-papers

(described in the following section) where the VLN as it was initially conceived of and designed to be no longer operating as a national exchange of courses and expertise. Instead there are now three distinct sub-groups within the network, each pursuing their own approach to supporting the vision they have and the work they do.

The significant question that this report addresses is how the VLN might be re-conceptualised in line with its original vision of being a national learning exchange, and grow to become a more integral part of the overall provision of quality learning experiences for learners within the education ecosystem in New Zealand.

11 Current state

The VLN currently operates in three separate ways as described below. While the original vision that gave rise to the VLN is still present in the ways it operates, the failure to embed its activity within the mainstream strategy and planning of the system itself has resulted in a number of adaptations to its structure and processes along the way so that while there is an 'implicit' understanding of what its purpose is, the actual strategic thinking and planning is represented more at the level of each area of operation.

This section begins by addressing the funding context and then describes the current state activity of the three main areas of activity that continue to exist.

11.1 Funding

11.1.1 The funding of the VLN is highlighted as the most significant issue for all of the leaders, schools and clusters involved. The VLN began originally as an innovation activity, initiated by a group of schools in response to the changing political and educational context. It involved contributions from commercial partners and the Ministry of Education in the form of one-off grants or payments where the activity aligned directly with the strategic actions the Ministry was seeking to promote at the time.

11.1.2 There are currently a variety of approaches to funding the ongoing activity of the VLN-C, including:

- **Reciprocal arrangements** – where schools providing a teacher to the network are then able to provide student access to courses provided by other schools. (referred to by these schools as the principle of reciprocity.)
- **Membership contributions** – where schools contribute a set amount of money (from their operations grant) to become a 'member' of the network, and are then able to provide student access to courses provided across the network.
- **Direct payment** – where specific payments are made by the school (on behalf of a student) or by the student themselves to access courses on the network.
- **In-kind support** – where some costs are met by participating schools from within their current staffing or operational costs – for example, the provision of an in-school support person for the virtual learning students.
- **Sponsorships** – where commercial partners, trusts, philanthropists have contributed to the ongoing costs of some VLN schools/clusters (minimal contribution here to date).
- **MoE contributions** – there are several ways in which the MoE has and is currently contributing to the operation of the VLN, including:

- Grants from within budgets to support particular strategic actions (e.g. ICT strategy, BeL-PD strategy etc.)
- Payment for core infrastructure (e.g. ELGG website maintenance, video conferencing bridge, webinar platform)
- Special initiatives (e.g. Mahitahi, Networks for Enterprise fund, Innovation fund etc.)
- Special payments (e.g. operational costs paid to VLN-P)

11.1.3 NetNZ has been active in pursuing a model of operation that would enable them to derive income from providing their online courses in other (international) jurisdictions. As a not-for-profit, trust-owned organisation, they would then intend on using revenue generated in this way to provide ongoing services to their member organisations (the schools in their network)

11.1.4 The Online Learning Community (OLC) operates as a member-driven charitable trust with two levels of membership:

- Individual school membership. This is open to all schools. A common condition of membership is that the school provides at least one (1) non-fee paying programme of learning or equivalent contribution to the OLC (except in exceptional circumstance approved by the OLC Council trustees).
- Provisional membership. This class of membership exists to enable new schools to participate in some OLC activities for one year, by negotiation, before making a firm decision to join the OLC.

To demonstrate how the OLC sustains its activity, the following example from the Volcanics cluster, one of the member clusters, illustrates their funding model. In this cluster each school…

- contributes a course which can be accessed across the cluster (accounts for approx. 0.2 of a FTTE based on a 5 course workload)
- allocate an eDean position. It is recommended that the eDean has 1 hour per week for every 10 students enrolments in VLN courses
- contributes 0.1 FTTE towards the e-Principal position for the cluster
- contributes $4000 from their operational budget towards MU costs in the cluster and travel etc.

Funds are paid to a ‘fundholder’ school and distributed from there. Any surplus money received goes back into supporting additional courses.

11.1.5 The VLN-P is governed by a charitable trust, with its operational costs funded by MoE and its teaching costs funded by schools directly. Some teachers work within the network through a reciprocal arrangement with member schools but, most are contracted by the Trust to work across the VLN-P network of schools they work with. THE VLN-P refers to this as a “kete economy in which all funding received goes into a common ‘kete’ and is used then to meet the range of costs associated with running the programme as a whole.

11.2 VLN Groups (online communities of practice)

11.2.1 As explained in section 5, the use of the Ministry's decision to use the VLN ELGG platform as the basis for developing an online community of practice has led to a substantial amount of activity taking place in this environment over the past decade or so, with groups forming and fading over time reflecting the normal life-cycle of such groups.

11.2.2 Originally introduced to the sector through the MoE's ICT-PD programme in the late 2000s, the VLN (ELGG platform) provided a convenient way of providing the equivalent of a "Facebook for education" for NZ teachers, enabling them to create and join groups in a similar way to what can happen in the Facebook environment, but without the level of risk and exposure beyond these groups that exists with the Facebook platform. The VLN-groups have continued to operate in this way for more than a decade now, with minimal direct involvement or support from any area of the MoE, apart from the ongoing support for the technical platform purchased from CORE Education.

11.2.3 Data on the use of the VLN-Groups for the period 1 Jan - 10 May 2020 is as follows:

- 82,163 page views
- 62,102 unique page views
- Average time for View: 00:01:19
- Total number of groups: 1,226 groups
- Total number of members 23,933, 777 active members

As can be observed, among the broader network of educators in NZ a wide range of VLN-groups have continued to operate on the VLN (ELGG) platform with relatively little direct support from the MoE in recent years. This pattern of behaviour suggests there is an ongoing benefit to the sector of having access to a safe online environment to form and participate in various online communities of practice.

11.2.4 In the past decade however, in the absence of ongoing support and promotion of the VLN-groups by the MOE, and of any enhancements and updating of the platform itself, many educators, schools and clusters (including the VLN-community) have moved to establishing their own online sharing spaces – utilising the functionality of established platforms such as GoogleDocs, Microsoft Teams and Facebook, and a number of other platforms such as Trello and OneNote for example.

11.2.5 Among the VLN-community NetNZ and the VLN-P have established a completely separate community space called NEX Kōtuhituhi2 (hosted on Wordpress with a Peepso plugin) which was established specifically to support the network of online teachers, across all parts of the sector. As such it is operating as one of the groups within the ELGG community network might do, but within a separately developed technology platform. Some OLC teachers are in this space, Te Kura teachers have been invited to participate but have not taken this up. 18 months into the development of NEX Kōtuitui we are still evaluating our options as to the best community tool.

11.2.6 Funding for NEX was received as part of the Networks of Expertise PLD initiative from the Ministry of Education. The project needs analysis conducted by TRCC[3] states;

[2] https://nex.education/

[3] http://services.education.govt.nz/assets/Uploads/Needs-Analysis-Networks-of-Expertise.pdf

> *The range and type of networks of expertise in education is extensive. In 2016 the Ministry identified over 800 networks. These range from national subject associations, national leadership groups representing principals and other senior leaders, to smaller regional networks that may or may not be associated with a national body. They use a mix of online and face-to-face methods of communicating, and many use the Virtual Learning Network (VLN). The 800 networks does not include less formal groups using Facebook etc. (page 1)*

The scoping document goes on to recommend

> *That a Hub be established to offer support to ECE, primary, and secondary teachers and leaders and their networks of expertise, with the philosophy of "For teachers, by teachers".*

This recommendation aligns strongly with the case made for a national online community space being proposed as a part of the MoE's current Connected Learning Environment, and the original intent behind the establishment of the online communities of practice within the VLN (ELGG) environment.

11.2.7 While having a range of solutions provides a workable approach for these different groups, it raises two key issues for the MoE to consider moving forward:

- The potential risk to users of using some of these platforms as an online community where there is inadequate or no assurances around privacy, user safety and data security issues, and
- The lack of 'system-ness' in this approach, meaning that communities of practice operating only within specific platforms cannot be 'seen' in other areas of the system and so defeats the principles and vision of a learning ecosystem where the sharing of knowledge is regarded as a whole of system benefit. Further, it can (and does) result in individual educators having to maintain separate logins to more than one online community space.

11.2.8 In light of this, consideration must be given to the benefits of establishing a unified online community platform to educators and the sector as a whole including a platform that enables the aggregation of communities operating in other (approved) spaces. The potential of an appropriately featured environment to serve users and groups across the whole of the education sector, together with the fact that such an environment serves a critical need within the overall online learning environment suggests this capability is maintained within the overall architecture of the Ministry's proposed Connected Learning Environment (CLE) moving forward.

11.3 VLN Communities

There are currently three or sub-networks operating across New Zealand, two of which represent groupings of school clusters (mostly secondary) in rural or remote parts of the country and the third specifically addressing the needs of primary learners across New Zealand.

While broadly bound by a similar vision, the business model of each differs in distinct ways. For example, while all groups regard themselves as operating to some degree within the existing education system, contributing to and augmenting the provision of quality learning programmes for students across New Zealand, the OLC is committed to a funding model that draws from within the existing funding for schools, while NetNZ has been pursuing a more transactional model that includes exploring revenue streams from providing courses internationally. The VLN primary operates a membership subscription model, with many of its teachers employed as contractors from outside of the school membership. All have been actively involved in seeking Ministry of Education support for

additional funding to support their activity over recent years, most of which has been forthcoming in small and time-bound grants or contributions for specific purposes.

Details of the current participation within each group are summarised on the following page:

VLN Statistics - April 2020								
Network	**Schools**	**Teachers**	**Students**	**e-Principal**	**e-Deans**	**Other staff**	**Enrolments**	**# programmes**
VLN Primary	49	14	455	1		1	541	31
NetNZ	55	53	880	2.4	55	2	681	72
OLC:								
- Farnet	13	16	198	1	13			
- HarbourNet	10	10	174	1	10			
- WeLCom	6	7	69	1	6			
- Volcanics	28	26	368	1	28	1	402	35
TOTALS	**161**	**126**	**2144**	**7.4**	**112**	**4**	**1624**	**138**

While the three groups are active in sharing information about the ways they operate and the technology they use to underpin their activity, they have evolved to operate in different ways, focused more specifically on the members of their own communities.

Note that NetNZ operates as a not-for-profit company, and the 2.4 FTE e-principals shown in the previous table for NetNZ are actually the positions held by their executive.

A description and summary of activity of each of the sub-networks follows:

11.3.1 VLN-Primary

The VLN Primary is a charitable trust governed by participating schools. Catering mainly to primary age children & professional support for teachers. Operational costs funded by MoE, teaching costs funded by schools. Working with schools nationally. Some teachers are involved through a reciprocity agreement with member schools but most are contracted by the Trust to work across participating schools.

Priority needs/goals:

- Te Reo Māori - most participation & greatest need in our schools.
- Digital Technologies - high interest & need in our schools to implement new curriculum.
- Rural Schools make up approximately 83% of our schools.
- Sustainable funding and providing for ongoing growth in participation is a challenge.

Technology used:

- Zoom web conferencing - managed environment.
- Google Suite for Education and Google Classrooms
- Currently Google sheets but exploring SMS. (This group has been having conversations with the Ministry of Education regarding the use of Te Rito & Edsby which they see as a priority for enrolment, timetabling, planning, reporting, assessment & pastoral care.)
- SeeSaw – record of learning and engagement with parents/whānau
- Asana - administrative, lead team management.
- Hail - publishing, social media, web channels

Participation data:

As at March 2020 (see 2020 Programmes and 2020 Timetable

- 43 weekly classes
- 49 schools
- 455 students
- 541 enrolments
- 14 e-teachers

In addition the VLN-P provides support for the Rural Schools Project & Over the Back Fence Project

(Note these are not annual figures as enrolments are taken throughout the year._

See more detailed summary here: Snapshot of Learning 2019.

