What is Research?

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Question: It is interesting that the word "research" is used a great deal in our daily lives—especially in an academic environment. It seems to me to be such a "loaded" word that can carry a number of meanings—from the highly esoteric to the banal. There is also a certain mystery about it and even a certain 'scary' quality that people sometimes convey. While I have found basic texts on research methods very helpful, I would appreciate a de-mystified explanation of what research is.

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Answer:

One of the challenges in the academic world is to address complex questions in a relatively simple manner. Unfortunately, it is difficult to simplify something complex without studying it thoroughly; and as the posed question points out, one can get caught up by the complexity itself. Nevertheless, talented communicators are those who can construct and convey relatively simple explanations of complex matters. One could state therefore that:

Research is a process of seeking explanation and meaning

It is quite natural for humans to seek explanations about the surrounding world – to seek to know it, to identify their place, to assert some control over phenomena and to make predictions that enhance their existence. It is not surprising therefore that the everyday concept of "knowing" typically covers a wide scope, including familiarity with places, people, subjects, knowing things from personal performance, as well as holding opinions, truths and beliefs. People seek answers to their questions in a variety of ways and so we have multiple ways of knowing and achieving meaning.

Research is a process of seeking explanation and meaning**.** It is a creative and explorative process for generating new knowledge about phenomena. It is characterised by doing so in a systematic manner where questions about relationships between phenomena are framed in a way that permits close investigation. The aim is to address the questions in a direct manner – with an organised systematic process of inquiry which may be called methodology. Methodology is part of the process that provides new evidence about the nature of the relationship.

In an essay on research in the university, Parton cites and adopts the description provided by Gordon who wrote "Research is the application of critical intelligence and independent judgement to any problem that is capable of systematic study" (Pankhurst, 1972, p. 2). The research approach requires rigour and clarity about the utility of the question so that it is articulated in a way that leads to a logical project design. In turn, the design uses an appropriate methodology that produces information able to be analysed to provide evidence about the relationship(s) under study. If there is no current suitable methodology, then the researcher seeks to invent it, confirm its reliability and validity, then use it to gather evidence. The evidence emerging from a research project is interpreted by the investigators in the light of their expectations, hypotheses or predictions and with respect to current knowledge so that new findings can be placed in perspective. Researchers are obligated to disseminate those findings for their peers to consider and where applicable, to wider communities.

How is research evaluated? In an academic environment such as a university, the quality of fundamental or basic research is judged by peers in the field of study. The judgement is based on how the research findings advance knowledge. While advances in methodology and model building are recognised, they are generally seen to be precursors to theory building. An academic discipline is finally judged by the number and reach of its confirmed theory.

In applied research, in addition to the advancement of knowledge, a key judgement is how the new knowledge and associated techniques benefit humankind. The real evaluation here therefore, is the impact on the professions and groups affecting the practical realities of people.

Within the context of Aotearoa, Kaupapa Māori research is a good example of applied research with a primary focus on pragmatic implications for the lives of real people. The Kaupapa Māori approach is based on ancient cultural philosophy yet it is a relatively recent development in research methodology. The term 'Kaupapa Māori' evolved within the discipline of education (Smith, 1997) and is now widely used by Māori in other disciplines and fields of research. In their framework of Māori ethics, Hudson, Milne, Reynolds, Russell and Smith (2010) indicate how Kaupapa Māori is now applied in science, cultural studies of traditional cosmology and specific areas of health research. In the professional sector, the work of Cram (2010) provides examples of how Kaupapa Māori is also relevant and useful where Māori are conducting and facilitating research as professional research consultants between whānau, iwi, institutions such as university and policy makers in the government sector. Such research is conducted under a cultural philosophy that is appropriate to specific whānau, hapū and iwi. Any research using the Kaupapa Māori method must have the research issue identified by Māori who connect to the community through whakapapa and/or residence. It should also be led by Māori researchers. These imperatives mean that the research is centred on Māori cultural practices and values that are appropriate to the community and its people. The research is therefore owned by that community or collective from the inception to completion. Because the research engagement is driven by the needs of the Māori community, an ideal is to pursue outputs that are positively transforming. This is a fundamental goal of the Kaupapa Māori approach; and it is notable that such transformation often extends beyond specific communities to the wider society in general.

