WA Innovation Hub | Idea Canvas

Idea Name:	Schools Innovation Projects to address the impacts of COVID-19	Completed by	Tim Rowberry, Kim Flintoff, Stella Jinman

Problem
What COVID-19 challenge is this idea solving? What specific need is this idea filling? (Refer to www.ithink.wa.gov.au for information on the challenges Government of Western Australia is looking for ideas on)

We want to ensure that students in our schools have the ability to contribute directly to the immediate and secondary demands of COVID-19 upon our communities, as well as the recovery and post-crisis phases of action. Students are also motivated to explore and contribute new start up opportunities. We aim to align this with a clear sense of the need to maintain meaningful and curriculum-connected learning experiences that provide young people with a voice in all phases of the crisis while engaging them in critical and creative thinking.

Value Propositions
Clear, compelling message – what are the benefits to the citizens of Western Australia? Who will benefit.

The value of this proposal is its ability to reinvigorate the interest in lifelong learning while drawing upon the skills and expertise of our students in Western Australian schools to support and contribute to the efforts needed to address health, education, social engagement, economic, and other impacts of the crisis immediately and into the future.

Existing Alternatives
Who are the competitors or alternative providers? If there are no alternatives (unlikely) what are the substitutes? E.g. What are people currently using given the lack of this solution?

There are no immediate competitors, as this is a complementary support project based on educational activity (including STEM frameworks) that can be led and directed by the K-12 students and teachers of Western Australia.

Key Metrics & Evaluation
List the key numbers that will tell us how this solution will deliver. Who/how will these be collected/reported?

This project has the potential to draw upon the expertise of 48,000 teachers in WA state schools, as well as their colleagues in other sectors (independent and Catholic, as well as Higher Education, TAFE and VET), in partnerships with other organisations that work with culture, government, industry, community and public sector. Participants can report on engagement numbers and local outcomes, the organisers can aggregate and provide the overarching summaries and analyses of the projects contributions.

We may be able to draw upon the expertise of the **UNESCO Chair for Data Science and Learning Analytics in Higher Education Learning and Teaching** to assist with more robust and specific data collection, analysis and reporting processes.

Sustainability
How will this solution be sustained or progressed? Operational model? Funding model? Business Model needed?

The project does not require a lot of extra financial inputs, it will draw upon and repurpose a significant effort applied to Learning and Teaching towards practical projects building upon challenge-based learning, and applying the principles of design-thinking and project-based learning to engage STEM and the priorities of learner development (future-ready attributes) in cross- and interdisciplinary learning activities that enable students to contribute to community needs while meeting the obligations of curriculum, learning and assessment. It will draw upon the existing Innovation Projects groups established by the Learning Futures Network Schools Innovation Projects Initiative, TDS priorities, STEM Innovation, and other programs and unify them with a common purpose based on, or for, the future needs of Western Australia. The major objective here will be to provide highly effective and contextual learning by connecting with real-world authentic problems our communities face on a daily basis. This squarely meets the Federal Education initiatives of STEM integration, industry connections and parent involvement to better engage our students.

Solution
What is the solution / how will we plan on meeting the customer/user need?

The solution being proposed is multi-faceted, multi-modal and somewhat open-ended – unified by some key elements – young people working practically to solve and apply solutions to the challenges facing Western Australia now, throughout and post COVID-19.

User & Citizen Segments
*Who are the end users? Who are the potential citizens that will engage with this solution? *Highlight Early Adopters*

Teachers, students (and parents), schools,, working with, and to support, others in industry, government, cultural and community groups.

Potentially any sector of our community that has needs could be the recipients and beneficiaries of this initiative.

The Advantage
What is it that makes this idea different from the competition? Can't be easily copied or bought.

The unique aspect of this initiative is that we WANT it to be copied!

As mentioned above, the advantages have been more than covered to this point.

This is not a commercial idea but an offer of support to ALL necessary areas of our community across WA using the creative and diverse talents of thousands of teachers and

Key Partners
Who are the Key Partners we need to deliver this idea? Which Government agencies need to be engaged? Who are the key suppliers? + What does each do?

Schools, industry, higher ed, TAFE, community, public sector and cultural members of the Learning Futures Network, professional and industry associations, etc, engaging with parents and parent bodies.

In the first week of eliciting interest in this idea we have over 40 responses form organisations offering a

IP, Research, Compliance
Are any of these required / desired to support/implement this solution?

Any new IP emerging from this effort will remain the property of those entities engaged in its creation – whatever agreements they decide will be respected. Research opportunities will arise (particularly in academic settings around educational, learning and teaching, collaborative networks, etc); it is also possible that the efforts may also trigger R&D type efforts as

| | | students. While not a commercial venture it has the potential to trigger commercial opportunities.

The amazing key feature of this proposal is using an existing infrastructure to work with actual real-world challenges providing our educators and students with outstanding curricular to truly invest in. | variety of knowledge, skills, technology, and expertise. | collaborating entities realise new opportunities and solutions with commercial applications.

All project work will honour all existing compliance requirements of the various authorities and agencies associated with the work – WWC, Privacy, DETWA governance, etc |

WA Innovation Hub | Concept Design Canvas

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The Solution
Explain how the solution works.

Design
Highlight design, technical or other elements that differentiate the idea.

Financials
How much will a prototype cost to develop? To implement this idea will we need a one off funding model or will ongoing funding be required?

Risks
What are the risks we should consider with this idea?