11.3.2 NetNZ

NetNZ operates as a not-for-profit, limited liability company owned by a Charitable Trust and representing a 'community of schools' providing mainly secondary level courses. The majority of activity is self-funded through a reciprocal exchange of resourcing among participating schools. NetNZ works with schools nationally, although the majority of member schools are in the South Island.

Priority needs/goals:

A main focus for NetNZ is to grow participation in 'connected' / online learning to a national (international) level, and to achieve a level of true ubiquitous learning. Ultimately they want to enable a fluid environment in which every learner can access quality learning anywhere and at any time.

Growth of the NetNZ network is currently static largely because of schools' challenges in resourcing the environment. Their view is that there would be rapid uptake with funding support.

The leadership of this network are very focused on achieving pedagogical change in the online environment, wanting to enable knowledge building approaches in education (as distinct from content delivery).

Technology used:

- Use of Zoom and Google Hangouts for synchronous learning
- Use of the Google Suite for learning and asynchronous learning environments. In particular Google+ communities as hubs and Google Docs
- Google sheets for enrolment and student / course administration, reporting
- Knowledge Forum for a few teachers
- Currently exploring options for an online learning environment that centralises administration, but importantly supports learner development / connections between schools / home.

Participation data:

At 1 March 2020:

- 67 online programmes (62 classes)
- 66 schools (plus 46 OLC cluster school)
- 748 students
- Also featuring 'Creative Forest' project and Scholarship Mentoring

11.3.3 Online Learning Community (OLC)

The OLC is currently made up of four virtual learning network clusters that work with secondary schools within the North Island. The e-principals of each cluster work collaboratively to provision online learning to the schools they serve.

The clusters involved are FarNet, HarbourNet, Volcanics and WelCom. The operation of the OLC is funded by participating schools. OLC teachers do work with schools nationally although the majority of activity is within and between the four participating clusters.

Priority needs/goals:

- To **sustain** a healthy, vibrant elearning community
- To develop further **learn**ing opportunities
- To **grow** the profile and understanding of online learning

Each member school is required to contribute the following resourcing annually for the ePrincipal and Assistant ePrincipal positions.

Funding is provided for one eTeacher delivering one programme (Time allowance 0.2) or 0.2 FTTE transferred to another cluster school to deliver a programme.

In each school there is an eDean to support the eStudents who are enrolled in other on-line courses. (Time allowance at the discretion of the school depending on the number of students enrolled in on-line courses).

Accessing sustainable funding and providing for ongoing growth in participation is the single most significant challenge for this cluster, with ePrincipals devoting a significant amount of their time to 'drumming up business' to ensure enrolments are maintained, rather than focusing on their professional role of supporting teachers and ensuring a strong pedagogical focus is maintained through all programmes.

Technology used:

The eTeachers use a number of synchronous and asynchronous tools – one video-conference (VC) per week, email, text, ZOOM, Skype, Google Classroom, Google docs/sites and Google Hangouts. The VC session is often used for discussions. The other tools are used for setting work, collecting work, providing personalised assistance when a student is having difficulty. For their on-line subject, the student needs to have timetabled, supervised study time with internet access, in their own school. Their eDean needs to be in regular contact with the eTeachers to ensure that the student is progressing well or to resolve any problems.

Two of these platforms are currently paid for by the OLC on an annual subscription basis.

- Zoom video conferencing technology
- PCschools (as SMS)

These form the basis of much of the online learning provision within this cluster.

*Participation data: (*At 1 March 2020):

- 71 online courses provided (OLC)
- 58 schools participating (OLC)
- 880 students enrolled

11.4 VLN brokerage

11.4.1 The concept of the VLN brokerage lies at the heart of the original proposal to establish a technology platform to support the activity of the VLN schools. As new clusters of schools were being established around New Zealand, following the original model of CANTAtech and later OtagoNet among others, it became evident that while the formation of these clusters increased the number of courses available for students in the participating schools in that cluster, there were still subjects that some of the clusters were unable to provide due to a lack of specialist teaching capability within the cluster.

11.4.2 The solution to this lay in being able to coordinate activity among and between all of the clusters across New Zealand, enabling a local cluster to access a specialist subject teacher from another cluster. To achieve this the idea of establishing a 'brokerage' where all of the clusters could reveal the subjects being offered in their cluster, together with details of when each course was being offered, by whom and at what level etc.

11.4.3 The Ministry of Education, in response to a proposal from the eLearning team at the Correspondence School (now Te Kura), provided funding to develop the original brokerage website which was originally built within an online platform called Interact and later transferred to the ELGG platform that still operates today.

11.4.4 While the vision for the brokerage as to fully automate the process of exposing course availability and then enrolling in and gaining access to the various courses available, the actual brokerage site was only developed as far as being able to provide an automated process for submitting courses to be exposed nationally, and a shared calendar view to show when they were available. The process of actually enrolling in and then accessing the course required a personal follow-up contact with the provider.

11.4.5 By 2005, two years after the original development of the brokerage site, key members of the eLearning team at the Correspondence School were employed by the Ministry of Education, firstly within the ICT unit and later the Tertiary Information Systems and Sector Liaison (TISSL) unit, after the closure of the eSection. A paper written at the time outlines the case for the ongoing maintenance and support of the Brokerage site, together with support for the clusters themselves. The paper provides a comprehensive list of the benefits that this provision would realise for all stakeholders. Given its relevance to the case being made in this paper for a Future State VLN, that paper has been added here as appendix three.

11.4.6 Although the functional aspects of the brokerage service remain accessible on the current ELGG/VLN website, they are not used by any of the current VLN-C schools as the support for this site has ceased and the modifications to how the brokerage might now operate have not been attended to. The VLN-C schools are still committed to the idea of sharing teaching resources across the whole of New Zealand, but the process of discovering and engaging with others who may be able to offer courses in demand is done through personal contacts rather than being expedited in any digital form.

11.4.7 While understandable given the lack of ongoing maintenance or development of the brokerage site, this is a significant departure from the original vision of the VLN where the brokerage would benefit both learners and teachers/schools by automating the process of making known the courses available and therefore accessible to students and teachers.

12 Barriers to change

The current-state VLN has been operating under its current model for more than 15 years, during which time the schools and clusters involved have adapted to 'fit' within the constraints experienced within the current system.

The main barriers to change can be identified in five key areas:

12.1 Strategic alignment

A critical issue facing the VLN over the past two decades is the fact that its very existence arose not as the result of any strategic intent on the part of the Ministry of Education, but as response by education and business leaders to the economic and political contexts affecting schools at the time. While the contribution of the VLN to the education system as a whole has undoubtedly been significant in that time, it has continued to operate 'on the periphery' of the formal system, driven largely through the ongoing commitment of schools and clusters – and their communities.

Tracing the story of who is responsible for the VLN within the MoE adds to this picture. Originally supported out of the Correspondence School (now Te Kura) with funding from the ICT group within the MoE, the original support team then shifted to work within the MoE itself, firstly within the ICT group and later in the Tertiary Information Systems and Support (TISSL) section, before finding its way back into the Curriculum Teaching and Learning (CTL) group – and now the Early Learning and Student Achievement (ELSA) group together with the IT group. During this time the VLN has been recognised for playing a valuable role in supporting students in rural and regional parts of New Zealand, but has never received any formal recognition within the strategic frameworks across the MoE as a whole.

While its original activity was argued to be legitimately aligned with the early ICT Strategy for Schools, the ongoing support from within the MoE has lacked a formal 'home' in terms of strategy.

With the emphasis now emerging in support of online learning and talk of a more 'blended' future for the way schools operate, it is essential that the work of the VLN is brought fully inside the strategic framework of the MoE, and the lessons learned from its lengthy period of operating are used to help inform the future thinking and shape of the MoE's strategy moving forward.

12.2 Policy and regulatory frameworks

The policy and regulatory frameworks that exist within and in support of the Education Act remain focused on supporting the function of education within the traditional, face to face schooling settings. While such frameworks may well have suited our system in the past, they urgently require attention to allow for the flourishing of a range of educational approaches and activity that have to this point had to operate like the VLN, on the periphery of the system, or have been forced to close because of the failure of the system to be able to accommodate them.

Some of the changes made in the recent Education (Update) Amendment Act, 1997, began to address some of these issues – significantly the introduction of a new structure called Communities of Online Learning (COOLs). The provisions made for the establishment of COOLs enabled the work of Te Kura to now be recognised within the Act itself, rather than being provided for in a separate amendment to the main Education Act.

While this change also promised to create opportunities for other providers (such as the VLN clusters) to become recognised as a COOL and operate as a part of the Education System alongside regular schools, achieving this required further work on changes to the specific policy and regulatory provisions within the Act. Some examples of this include:

- Enabling students to be formally enrolled with more than one educational provider. Currently, students who gain access to parts of their learning via a VLN provider are treated in a similar way to students from one school who travel to another to attend Technology classes for example, although there is not currently any remuneration for the equivalent of the Technology Teacher.
- Enabling EFT payments to be distributed to multiple providers for parts of a student's equivalent full time programme. Currently the full EFT is paid to the 'host' school where the learner spends most (or all) of their school day, and so a separate arrangement has to be made between the schools involved to exchange payment for this support. Such an exchange is not easily enabled by the current funding process.
- Recognising teachers who may not be registered with a particular school – and recognising different types of teaching expertise that may support learners in this virtual environment. Currently a teacher must be employed by a specific school – even if their employment takes them into other schools (i.e. itinerant teachers). More specifically, the current system doesn't make it easy to recognise the particular skills and knowledge of a specialist in their field who may not have a teaching qualification, but who can provide expert tuition over the network, aided or supported by a qualified teacher in the student's host location.

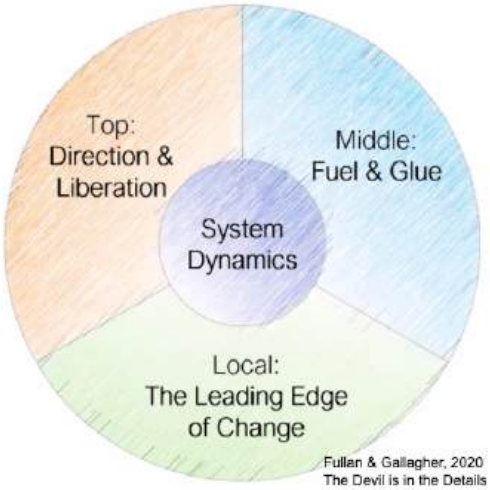
12.3 Governance and Leadership

The governance and leadership of the VLN has historically been and currently is the responsibility of the local cluster/network principals and leads. The Ministry of Education has shown support for the VLN clusters in different ways over time, but as a 'grass roots' or 'bottom up' innovation, the VLN has always run independently of the MoE in terms of governance and leadership.

While initially envisaged as being a truly national network, with national coordination, leadership and governance, the VLN now operates under three different governance models, each operating under a separately formed Trust that provides the governance oversight. The decisions to organise in this way are the result of the desire to establish sustainable ways of operating, with each group having a slightly different vision of how this might work for them. Despite this, there remains a reasonably good level of collaboration between these networks with regular meetings held of representatives from all three groups.