Another recent example of applied research being conducted under the cultural philosophy of Kaupapa Māori with a positive effect on the wider society of Aotearoa is the work concerning toxic sea slugs led by Māori researcher Dr Shaun Ogilvie (New Zealand Herald, 2010). The project seeks to understand the cause of toxic effects on marine, animal and human life along the shore front. This is a matter of importance to all residents of Aotearoa but also has significant cultural meaning for Māori. The ocean is a significant part of the daily lives of coastal iwi and other New Zealanders who enjoy our beaches and foreshores.

Given that research is a transformative activity where a state of knowledge is advanced, there will often be wider implications for stakeholders, groups and communities. In such cases, the role of policy makers in forming strategies and for leaders to implement new policy are critical in utilising the new knowledge and practices to positively change the world.

While research is a critically systematic process, it is also fundamentally a creative one that seeks answers to questions and solutions to problems. Questions, explanatory hypotheses and methodologies are created through an intellectual process – they are instruments of creative and logical thought that seek to convey meaning. In universities, the business of teaching is to foster critical enquiry and creativity in addressing questions that lie on the boundaries of knowledge – that is on the "edge" part of the word know*ledge*.

It is emphasised here that the research process is not restricted to researchers in our universities and other formal research entities. Smith (1999) for example has highlighted how research for indigenous peoples and their communities across the globe is not institution-bound; it occurs in many situations according to the need, time, place and people involved. In bringing the argument closer to Aotearoa and specifically referring to Kaupapa Māori research, Mane (2009) discusses how Māori-centred research is defined and owned by the community as much as it is by the academic voice of those who are positioned and speak from within the institution. Mane argues that the voice of the community and the research that occurs there is representative of applied research and how it affects social transformation for Māori. Earlier work by Eketone (2008) has also noted that tensions can occur between community-based and university-based research work. He suggests that it reflects a certain incompatability between the respective applied versus theoretical approaches.

In contrast to the situation described by Eketone, it is notable that Ogilvie's project (New Zealand Herald, 2010) demonstrates a strong collaborative three-way relationship between the community as represented by the Hauraki Māori Trust Board, the Cawthron Institute as a research provider and Ngā Pae o te Māramatanga as a facilitator and supporter. The Trust Board contains hapū and iwi representatives who provide the research process with expertise on the geographical region as well as on cultural protocol. The Cawthron Institute, which is a large independent research centre, brings a cluster of scientific expertise; and Ngā Pae o te Māramatanga, which is a national Centre of Research Excellence hosted by The University of Auckland, is well placed to take a facilitative capacity. The role involves providing funding and connecting the researcher with a community of Māori and indigenous researcher expertise.

This convergence of the expertise from the community, from a research provider and from a relevant facilitator provides a useful research model. Henwood & Harris (2007) describe a primary study which shows similar triangulation between iwi research participants, iwi researchers and a research provider-funder. The project is Te Rarawa whānau development, which was funded by the government ministry Te Puni Kokiri with the purpose of supporting whānau and hapū development within the iwi. Futher aims emerge from the primary study identifying the need to, first, document iwi oral history; second, establish an iwi oral history collection; third, identify Te Rarawa records held outside of the iwi; and finally the need to create an archive in which to place the taonga. This cluster of projects provides a variation of community, researchers and facilitator collaborating to empower and transform the iwi.

Eruera (2010) provides another example of this type of joint research relationship. In a project focused on whānau realities researchers combined with whānau to explore whānau realities. Whānau are involved in all the reseach processes from conceptualising and planning the project through to reporting back. The collaborative nature of this type of transformative research (Mertens, 2009) is important and necessary because it aims to validate the process of acquiring new knowledge with and for the people of the community and at the same time, add to the wider body of knowledge that is studied in the other seats of learning and research.

Indigenous world views or epistemologies, therefore, provide a particular context for ways of knowing that exhibit differences as well as commonalities with other ways of knowing. Different views have the potential to enrich our understandings – providing each has a voice on the wider transformative agenda (Mertens, 2009).