The Solution

The solution we offer is intended to address a range of challenges facing the Western Australian community during and beyond the current COVID-19 crisis. Young people are looking for meaningful ways to engage with and support community efforts, and their parents and schools are hoping for high levels of engagement and achievement with ongoing learning. This solution draws upon both of those elements to bring WA's challenges to be the very platform upon which students build their learning and develop as lifelong learners.

It's our contention that a significant proportion of student learning, from all levels and all sectors of education, can be predicated upon the principles of STEM education and challenge-based, enquiry-driven application of design thinking applied to solving WAs biggest problems dealing with, and recovering from, COVID-19 effects.

Building upon pre-existing exemplars of schools working in collaboration with higher education, industry and other community organisations we believe we can leverage the combined creative efforts of a large number of Western Australian school students to address our problems. We also believe that we respect our young people in this process by creating a platform where they can both be heard and be seen to be contributing positively to their own, and the state's future.

This is not just about COVID-19, it's about reconnecting with our sense of community and using the current global situation as a catalyst for change. Engaging with the elderly, homeless, disadvantaged and simply redefining our lifestyles are all existing conditions created by economies of imbalance. The greatest advantage of this initiative will be to finally get a chance to showcase the benefits of STEM principles in a collaborative effort that truly breaks down the silos of separatist thinking. This is the anthropological thinking required if we are truly serious about continuing to improve our planet - *Critical Reflexivity, holistic-systemic vision & the emic ways of knowing.*

Design

Design Thinking Model:

Empathy
- Gather essential data from communities to ascertain need

(*Our Innovation Hub would initially send out a series of identified problems / issues that need addressing as exemplars. These could include simple volume based support such as the 3D printing of existing designs as well as more complex issues such as how to keep surfaces sterile / clean*)

Define Problem
- School / teacher based organic approach based on schools' ability to best deal with a specific or series of design problems available (we could end up with 1000 different Problem Statements
- Teachers / schools either pick one / some of the above exemplars or define their own through independent research via their own *Empathy* development - I would expect TDS STEM & Innovation Partnership / Pioneer schools to doing their own market research as each community in need may have slightly different needs / skills.

Ideate
- the FUN part - this is where schools engage ALL their assets and resources including parents groups, industry partnerships and tertiary support to develop a huge series of potential solutions. Through the 21st C learning pedagogy (*communication, collaboration, critical thinking & creativity*) we narrow down solutions ready for prototyping. We would also expect our school teams to be in regular contact with the community element in need in order to assist in a more streamlined process rather than waiting for the prototyping phase

Financials

Organically supported within the school budget as this would become a major component of the existing curricular.

Supporting agencies such as industry and community may be able to assist but NOT expected.

Remembering that the strength of this initiative is the shift from existing curriculum tasking to a more contextual opportunity to achieve the same outcomes in a more invested and purposeful manner.

Risks

We believe the risks to be minimal - the type of work being suggested is already quite commonly undertaken in schools around the world. The particular community that will initiate work on this solution are all members of the Learning Futures Network and/or the Innovative Schools Consortium, as well as those identified as mentor schools and leadership schools within the WA Education Department. It leverages a raft of pre-existing practices and relationships.

The principle risks would probably be in the realm of reputational risks - should some sectors be unable to deliver upon the commitments they undertake.

There is the minor risk of IP disputes if there are commercially viable solutions developed in informal collaborative relationships, however these are no greater risk than normally exist when schools collaborate with external organisations.

Prototyping & Testing
- where the most feasible samples / models are 'built' to test the concept and process

Sketch the solution
Sketch out how the end user might interact with the solution

Next Steps
What do we need to do now to progress this idea – now and in the longer term?

Skills
What skills do we need to progress this idea into a prototype?

School teachers will apply contextualised use of the Design Thinking methodology outlined in this canvas to facilitate student engagement with identifying problems and challenges. Once the problem is defined and well understood schools and students can work collaboratively across contexts, and with community partners to develop viable solutions and responses to the problems. The students working in this way can collect evidence of learning, along with real-world connected experience, to address their required learning across a range of disciplines within a STEM framework. Teachers are able to engage with 21st century learning frameworks to support the ongoing development of future ready attributes (general capabilities) of learners. They will be able to evaluate not only subject matter expertise, but also have much clearer insights into students' developing skills in Collaboration, Communication, Personal Learning, Critical and Creative Thinking, and Global Competence through Cultural Awareness and Sustainability. Community partners will engage with schools and learners in ways that are more focussed on mutual benefit, and emphasise future pathways and opportunities for lifelong learning, employment, and workforce development.	We have the initial interest from a core group of schools and organisations who've identified their capabilities and willingness to participate - the next step is to recruit more schools and develop the requisite promotional and support materials to guide participating schools and organisations - many of these materials can simply repurpose and adapt extant resources. From the initial actions we can refine and disseminate the support and processes to streamline and ease the burden of uptake and reporting by any interested organisation.	We believe that many teachers and other members of community are already well versed in the skill set required to facilitate this type of real-world learning activity. Where necessary we are able to utilize a range of platforms including the Learning Futures Network and Innovative Schools Consortium presence on Cisco Digital Schools Network, the WA Education Department's existing Teacher Development Schools and STEM Innovation structures to offer timely and relevant needs based professional learning opportunities to teacher and others interested in contributing to the effort. And further, we can utilise and Curtin University's Global Challenge platform scaffold the learning experiences and journeys undertaken by learners so we can support effective collection of evidence of learning to ensure that student effort is properly recognised and, where necessary, able to inform evaluation and assessment of learning.