At the heart of the current way of operating is a continuation of the philosophy that has been the strength of the VLN from the outset – that the local schools operating at the local level will always be in the best position to respond to local needs through their intimate knowledge of the local teaching force and local students. This view has been strongly expressed by the current VLN-community leadership members who are concerned that any move to a more 'centrally managed' approach to the VLN may completely dismantle the VLN community and threaten to diminish or override the key purpose and vision of the VLN communities.

The challenge for visioning how the governance and leadership of the VLN may look into the future needs to be considered in light of current thinking about system change. Fullan and Gallagher (2020) in their book *The Devil Is in the Details: System Solutions for Equity, Excellence, and Student Well-Being,* describe how an effective system operates when the three component parts are working in balance to support each other, and not over-stepping into the areas of responsibility and activity of the other. Their work is summarised in the illustration on the following page.



In this model the "top" represents the role of government and Ministry of Education in setting policy and providing resourcing, including the key enabling infrastructure and supports required at a national level.

The "local" represents the local schools and clusters where the 'action on the ground' is occurring. Those working at the local level have the capacity to adapt and change in agile ways to meet the needs of learners as they emerge, and to cope with changes in context that may develop.

The "middle" refers to the role of the intermediaries that ensure the intent and enabling conditions created by the 'top' are interpreted and supported at a local level. In terms of the current VLN, the role of the local trusts may be seen in this regard, as may the work of independent professional development providers, regional MoE's etc.

Understanding the role of each part of the system becomes important when envisaging what the future state of the VLN may look like, and where the responsibility for leadership of it may lie. It will be important not to see things in 'binary' terms, and to deeply understand how a network functions to support a future ecosystem of provision.

Leadership of the VLN, and of the provision of distance/online learning more generally, across the whole of the schooling system must be considered in the work ahead. As the work of the VLN community, together with other participants in the VLE becomes 'normalised' within the work of the MoE and a more accepted and integrated part of the way educational opportunities are provided for all learners, the need to consider how this leadership is recognised and enabled must be addressed.

As in other areas of the work of the Ministry of Education consideration should be given to working with and alongside the experts who exist in the field to ensure the implementation and support of the future VLE (and VLN) is well led – not simply by a 'reference group' but by those with specialist knowledge and experience in this field. Consideration should be given to drawing on the expertise of the existing VLN-C members, as well as the pool of expertise that exists in the Flexible Learning Association of New Zealand (FLANZ), which exists as the professional organisation for individuals and organisations working in the field of distance/online learning.

12.4 Resourcing

Funding is identified by all current participants in the VLN as the major barrier to their ongoing sustainability. Various approaches to covering the costs are being used, ranging from drawing money from the operation budgets of participating schools, to securing 'one-off' grants from the Ministry of Education to establishing income streams from selling courses internationally.

All of these approaches are seen as necessary in view of the fact that there is currently no legitimate way for the VLN schools and clusters to access funding through the normal EFT windows that provide the money to support students enrolled in the system, nor are there any provisions in the strategic planning of the MoE that would allow for money to be made available through an RFP or grant-based process.

The view most strongly represented among the current VLN community leaders is that the current issues they face would most appropriately be met with the provision of additional EFT funding to each cluster (i.e. over and above the EFT currently paid to schools). The rationale for this is based largely on addressing equity concerns in the areas they are working, ensuring that all learners have the access to and support in areas of learning they require or desire. They point to other forms of equity funding

within the education system, and also to the way Te Kura dual-enrolled students are funded currently as the rationale for this position.

The critical question to be addressed from a policy perspective then is what sort of funding approach is appropriate to achieve and sustain a truly equitable approach, where access to learning opportunities provided at a distance may be available to *all* learners in *all parts* of New Zealand. While the work of the existing VLN clusters undoubtedly provide a valuable service to the schools in their clusters, there remain a large number of schools and students who are not involved, either because they do not have the support of a local cluster in their own geographic region, or they cannot afford the cost of participating in one of the existing clusters/networks.

A key issue here is the need to change some of the policy and legislative frameworks outlined in 8.2 above in order to enable the release of funding in ways that would ensure the scalability and sustainability of the VLN both now and into the future.

12.5 Technical infrastructure and services

The provision of a robust technical infrastructure lies at the heart of an effective online learning strategy. The early VLN relied on a locally developed LMS platform (Interact) on which the community space and brokerage elements were built. Video conferencing services were supported by both the MoE and commercial providers (Telecom and asnet Technologies). Since then the VLN communities have made use of a variety of other systems (e.g. Moodle, MyPortfolio etc.), although student information has continued to be stored and managed in individual schools' student management systems (SMS).

All of this has enabled the VLN to demonstrate, by its operation, the value and contribution such a service can make within the education system. This 'piece-meal' approach to systems and infrastructure has, however, been a significant barrier to scalability and sustainability of the network.

In the current cloud-based world, a robust, interoperable technical infrastructure that allows for the integration of data from multiple systems to enable a seamless learner experience is needed. The technical infrastructure outlined in the Future State section that follows illustrates what this could look like.

While the provision of a robust, secure and well maintained national infrastructure is acknowledged as being the desirable outcome here, many of those in the current VLN community expressed grave concerns at this actually being achievable given the track record of the Ministry of Education and government in past years and the failure to deliver on promises made in this regard.

13 VLE Target state

The proposed target state for the VLE is represented on the following page in graphic form, and described in more detail in the pages that follow.

Key features of the proposed target state are:

- Fully integrated within the NZ education system, accessible to all learners in all schools across the country.
- Enabling a learner-driven, on-demand access to the range of learning experiences suited to individual learners regardless of location.
- Retention of local clusters/networks as the central focus in system design and enablement.
- Enabling a range of pedagogical approaches, providing teachers with the range of tools and opportunities to design learning experiences that match student need.
- A system that supports (although not immediately);
  - Learner, teacher and school self-service
  - Life-long record of learning
  - National brokerage of learning experiences at all levels
- A core digital infrastructure designed to enable, not constrain the ongoing activity of the existing VLN-Community members and schools in the wider education community.
- Digital services designed to alleviate many of the current stress points on the current operation of the VLN-C, and to enable the VLN to scale to involve many more learners, teachers and schools

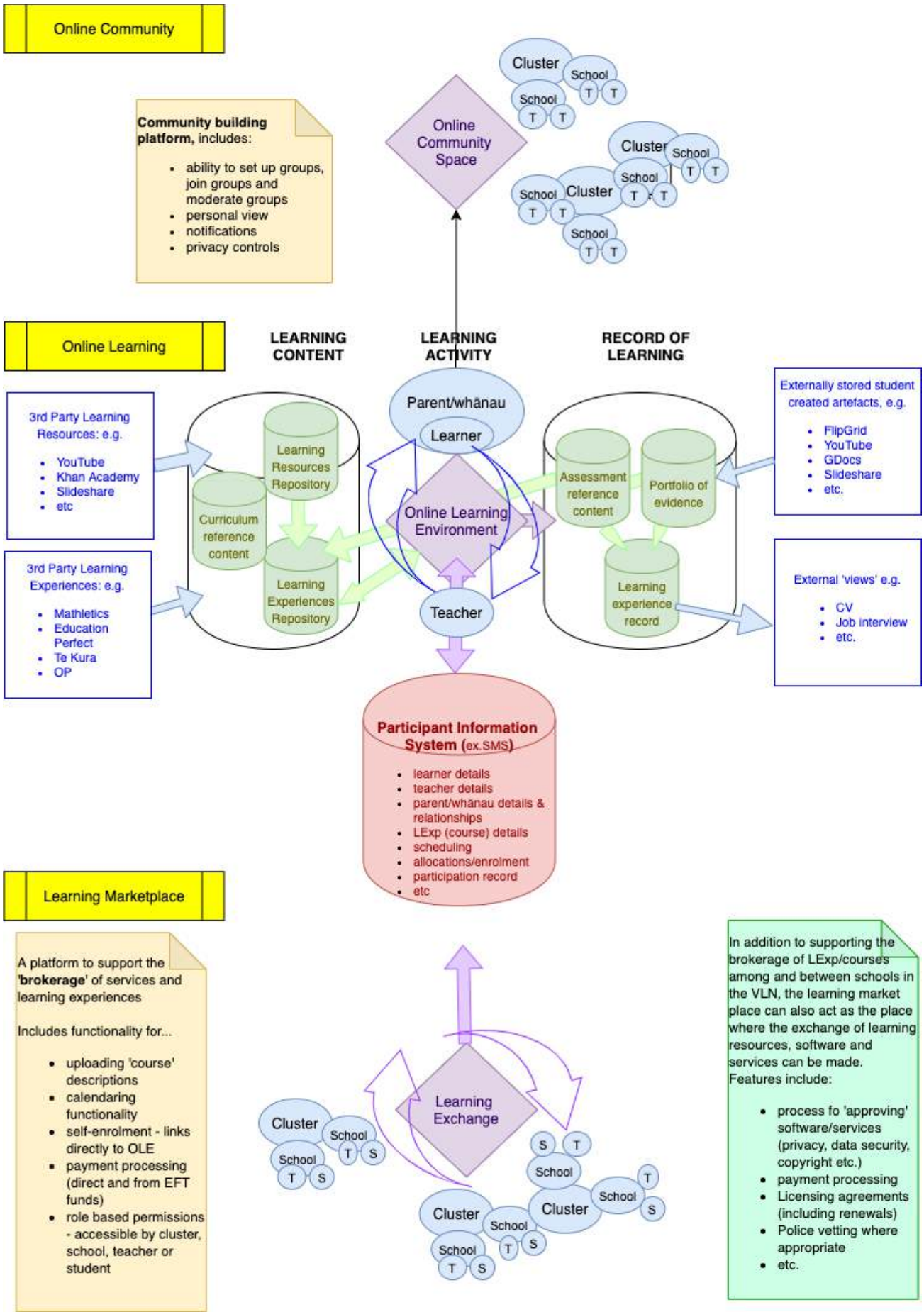
Core digital infrastructure will provide;

- Key services to support activity within an online learning environment where those services aren't currently being used by a school/cluster or where the current services are no longer fit for purpose, and
- System interoperability to enable existing services and applications to be 'connected' to the core services of the proposed CLE. This will support most aspects of current activity and preferences for currently used services/applications provided they also meet the system requirements of interoperability and data security.
- Provision made to incorporate yet to be established services to support the activity of confident, connected, life-long learners, including micro-credentials, e-portfolios, advanced communications tools utilising features enabled by AI, VR and AR for example.

Note that the graphic on the following page represents the following:

- The three key dimensions of the technical infrastructure supporting the VLN differentiated by the yellow boxed headings.
- A central platform(s) that also serves as the integration point for other services and applications (represented by the purple diamonds).
- The content elements of the OLE represented in green shading.
- The participant management system represented as a red cylinder has the ability to integrate with existing SMSs.

Graphic: VLN Target State



13.1 Online Learning Environment

13.1.1 The Online Learning Environment (OLE) forms the centrepiece of the Connected Learning Environment (OLE) currently in design by the Ministry of Education. It is shown in the diagram on the previous page as the purple diamond at the centre of the Online Learning section. The OLE provides a unifying 'point of entry' for and learners (and their parents/whanau) to engage with their learning, and for teachers to design, construct and manage the learning experiences for their learners.

13.1.2 As the unifying point of entry for learners and teachers, the OLE will provide a 'dashboard' view for each learner, combining all of the components required to support their learning (see section 10 below). The OLE will be interoperable with…

- A selection of MLE applications and tools for teachers/schools that may not already have access to the applications they need to support online learning
- A selection of applications supporting online communities and groups (see 9.5 below)
- A selection of assessment tools, badging and portfolio environments that will be a part of the learner record (see 9.3 below).