As noted at the outset of this paper, seeking and exploring explanations and relationships is research activity and it takes place all around us. It is a characteristic of life and it is a characteristic of any particular world view. The variability of the creative process emanates from different contexts of exploration—and reflects an intellectual freedom. Viewing the world through the lens of a creative artist is enriching because artistic work usually involves considerable research and freedom. Most creative artists work systematically (as do scientists)

to isolate a question about one or more relationships and to find a way of discovering more about the phenomenological context.

For example, in a review of recent paintings by Shane Cotton, Lynne Seear reports that Cotton is fascinated by being on "the edge… both physically and psychologically". She also discusses his emphasis on transformation with its "ever-present notion of flux, change, adaptation and alteration" and explains that the scope of Cotton's work extends from the galactic level through to tribal and personal bi-cultural levels (Seear, 2010, p. 53). Cotton uses colour, space, figures of humans, birds and a range of culturally sourced material as well as words and symbols to represent pathways of transformational thoughts and realities. Like the researcher, his work is a controlled quest for understanding and ways of taking it beyond the present edge.

Another example is the work of Milan Mrkusich whose formalist style focuses on the relationships between geometrical space, colour and surface. These elements are deliberately used to explore the theory of form so as to arrive at a truth. According to the artist "The rightness of truth is self-evident in the form itself" (Mrkusich & Auckland City Art Gallery, 1985, p. 11). His methodology requires detailed planning to arrive at a design logic that achieves "an unambiguous form" (ibid). From the design, a model is created to validate the interactive effects of colour, surface and line. Then he creates the final work which contributes to the theory of form.

The field of photographic art illustrates another research approach. For example, Fiona Pardington has produced work in several areas, including memory, voyeurism, psychoanalysis, medicine and the human body. She has also closely studied ambiguous relationships between subject and the photographer and more recently on the contemporary viewer's relationship to treasured objects (taonga) found in museums (http://tworooms.co.nz/artists/fiona-pardington/biography/). Lisa Reihana's works concern gender and racial politics. For example, with reference to the McAllister sculpture of a Māori warrior that stands at the harbour end of Queen Street in Auckland (Page & Ewington, 2010, pp. 131,134), her colour photo-portrait shows a Māori man in the same posture, but with a half-lit face and a low line of city lights in the dark background. This photograph is to remind us of the cultural controversies and city politics that surrounded the interactive process of establishing McAllister's sculpture some decades ago.

With respect to sculpture, there are again many artists who carry out deep research into selected topics and then conceive, design, model and build objects that inform. For example, Peter Nicholls' body of work reflects a deep understanding of mechanics, engineering, kinetics and kinematics; and he draws on this knowledge to create sculptures that involve the physical properties of energy, mass, force, and balance. He also studies the natural environment and aspects of bicultural history. His sculptures have the dialogue embedded in their construction and in their aesthetic effects (Eggleton, 2008).

However to succeed in creating that dialogue, Nicholls, like the researcher, identifies the key theme, reviews existing dialogue, and plans the new project along with its aims, its questions, and its pathways to solution. The pathway is through methodology and evaluation of the 'data'. His approach is highly systematic and meticulously controlled as he plans, models, and solves the range of questions about space, force and time that relate to the artistic purpose.

When we add the creative artistry of writers, poets, musicians and dancers to these few examples from the visual arts, we can appreciate more fully their quest for new perspectives and understandings. Thus the "data" and related methodology of artistic research may be sequences of sound in the field of music, or words and themes in literature, theatre, drama and poetry, or interactive elements of space, force and time in dance or in sculpture, or in a wide

variety of relationships regarding line, colour, texture, background, composition and perspective in the visual arts.

In conclusion therefore, research is a creative yet systematic way of seeking explanations by studying relationships so that we understand phenomena. Its scope is very broad and extends beyond formal institutions into our daily lives. It can be applied to any form of human endeavour; and the emergent understandings and meanings ultimately provide us with opportunities to transform parts of our existence.

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