13.1.3 The MLE environments provide functionality for…

- teacher creation of learning experiences (includes tools for assembling, creating, re-purposing content to support this design)
- assigning challenges/learning tasks to learners (as individuals or groups)
- synchronous communications (including webinars, video conferencing, live-chat etc)
- asynchronous comms (including forums, messaging, groups, email etc.)
- groups and collaborative activity (providing the structures and permissions for creating, managing and moderating activity in such spaces – by teachers and by learners)
- independent activity (including materials specifically designed for learners working independently and online, incorporating scope for inclusion of machine learning and AI enabled, personalised feedback and learning adjustments).
- monitoring and tracking (including personalised views of progress – for learners, teachers, parents/whanau; gamification features to promote engagement and personalised progress tracking)
- feedback and support (includes personal or whole group feedback, and includes teacher, peer or parent/whanau feedback. Also includes permissions and links to external and/or specialist support for learning/learners)

13.1.4 The interoperability support of the OLE means that it can act as an 'aggregator' of learning experiences across a range of existing platforms and applications. In this way it will allow for the direct linking of learning that is occurring within a number of different places and provide a common view of the learning activity associated with a particular learner or group of learners.

13.2 Learning Content

13.2.1 Learning content encompasses all forms of digital content and resources that are used in the design of learning experiences, as a part of the learning experience itself or generated as a result of engagement with the learning experience. This is shown in the form of the green cylinders in the graphic on the previous page, and includes content in the larger cylinder headed 'learning content' as well as that which is part of the Record of Learning (covered in the next section)

13.2.2 The graphic identifies three specific clusters of content within the Learning Content cylinder:

- **Curriculum Reference Content** – refers specifically to the various frameworks and guidelines that are the reference for all of our learning experience design, It includes the NZ Curriculum Framework, Te Marautanga o Aotearoa, Te Whāriki, NCEA unit descriptions etc.)
- **Learning Resources repository** – refers to all individual ('granular') elements of content that are used in learning experience design, and exist in a range of media including text, video, audio, graphic elements etc. These items exist independently of any explicit or implied 'teaching.
- **Learning Experiences repository** – learning experiences are the content items that have been created and are intended to 'produce learning'. Generally related to a particular learning outcome/objective, these have the 'teaching' incorporated within the resource item itself. Examples of the sorts of things that may be considered a learning experience resource includes:
    - a question or 'challenge' designed by a teacher to generate learner inquiry,
    - a framework for an inquiry that invites the learner to generate her/his own question
    - an instructionally designed sequence of resource items with the 'voice of the teacher' added to provide guidance around how to engage with them

  A learning experience will most often be linked with an assessment rubric that provides transparency around the purpose and intent of what is to be achieved or demonstrated.

13.2.3 All content within the Learning Content system will be:

- quality assured
- curated
- meta-tagged
- license-free for reuse and repurposing
- safety checked
- curricula assured
- age appropriate

13.2.4 Third party learning resources and learning experiences may be incorporated into the learning content that is exposed to learners in the online learning environment. These are shown in the blue boxes to the left of the Learning Content cylinder in the previous graphic. A separate process for assessing the suitability of such content will need to be implemented to ensure these resources meet minimum requirements in terms of student privacy and data security and other aspects of the checklist in 8.2.3 above.

13.3 Learning Record

13.3.1 The learner profile and the ability to maintain a current learning record for each learner will be a key feature of the Connected Learning Environment, introducing a much needed capability within the sector to support a truly personalised approach to education at a system level.

13.3.2 There are three key dimensions to the learning record:

- **Assessment reference content** – refers to the specific rubrics, NZQA requirements, NCEA criteria etc that will form the reference for all assessments made of evidence produced from the learning experience.
- **Portfolio of evidence** – space need to exist for learners to develop their personal portfolios of evidence they've created during their engagement in the learning experiences. In addition to what is stored within this MoE managed environment it is important to acknowledge the need to access externally stored student-created artefacts (e.g. student created video on YouTube or Vimeo, FlipGrid presentations, GoogleDocs etc.) that will need to be referenced in some way with the portfolio of evidence.
- **Learning experience record** – a cumulative record will be maintained of the engagement in and achievements demonstrated within the various learning experiences a learner encounters during her/his learning lifetime. These, in turn, will be linked to the portfolio of evidence and aligned with the relevant criteria in the assessment reference content. Provision will need to be made for the material in both the portfolio of evidence and the learning experience record to be made available to external views (e.g. in support of a CV or job application).

13.3.3 It is essential that attention be given to setting up processes that work alongside and are supported by this technology to ensure there is rigor in the process contributing to the development of a learning record.

13.4 Participant Information System

13.4.1 At the heart of making the whole system work will be the Participant Information System. This system will contain:

- learner details
- teacher details
- parent/whānau details & relationships
- Learning Experience (course) details

13.4.2 In addition to being a catalogue of such details, the system will also provide tools that enable this information to be combined to enable;

- Scheduling of times when learning experiences are on offer, including the synchronous and asynchronous elements of these.
- Managing enrolments and allocating teachers to cohorts of learners etc.
- Maintenance of a participation record

13.4.3 The data flow between the participant information system and the online learning environment will be dynamic and continuous.

13.4.4 All locally managed student management systems must be interoperable with the central participant information system, capable of dynamic, two-way exchange of student data.

13.5 Online Community Space

13.5.1 The provision of an Online Community Space is pivotal to the Connected Learning Environment for two reasons;

- much of the activity among learners within the learning experiences will involve them participating as a group within such spaces
- these spaces provide the opportunity for the further growth and development of the network of both teachers and learners within the system as a whole. Teachers, in particular, will be able to use this space to form or engage with others in online communities of practice as a means of maintaining their personal professional learning.

13.5.2 The online community platform includes:

- ability to establish, join groups and moderate groups
- ability to customise group identity (e.g. icons etc) and share content
- personalised view of group membership
- notifications via community interface and email
- privacy controls that can be set by user or group moderator

13.6 Learning Exchange

13.6.1 The Learning Exchange is a platform to support the 'brokerage' (or Marketplace) of services and learning experiences across the whole of the network. It includes functionality for...

- uploading 'course' descriptions
- calendaring functionality
- self-enrolment - links directly to OLE
- payment processing (direct and from EFT funds)
- role based permissions - accessible by cluster, school, teacher or student

13.6.2 In addition to supporting the brokerage of Learning Experiences (courses etc.) among and between schools in the VLN, the learning market place can also act as the place where the exchange of learning resources, software and services can be made. Features include:

- process for 'approving' software/services (privacy, data security, copyright etc.)
- payment processing
- Licensing agreements (including renewals)
- Police vetting where appropriate
- etc.

13.6.3 A critical aspect of establishing the Learning Exchange will be the process for making decisions about what services or software/applications will listed there for sale or exchange. An agreed framework for making such assessments will need to be established and address;

- **Technical concerns**: Privacy, safety and data security etc.
- **Pedagogical concerns**: Curriculum alignment, age appropriateness, pedagogical ‘fit’ etc.

14 What could this look like?

14.1 The description of the target state in the previous section provides a technical view of the various elements of the Connected Learning Environment which can make it difficult to imagine from a user perspective. The concept diagram on the next page has been created to provide an idea of what this might mean from the user perspective – in this case a learner in a secondary school is used for the example.

14.2 The diagram at the centre of the illustration serves to illustrate how a learner's use of an interaction with a variety of environments and tools can be brought together in a single dashboard view – referred to as the "MyLearning Dashboard". In our target state thinking in section nine, this dashboard would be what is seen in the section represented by a purple diamond called the 'online learning environment'. Effectively this serves as an 'integrator', allowing a learner to manage all of her/his learning from one space. This is particularly important for learners who may be participating in learning experiences from more than one provider as will likely be increasingly the case as more and more schools move to embrace blended ways of working.

14.3 The dashboard has a number of panels, each of which is 'fed' and/or 'feeds to' the different environments and tools illustrated in the clouds that surround it. The representation of the various tools and applications in each cloud serves to illustrate what might be considered and is not meant to be a definitive list.

14.4 An essential aspect of all of this is the integration at the bottom left of the graphic with the systems that contain the information about the learners – generally a student management system (SMS) managed by their primary place of enrolment. The goal here is to establish a means by which the provisioning of access to the dashboard can be created, thus each learner can have their learning dashboard generated based on the confirmation of their identity and role (including enrolment information) served from their local SMS. Additionally, this provisioning can also serve to enable a single-sign-on process so that access to the various tools and applications represented in the cloud spaces can be enabled seamlessly, without the learner having to enter further username and password information. In turn, this will allow for the protected exchange of data that will (a) appear on the learner's dashboard and (b) be transferred back to their local SMS as appropriate to maintain the information related to participation and achievement required there.

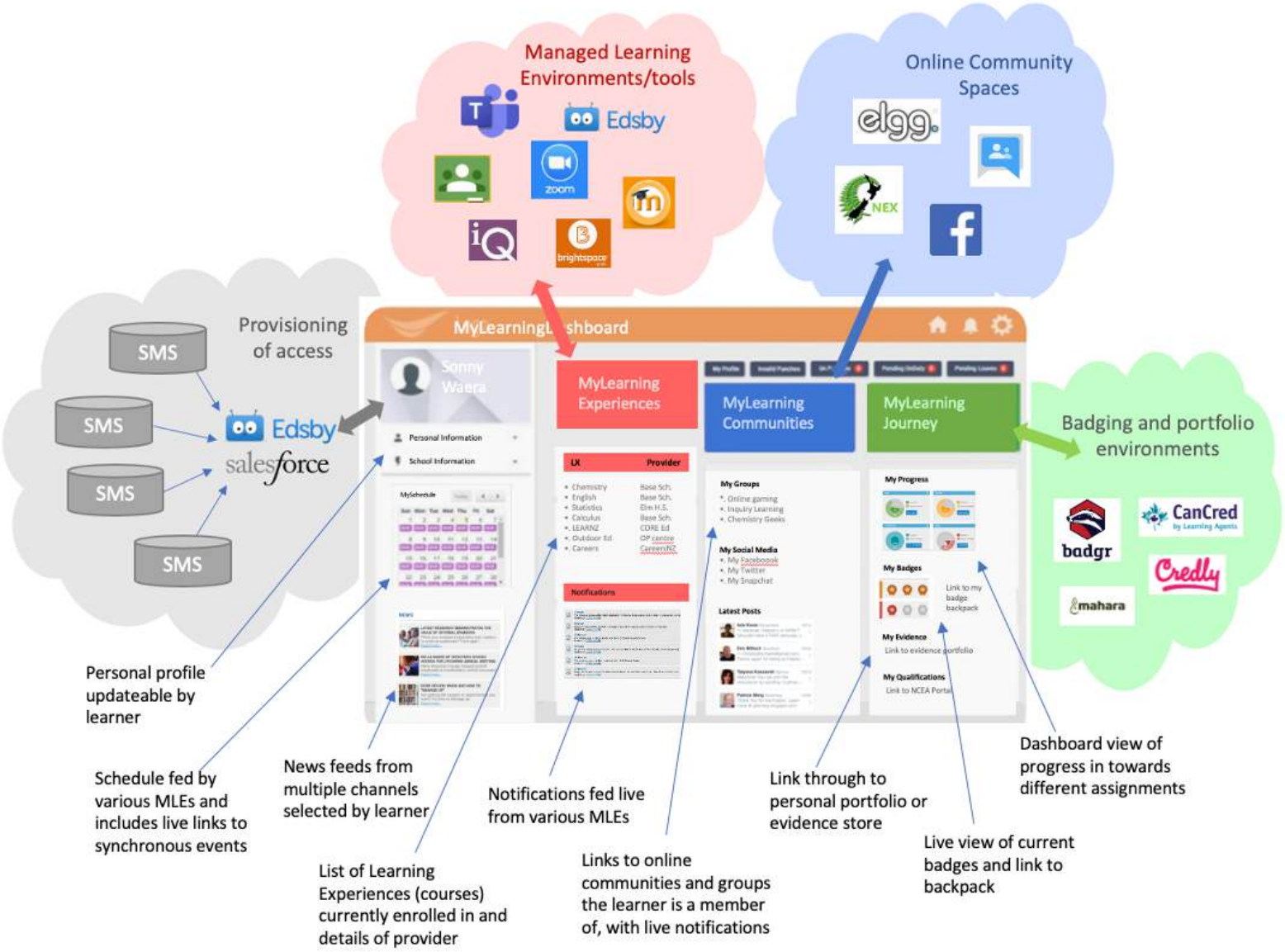
14.5 The three other clouds represent:

14.5.1 Managed Learning Environment applications (red) – a range of LMS and other environments in which the learning experiences created for the learners are housed.

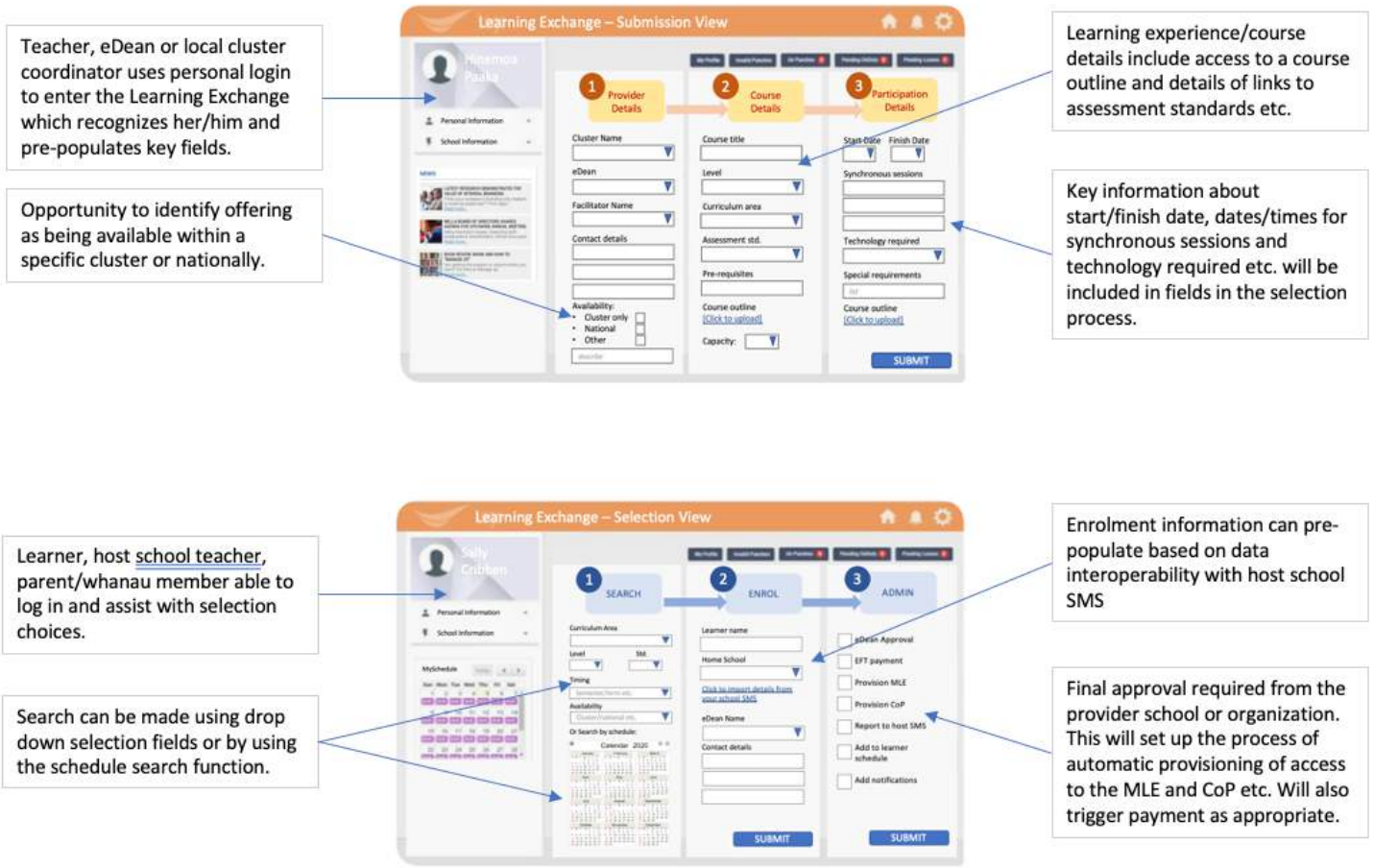
14.5.2 Community and groups environments (blue) – a variety of environments that recognise the learner's membership of different groups and where conversations and exchanges can be managed, facilitated and notifications generated etc.

14.5.3 Badging and portfolio environments (green) – a variety of tools used by different groups and organisations for generating, assigning and storing badges as a respresentation of achievement – together with environments for storing, managing and sharing evidence of learning that has been created by the learner (generally linked to the relevant badge(s))

Image: A conceptual representation of a MyLearning Dashboard as an integrator of the various aspects of a student's learning (NB shown here as a desktop view – this would also be designed for accessibility on a mobile device etc.)



14.6 The following image provides a conceptual representation of the Learning Exchange, ideally operating at a national level, but with the ability to provide separate cluster/network views, thus operating as a fractal.



15 Funding and Support

15.1 Establishing and sustaining the target state as outlined in this paper will require some fresh thinking about how such an approach will be funded and supported. As outlined in section 8.4 earlier (resourcing barriers), the current approach to funding and supporting the existing VLN clusers is problematic in that it is not fully supported within the regular funding provisions of vote education. The challenge about where responsibility for this lies is addressed in section 8.3 above (governance and leadership). Achieving the target state will require a collaborative effort at all three levels of the system as identified by Fullan and Gallagher (2020).

15.2 Critical to the consideration of future funding and support models is the fact that in the current state, the two secondary operating clusters/networks are providing valued educational opportunities to students in schools within their clusters. The VLN-P operates differently, but is constrained in growth in terms of the current funding model. In a future state VLN consideration must be given to ensuring the model addresses..

- Students in schools that are not a part of existing clusters/networks.
- Teachers and/or schools wishing to access or contribute to learning experiences within the VLN that are not a part of existing clusters/networks, but who may wish to use these as a part of a 'blended' approach to their teaching and learning.

15.3 The consultation process for this paper revealed a number of tensions in terms of the desire on the one hand for the clusters to maintain the degree of independence and autonomy over how they operate, and on the other, the appeal to the Ministry of Education for funding to support the work they are doing, based on the argument that it directly addresses the equity gap that exists for many learners in the system.

15.4 On balance, there appear to be three approaches that could be considered moving forward:

15.4.1 **Status quo** – maintain the current "reciprocity" and "kete" models used by the clusters, with additional funding provided in the form of special grants and 'one-off' payments for specific purposes

15.4.2 **Centralised EFT-based funding** – incorporate the operation of the VLN clusters within the overall EFT funding for schools, but with provision for greater flexibility within the way in which this funding can be accessed and used (see section 8.4. above)

15.4.3 **Centralised special funding** – funding over and above the current EFT provided on a sustainable basis based on provisions for equity, capability gaps etc.

Of course, the solution agreed on may involve a blend of some of the approaches above.

15.5 **CASE STUDY** – Canadian eLearning Network (CANeLearn)

15.5.1 Consideration of how these same issues are being addressed in another jurisdiction may be useful in terms of understanding the scope of what is required. The Canadian CANeLearn networK[4] is registered not-for-profit society with a vision to be the leading voice in Canada for learner success in K-12 online and blended learning.

15.5.2 Over the past decade or so the different provinces and districts across the states of Canada have been addressing the very same issues as has given rise to the formation of the VLN in New Zealand. This has led to the formation of a number of 'consortia' across

[4] https://canelearn.net/about-us/

Canada, all of which are involved in providing a similar 'brokerage' of courses and learning opportunities as was part of the original VLN design.

15.5.3 The focus of these consortia involves a range of brokered services including sharing content (courses), providing professional development programmes and the provision of shared hosting of platforms and applications (Moodle, Zoom etc) used in the provision of online learning. Examples can be found with the Ontario eLearning Consortium[5], the Ontario Catholic eLearning consortium[6] and the Western Canada Learning Network[7] (previously known as BCLearning network)

15.5.4 The funding model behind these consortia is based on the following:

- All student learning covered within the EFT provided by the State/District. All transactions are tracked across the year, however, with a dollar value being assigned to that – and a residual payment made by an individual school where there is a noticeable difference in terms of what is offered vs what is accessed.
- State/district payment for a coordinator role within each district within the consortia
- State/district support for instructional design team to coordinate/manage the development of online learning resources and content.

As such this model approximates what is happening in the NZ model of 'reciprocity', but with a higher level of tracking and monitoring across the network and with payment options included where there is an 'imbalance'. See also the list of benefits of membership of the Ontario eLearning consortium - https://www.oelc.ca/membership-benefits/ for example.

15.6 Looking ahead to what could be implemented to support the target state model in the New Zealand context, the Canadian 'consortia' model has a number of features that could apply in order to provide a sustainable funding supply while at the same time preserving the relative autonomy and value of the local cluster. This view is summarised in the following table:

	Role and responsibilities	Funding
Ministry of Education	Sets the overall direction through policy and regulatory frameworks Provides the core technical infrastructure, including some shared services (incl. software licensing).	Received from 'vote education' Distributed on EFT and specialist provision basis Support for coordinator positions in each cluster, and for resource development
Cluster/ network/ consortia	Brokerage service and accounting for shared activity. Coordination and support Professional learning support	Receives funding for basic operation (coordination, brokerage, PLD, shared licensing etc.) from MoE. Provides instructional design support funded by MoE.
Local school	Learning and wellbeing support for local students, learning pathways. Contribution of courses/learning experiences to the network Facilitation of courses/Les locally and across the network	Receives EFT and some special provision funding Makes payment for learning experiences for students Contributes to funding for consortia/brokerage

[5] https://www.oelc.ca/
[6] https://www.ocelc.org/
[7] https://wcln.ca/

16 Benefits

16.1 The features of the technical infrastructure and services above describe in summary the work being done currently within the Ministry of Education to develop a Virtual Learning Environment (VLE) – not just for the VLN, but for the whole of the education sector. What the outline in this paper demonstrates is how the architecture of the VLE matches perfectly what is required for the effectvie and efficient operation of the VLN into the future.

16.2 Not only will this architecture provide the economies of scale and benefits of system-wide integration of services that the VLN requires, it will enable the fundamental model of the VLN to become more universally recognised and valued – and applied across the whole sector as we move towards a 'blended learning' paradigm post COVID-19

16.3 Benefits to the **Ministry of Education** therefore include:

16.3.1 A dynamic and current 'view' of all learners, teachers, programmes etc in the system, available in real time when required.

16.3.2 System efficiences gained through the aggregation and sharing of data, content and records of learning.

16.3.3 Addressing issues around equity of access to learning programmes.

16.3.4 Addressing issues of teacher supply across the whole of New Zealand, particularly in areas of critical shortage.

16.3.5 Targetted funding with less duplication, ensuring that money paid to support learners is automatically allocated to the provider (as an indiviudal or part of an organisation)

16.4 The benefit to **learners** of this level of system integration is the ability of the system to provide them with a more personalised, life-long learning experience, where their achievements can be recognised and recorded in ways that make this useful as they come to need to demonstrate that learning in other contexts.

16.5 The benefit to **teachers** of this 'unified' interface is two-fold;

- They will have access to a common set of tools and resources with which to design and build innovative learning experiences for their learners, applying a range of pedagogical approaches as they are appropriate to the context and to the particular learners
- They will be presented with 'dynamically generated views of their students' progress and achievements and will then be able to engage more meaningfully and appropriately with them to provide encouragement and direction about 'next steps' in their learning.

In addition, teachers will have an opportunity to engage with other teachers, to share resources and to gain access to their own levels of support and PLD in the community space.

16.6 The benefits to **parents/whānau** include the ability to engage with and support their child's learning in real-time, and to be supported themselves in this process. [see appendix 8]

NOTE – a more comprehenisive analysis of the benefits across all stakeholders and the system in general is included as Appendix 6. This list comes from a document written in 2005 for the Ministry of Education as part of the case for continuing support of the VLN.

Appendix 1 - MoE/ VLNC Future Planning Workshop

Thursday 16th March 2020, 10.00am - 3.00pm
CORE Education Offices, Level 3, 204 Thorndon Quay, Wellington

Participants:

VLN Community: Rachel Whalley & Lucie Lindsay (VLN Primary), Sara Field (Volcanics), Sue McCarthey (HarbourNet), Amanda King (FarNet), Andrew McKnight (WelCom), Darren Sudlow, Trevor Storr & Ken Pullar (NetNZ)
Ministry of Education: Clare Old (policy), Chris Harwood (ELSA), Sophie Smith (policy), Martin Rothbaum (digital transformation), Ben O'Meara (policy)
Derek Wenmoth (Workshop Facilitator)

Agenda:

Time	Topic	Notes
10.00am	***Welcome*** ● Karakia ● Introductions around the table ● Meeting purpose, expectations etc.	Derek
10.15	***MoE Work Programme Context*** ● Reference Supporting all schools to succeed ● Current work within MoE ● Providing a context for the policy work and the requirements of MoE from this workshop	Briefing from Clare Old, MoE
11.00	***Future VIsions*** ● What could online learning in NZ schools look like in the future? ● What are our current barriers, enablers? ● What would help accelerate this change?	Workshop format with each group contributing
12.15	***LUNCH***	
1.00	***Policy discussion*** ● Linking key points from the Future Visions discussion back to current policy work within the MoE ● Where might this go in the next 2 - 4 years	Input from MoE Policy team and ELSA reps.
1.30	***Building the ecosystem*** ● Identification of current state system (infrastructure, processes and support etc.) ● Look at this with multiple lenses ● Extend to future state conversation	Workshop format using Learning Concept Map
2.30	***Next steps*** ● How can we better support the current networks to enable equity of access for learners? ● Short term and longer term actions identified. ● Opportunities for this group to remain involved to inform future actions.	Workshop format to identify and agree on key actions
2.50	***Conclusion*** ● Round up of key actions and responsibilities ● Karakia	Derek

Appendix 2 – Glossary of terms

API	An Application Program Interface is a system's non-user interface which allows authorised remote third-party systems to search for, access and update data in the system without requiring users to re-key in information.
Accessible	Everyone, including people with disabilities and those using assistive technologies, can access their relevant information and services (NZ Government web accessibility standards are available at www.digital.govt.nz/standards-and-guidance/design-and-ux/accessibility/).
Learner agency	Provides the learner greater choice and ability to act on that choice. A learner has agency when they have choice and the ability to act on that choice.
Learner Profile	A capability that enables the integration of all relevant points of information related to students into comprehensive portraits of each student including his or her achievement data, strengths, needs, interests, learning preferences etc. and making this accessible to users and stakeholders.
Learning Management System (LMS)	An online system or software which is used to plan, execute, and assess a specific learning process. In simple words, software used in eLearning programs and which helps in administration, documentation, tracking, and recording.
Learning object repository (LOR)	A virtual library for storing, managing and providing access to digitalised content for learning, where each piece of content may be described as a "learning object" meaning that it has been pedagogically designed (i.e. intended to cause learning) The actual content may be stored or the metadata for content that resides elsewhere It provides sophisticated discovery and recommendation mechanisms including search that are enabled by the application of an "evolving" curricula-centric metadata taxonomy (ideally enabled by machine learning and AI) It supports the re-use and localisation of the content (ideally enabled by machine learning and AI) It supports the contribution, versioning and life cycle management of content It supports the management of copyright and intellectual property It records the relationships between objects supporting enhanced discovery and impact assessment It provides an authoritative source of learning resources for use across a range of channels and systems It interoperates with other repositories and learning tools to enable re-use of learning content

Managed Learning Environment	Term used in this paper to identify any form on online learning environment that includes features that allow teachers to design, assemble and represent content intended for learning. A traditional LMS fits this definition, as do other online environments such as Google Classroom for example
Online Portal	An Online Portal refers to the webpage (or website) that provides users an entryway to a variety of information, tools, links, and more. A portal may be customised to provide a personalised view to these things.
Participant Information System	A term adopted in this paper to refer to a centralized management system that contains the information about all of the participants within a system, allowing for managing identity and access, personal data, communications, and scheduling. In this paper a key role of the PIS is an aggregator of information that comes from each school's student management system (SMS).
Platform	A digital platform is a group of technologies that are used as a base upon which other applications, processes or technologies are developed. Digital platforms enables a data-driven approach rather than a process-driven one. They cut across traditional organisation structures and enable new operating models.
Portfolio	A collection of student work, reflections and assorted evidence that represents achievements aligned to learning goals and standards. Can be used as a communication tool regarding learning.
Record of Learning	An official transcript that captures the record of all aspects of a student's learning, including the themes, topics and learning content engaged with as well as the record of what is achievement through this process. Records of learning that travel with the student throughout their schooling will recognise and celebrate each student's learning progress.
Reference Content	In a technical architecture, reference content (or the reference block) provides the framework and reference point for all other content in the system, often located in multiple places. Whenever new content is introduced or updated it wall always reference what is identified as reference content. In the case of the VLE architecture, the various curricula form the basis of the curriculum reference content, and the various achievement standards and NCEA frameworks and rubrics for the reference content for assessment.
Virtual Learning Environment (VLE)	As used in this paper, a VLE is the term used to describe the complete online (virtual) ecosystem which links together the users with content and collaboration tools intended to produce learning. Subsystems of the VLE may include an LMS, CMS, SMS etc. (NB as also been referred to as a 'connected learning environment in other parts of MoE IT planning).

Appendix 3 – Key documents and reports

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Wing Lai, K et.al.(2006) *Literature Review and Synthesis: Online Communities of Practice*, Ministry of Education, New Zealand

Appendix 4 – VLN Groups Statistics

The table below lists the most commonly used groups operating within the VLN-C during the first part of 2020, with the actual number of members of each group shown in column to the right.

Name of group	Number of members
iPad/iPod User Group	2,260
Enabling e-Learning	2,220
Blended e-Learning Literacy	1,795
e-Learning: Leadership	1,682
e-Learning: Teaching	1,364
Google Apps for Education	1,322
Innovative Learning Environments	1,065
Getting started on the VLN	1,057
e-Learning: Technologies	723
e-Learning: Professional Learning	691
ePortfolios	632
Learning with Digital Technologies for Māori and Pasifika Learners	559
Digital Citizenship	476
Beyond the Classroom	401
English Language unit standards assessment group	393
Universal Design for Learning	391
Inquiry Learning	360
Literacy Online	346
New Entrant Teachers	310
Teaching as Inquiry	310

Appendix 5: What is NetNZ?

Darren Sudlow / Jun 21, 2016

NetNZ is a community of secondary and area schools from across New Zealand who work together to provide online learning opportunities for their students based on the New Zealand Curriculum. In 2019 membership consisted of around 62 schools across the South Island.

NetNZ's mission statement recognises that, above all, it specialises in innovative education regardless of location:

to develop an environment for sustained innovation and development of quality, online learning experiences, for anyone, anywhere across New Zealand and beyond.

Background

Many members are small, rural schools who have a long-term commitment to the provision of a broad curriculum for their students. The origins of NetNZ can be traced back to Oxford Area School in 1994. Driven by the need to innovate in order to maintain rolls, Canterbury area schools worked together to provide senior courses for all schools willing to collaborate. Since that time, the provision of online learning across New Zealand, and in particular rural schools, has grown markedly and we are now also seeing a number of urban schools taking advantage of the potential for collaboration, by joining NetNZ.

Purpose

NetNZ was formed from the two original eLearning clusters, CantaNet and OtagoNet for the purpose of sustaining and growing a vision for online learning across New Zealand. Structurally, the organisation is made up of a charitable trust and a limited liability company. The charitable trust operates at the governance level, with the trustees elected from the schools and tasked with ensuring the educational purpose drives all operations, while the limited liability company is where these operations take place. The enrolment scheme, once loose and informal, is now firmly linked to an exchange model where each individual enrolment holds a monetary value. This now means any individual, school or organisation can enrol in NetNZ courses at a cost per enrolment. Importantly, NetNZ while a Community of Schools, is also now a commercial operation with all that entails.

How does it work?

NetNZ courses are generally provided by member schools themselves. Schools that choose to provide courses earn enrolment places based on the number of courses they put in the mix, while schools that choose to only receive courses pay for each enrolment on an individual basis. Each course is open to enrolments by other member schools, non-member schools, and individuals (home-schoolers and international students for example). Courses usually consist of 10-18 students from 5-10 different schools. Each school has an eDean who has the responsibility of providing on-site support for students and acts as a point of contact for the eTeacher. Each course uses an online hub or class space which acts as the focal point for learning and interaction. These class spaces are developed by the teacher using their tool of choice. Some courses are fully online, but the majority are a mix of paper and online learning. Each class meets once a week using a video conference (using Google Meet) which acts as an important point of contact between teacher and students.

Why?

Technology and in particular the internet, is changing the way we live and work. It will undoubtedly change education. It is just a matter of communities and schools shaping this change themselves in a way that recognises a distinctly New Zealand context. Being able to offer a broad curriculum is clearly important, but involvement in NetNZ reflects more than a 'bolt on' set of additional courses. It reflects an investment in the future of education. A future in which fully online learning is merely an extension of an approach where learning is structured around the learner in a way that is flexible and gives them some autonomy. Students should be able to walk into the school and experience the full range of face to face, blended and fully online learning. Ubiquity is the key – everywhere learning, without the limitations of the four walls of the classroom.

The Future

The NetNZ model is designed to scale, and move beyond geographic boundaries, including international boundaries. There is an exciting opportunity to develop a distinctly 'brand New Zealand' vision for online education that can cater to an overseas market. Not only could ex-pat New Zealanders take NetNZ courses, but students in any country around the world.

While NetNZ offers a broad range of course options, most are senior academic and reflect the need for small schools to access these sorts of courses. Over the coming years courses will be developed to meet a range of needs, including primary age students, senior vocational, adult learning (courses for adults in the local community), as well as integrated, project based courses.

The internet means that distance is no longer a factor in education and the opportunity is there for New Zealand schools to take control of the online space themselves, rather than rely on external organisations to do it for them.

Appendix 6 - Virtual Learning Network / Brokerage Service Discussion Paper

Derek Wenmoth, March, 2005

1. Purpose:

To promote discussion and debate on the topic of existing and future coordination, support and policy development in the area of elearning.
To gain definition as to the future MoE role with reference to the cluster schools network - governance, management, support, advise, and/or operational,.
Draft recommendations / pathway as to the process to best achieve the objectives decided.

2. Audience:

Written as an internal discussion paper, it is intended to promote discussion by key MoE management and personnel.

3. Background:

For many of the smaller, rural secondary schools in New Zealand, the challenge of providing a sufficiently broad range of curriculum options for students at the senior level of the school cannot be met within existing, local resources. Since 1994 an increasing number of schools across the country have worked together to establish clusters linked by audio or video conference networks, allowing a teacher in one school to teach a 'class' comprising students in one or several of the other schools in the cluster.
At the end of 2002 the Ministry of Education supported the establishment of a 'brokerage' service for those clusters of schools linked by video conferencing. This was done in response to the demands coming from schools for central role in supporting schools using VC, and in anticipation of the need for schools in these clusters to be able to know what offerings were available in the wider context.
This involved:

- creation of a draft Learning Communities Online handbook (published on Ministry's website)
- provision of support and guidance for schools in VC clusters
- provision of PD in the pedagogical use of VC
- timetabling and scheduling of VC classes across the network, and
- the development of a "prototype" website

4. Current Situation

The Virtual Learning Network brokerage service is currently managed from within the Ministry of Education's 'Tertiary Information Systems and Sector Liaison' (TISSL) with funding and support from the ICT portfolio. It is coordinated by Chris Allott-McPhee (CAM), with technical support from Eddie Reisch. In 2005 it draws on the expertise and experience of not only its user group members but also that of TISSL's eLearning Team, the ICT Helpdesk staff, and Derek Wenmoth.
Its key roles are that of:

- brokerage – of classes, programmes and events, professional development and expertise,
- advice and guidance,
- coordination and scheduling,
- liaison - with key stakeholders, technical and programme providers
- support - for the member schools of the Virtual Learning Network, their principals/BOTs, staff and students.

The Virtual Learning Network brokerage service is about more than simply project-managing a technical solution, it also involves socialising the vision, offering pedagogical and technical advice and guidance, and contributing to a coordinated and strategic provision of support and services. To this end it requires:

- Strong links with the MoE ICT unit which manages the video conferencing bridge
- Participation and contribution in the Pan Sector eLearning Strategic Framework development.
- Strong links with the ICTPD National Facilitation Team which has a key role in the provision of professional development to cluster school staff and leaders.
- An active working relationship with TISSL to best understand the provision of programmes from tertiary institutions / ITO's / etc, and how they are connected, managed, directed.
- Thereby best ensuring a consistent view and approach regarding development of infrastructure, standards, and policy, and the provision of feedback into the decision-making process.

5. Future Vision

- To promote a consistent and coordinated approach to support emerging thinking about networked and open schooling and understandings about transforming education through school networking.
- To extend the vision of regional and local clusters to embrace a broader, strategic and national view.
- Provide leadership and guidance in areas such as technical standards and interoperability, and also (perhaps more importantly) in pedagogical areas of curriculum design and assessment, and approaches to teaching online.
- The promotion of an environment of community of practice among educators and school leaders.
- The strategic and considered development of policy which enables rather than prescribes, and which addresses issues of sustainability of leadership and vision rather than merely has a financial focus.

5.1 Benefits for Learners

- Learners have access to services integrated around their needs.
- Better access to information about available options allows learners to choose learning pathways which best meets their needs.
- More consistent terminology across providers raises information quality and enhances learners' confidence in the provision of programmes.
- Identifies and promotes best-practice experiences for staff to improve the experience for learners

5.2 Benefits to clusters, schools and staff

- The involvement of cluster staff and key personnel in efficient and effective consultation with key stakeholders and providers
- Strong links within and between clusters
- A learner-centred pedagogy for programme provision
- Clear standards and guidelines for schools and providers to follow in order to ensure wider access and participation
- The coordination and management of service provision by technical support agencies

- The effective scheduling of online classes, programmes, events and professional development opportunities
- An efficient and consistent process for the enrolment of students and staff in courses and programmes from a variety of institutions
- The promotion of choice and flexibility by providing access to a range of course offerings across all clusters from a wide range of providers.
- Recognition of cluster independence and interdependence whilst promoting working together to bring greater consistency, coherence and focus to the shared information resource.
- Users and institutions can access support structures and agencies when they need professional help
- Benefits for Tertiary education institutions / programme providers
- Better information helps providers extend their reach – to improve the match between offerings and learner needs.
- It helps them deliver better outcomes through better fit of students to courses / programmes.
- It lowers transaction costs and increases communication access/ opportunities in dealing with central agencies and allows more flexible learning options for students 'attending' institutions.
- links tertiary information to information from other sectors

5.3 Benefits for MoE / agencies

A strategic, coordinated and consistent approach by the Ministry agencies currently involved would help user groups, programme providers and key stakeholders of the Virtual Learning Network to:

- make better, more informed decisions
- see issues from a broader sector perspective
- consider the wider impacts of local decisions
- understand one another's roles and responsibilities
- understand and adhere to the standards / guidelines
- maximise the benefits to students, staff, schools and clusters
- access more effectively cluster, institution and Ministry based expertise and information

5.4 Benefits for Central government monitoring agencies

- Facilitates development and implementation of an increasingly collaborative approach to information sharing between agencies, and between agencies and their user/member groups.
- Provides the platform for improvement in the collation of quality evidence, making it easier to evaluate and report on policy implementation and outcomes.
- Facilitates cross-agency collaboration and enables cross-agency knowledge sharing
- Facilitates distributed quality assurance process and guide

5.5 Key Benefits Overall:

- Removes barriers between people and the information / support they need.
- Create a one stop shop for user groups members, programme providers and key stakeholders including other MoE agencies for the collection and dissemination of information - information is easy to search, easy to navigate, easy to find, and presented in a useful way
- Provide a common language/vocabulary and a common interface, with easy access to trustworthy pan sector information relevant to users, providers and stakeholder agencies.

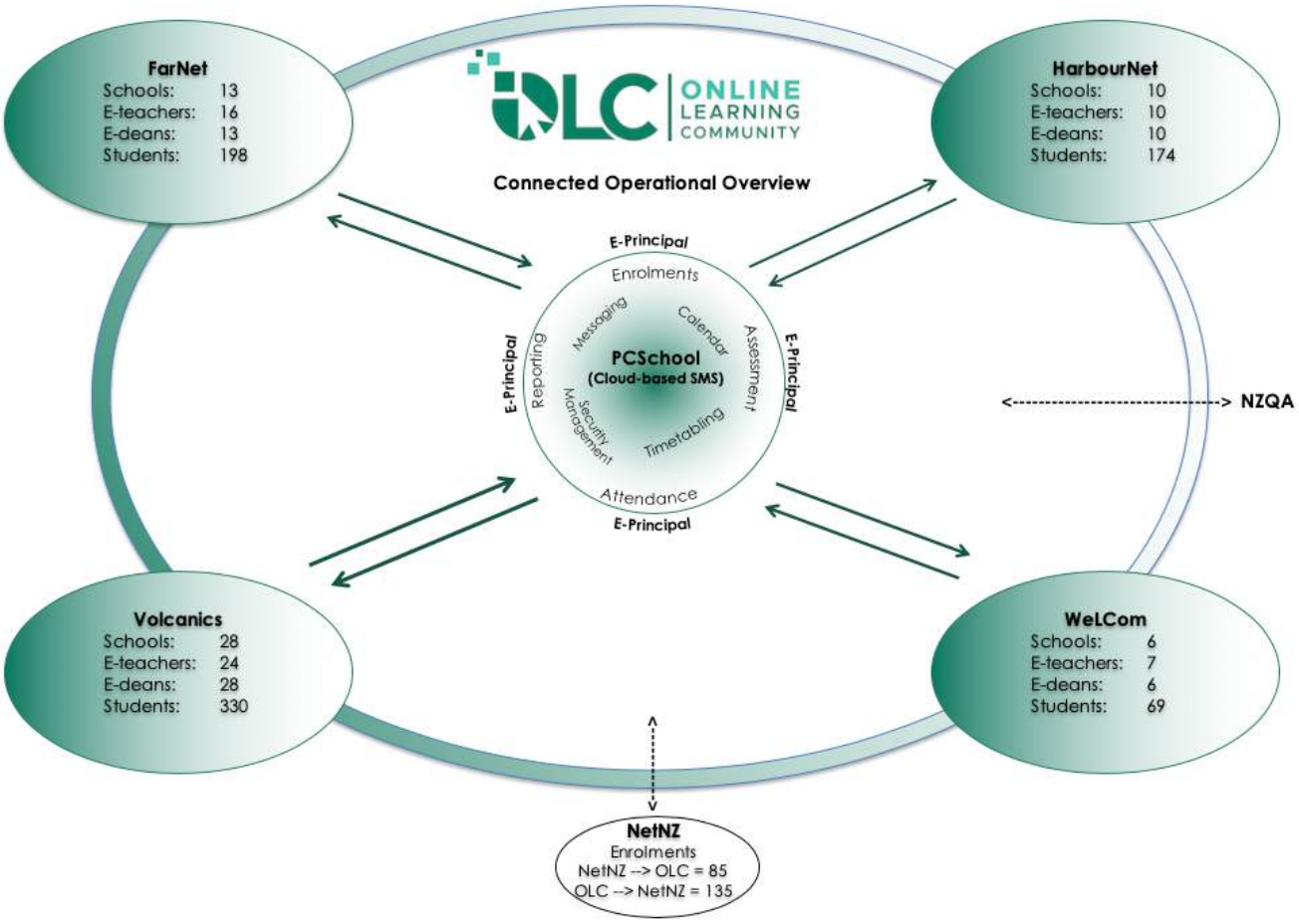
- Presents an integrated service to pan sector customers (users and providers), regardless of which agencies provide the service components/ offerings.
- Encourages providers and users of the brokerage service / VLN to become more self-sufficient and self-reliant.
- Central agencies will have access to a better, more cost-effective means of communicating and consulting with user groups, for furthering and enhancing existing initiatives.
- Facilitates timely measurement of education outcomes using reliable, up-to-date information and user feedback.
- Is based on the key principles of the wider E-government strategic framework. It complements and is consistent with related government initiatives for the education sector
- Is proactive about helping users solve or avoid information problems and make constant, cost-effective improvements and recommendations based on user group feedback.
- Makes a convenient, efficient and transparent focal point for sector customers and central agencies to deal with each other.
- Enhances the way central agencies work together to support networked learners.
- Support each agency to best utilise communication systems that interoperate with/ complement others
- Fosters positive relationships based on mutual trust and benefit
- Establish and promote standards and guidelines that facilitate a whole-of-sector approach to developing virtual services.
- MoE agencies and providers consult and involve user group when developing new services and programmes
- User groups and providers understand what information is available, know how to access it, and can use it in appropriate ways to best meet their institution, staff and/or student needs
- Makes information available to a range of audiences

Appendix 7 – Online Learning Community (OLC) technical

(shared by Amanda King, April 2020)

Over the past 2 years, the OLC have been using a cloud-based student management system, PCSchool, to connect their schools' e-deans, e-teachers and students more effectively and efficiently. In essence PCSchool works as a traditional SMS, but customisable features have been adapted to the OLC's specific needs, allowing us to include multiple users from multiple settings.

The diagram below shows that while each of our clusters has its own identity, we are inter-connected through our teamwork, our shared human resources, and through using a product that enhances our systems and process.



The flow of data and information is not just enabled through PCSchool however, teamwork between e-principals is key, and our weekly face-to-face meetings are essential to working constructively to this end.

We have recently entered into an accord with NZQA to get access to and use NCEA results data. We have been able to import the previous 2 years of results data into PCSchool This is a huge milestone in that it gives us the ability to analyse subjects and individual student data with accuracy.

NetNZ sits outside of our 'bubble'. We share resources (teachers and students) on a negotiated basis, and use manual systems outside of our SMS to process enrolments, communicate with their e-Staff, monitor attendance and assessment, and report on student progress.

Some of the key features within PCSchool we use include:

- All **e-Staff details** are entered into the sms and their security settings are administered by the e-Principals.

- Student **enrolments** are made by the e-deans from each school via an electronic e-form, which imports data in real-time into the student database.
- e-principals then **place students directly** into classes with e-teachers. This is then immediately visible to all e-Staff.
- **Timetables** are set up and published in the PCSchool calendar. These are accessible to all eStaff. Zoom Links and e-Staff emails are available via the **Calendar**. NCEA MoUs are also linked to the calendar view so that e-deans can easily locate, print and process these.
- **Messages**, links and attachments can be sent in bulk to students, e-deans, and e-teachers, via the internal email feature.
- Student **attendance** is marked by the e-teacher, and easily monitored by the e-dean and the e-principals.
- **Markbooks** are kept for all courses and serve as a repository for all assessment grades, learning competencies, and comments on student progress. The markbooks are accessible to the e-deans who can view and add comments, and who then record any final results in their home school's student management system.
- **Progress reports** are managed via the markbooks and are downloaded by the e-dean and shared with the student and their school.
- **NCEA results** can be viewed and analysed by all e-Staff.
- Teachers currently use their own systems and platforms for managing and sharing their learning materials with students. e.g. Google Drive, Classroom, or Sites (these seem to be most widely used)
- All e-Staff use the **Zoom** video conferencing plaform for face to face meetings. e-teachers use **Zoom Pro** features to enhance the learning experience for their students, and manage participants more effectively.

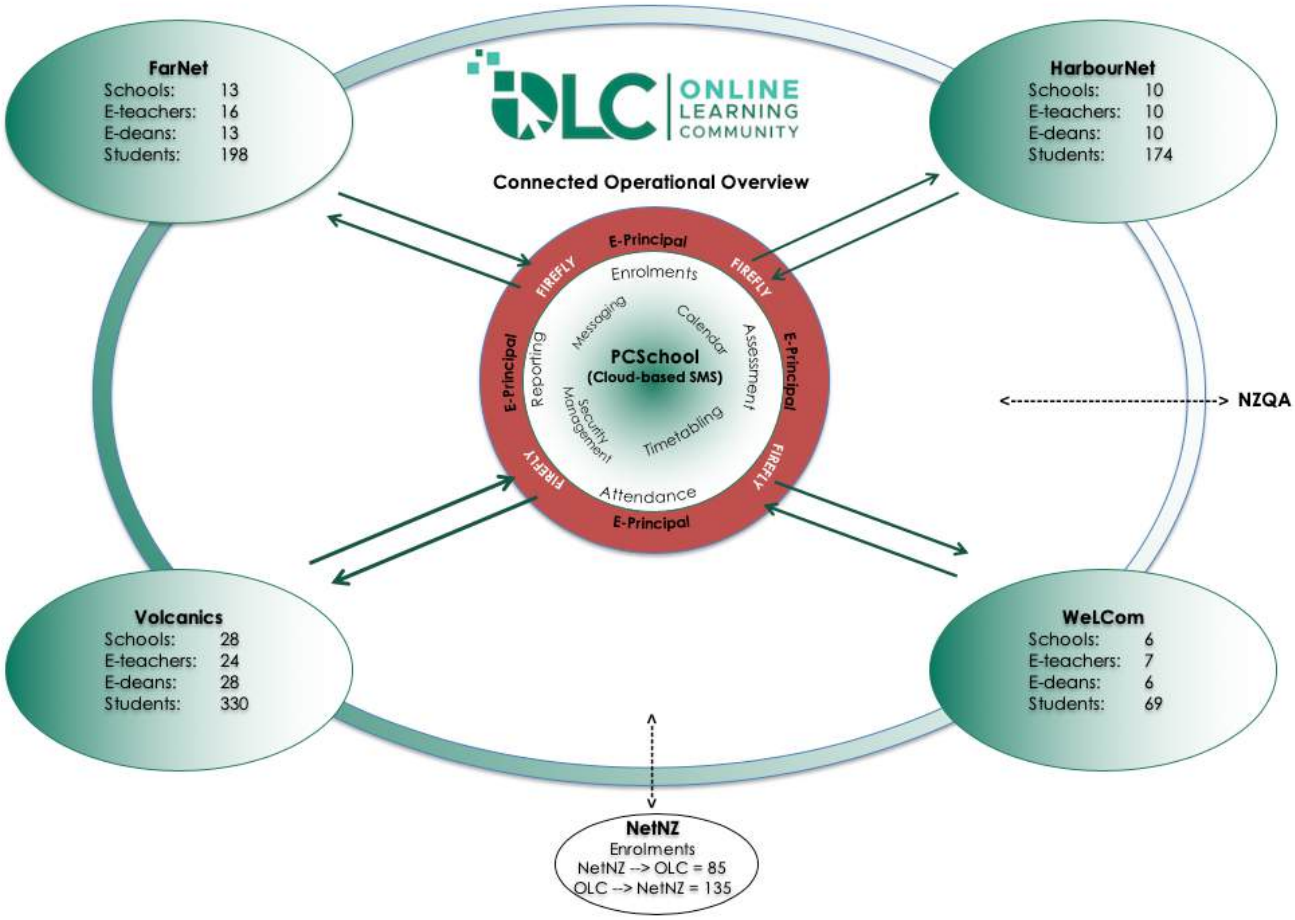
Next steps:

- Live reporting: *Students have their own login to access their profile in PCSchool.*
- Utilising 'Worksets', a new feature within PCSchool that allows teachers to link coursework to students timetables, rather than having to share via email or classroom notifications.

Future directions:

- Parental access to PCSchool: *To view their child's profile, progress and respond/feedback to e-teacher.*
- Trial an online managment system e.g. Firefly, that links seamlessly with PCSchool and provides a user interface that is modern, intuitive and adds functinality inlcuding:
- Resource respository: teachers publish their course instructions and link in their materials, and other mulitmedia learning materials from a wide range of products.
- Assessment tracking, checkpoints and marking
- Real-time feedback and feedforward, to learners, parents, e-deans, e-teachers, e-principals.

The diagram below shows how Firefly would sit around our current SMS as a user-interface with the added functionality of bringing together a modern learning experience with all necessary data, information and communications.



Appendix 8 – CLE Stakeholder benefits

	Admistrator *(incl. principals, BoT, senior staff)*	*Teacher*	*Student*	*Parent/whānau*
Digital Identity *How people are recognised online. Authentication of users essential to ensure safe, secure and reliable access to online services. Digital identities and access systems are foundational elements of our shared digital future.*	Ensures schools/clusters can provide a frictionless and personalized customer experience for their learners. Gives confidence to a trusted 'brand' as a provider of quality learning experiences.	Provides assurances around who can (and can't) access the systems, materials, assessment information etc that are a part of providing a quality and safe online learning experience for their learners.	Ensures they are able to participate in online learning activity without the risk of being identified outside of the approved environments they are participating in.	Provides assurance for parents/whānau that information about their child is not going to be used by anyone other than those who have the required authority to do so.
Filtering services *Vital for ensuring protection agains viruses, malware and ransomware affecting a user's computer and leaving them vulnerable to exploitation.*	Prevents school networks from being infected with malware and provides assurance that learners will be protected from	Supported in selecting web content to share with learners so that learners are protected from being exposed to harmful or inappropriate web content	Protect learners from harmful website content and also prevents personal devices from being infected with malware	Provides assurance for learners working on school content from home that they won't be exposed to harmful website content and also prevents personal devices from being infected with malware
Learning management *A software application or combination of applications used for the administration, documentation, tracking, reporting, and delivery of educational experiences (courses, programmes etc.)*	Ensures teachers are supported by providing the appropriate tools and environment within which they can design, organise and manage learning, and that this will provide a consistent experience through the learner's lifetime in that organisation.	Provides a unified environment within which teachers can sequence and comment on learning content, and engage with learners by providing feedback and 'next steps' advice on a personalised basis.	Provides a single point of (authenticated) access to the learning content and activities that have been designed specifically for them. Provides a safe and supported online environment to participate in.	Provides a single point of (authenticated) access to view their child's learning and provide opportunity to provide additional support from home. Provides a consistent and familiar interface/experience when supporting more than child.

	Admistrator *(incl. principals, BoT, senior staff)*	*Teacher*	*Student*	*Parent/whānau*
Student management *(Also known as a student information system or SIS) Maintains a record of all student information, and helps a school manage data, communications, and scheduling etc.*	Provides a 'single source of truth' about the learners within an organisation, enabling more efficient management of all student information, including between and among schools in a cluster, for example.	Provides access to a 'single source of truth' about learners that accumulates through their learning lifetime. Provides timely and immediate information about learners to help inform decisions about learning design.	Ensures learners are provided with a high quality, personalised learning experience through their learning lifetime (within an organisation or cluster)	Provides assurance that the information they provide regarding their child is held securely and referenced by those who need to do so in order to provide high quality support (teaching, health, wellbeing etc.)
Learning record *Combination of applications that provide a record of each learner's educational journey. Includes applications used for assessment and reflection. Generally student-owned and managed to provide evidence of learning and achievement through their learning lifetime*	Enables the seamless monitoring of a 'record of learning' of all leaners through their learning lifetime. Ensures alignment of learning with system requirements (e.g. curriculum outcomes, national qualifications, local curriculum goals etc.)	Provides a unified environment to connecting evidence of learning to the criteria and measures used to assess learning progress.	Encourages students to take more ownership and responsibility over the learning process. Because they document learning growth over time, they can help students reflect on where they started a course, how they develop during their learning lifetime.	Provides views for parents/whānau to see and understand in a continuous manner what their child is learning and what progress is being made. Opportunity for parents/whanau to engage with and provide feedback or guidance.
Curated content *An online system that enables the process of organizing and consolidating pieces of content (text, graphics, and multimedia clips) and tagging schemes (XML, HTML, etc,) in the most efficient way and storing them only one time in a repository.*	Provides assurances at a school/cluster level that teachers and students are accessing and using learning content that is quality assured, easy to find and conforms to the requirements of copyright usage for sharing and re-purposing.	Maintaining a store of curated content can help teachers deal with the often-overwhelming amount of information available at their fingertips, and also provide assurances about the quality and appropriateness of the content that has been curated.	With broad and easy access to information, seeing and practicing content curation can help students deal with the often-overwhelming amount of information available at their fingertips.	Provides assurance that content being engaged with has been 'vetted' and is appropriate for their child's learning needs.