# *Exploring Potentials for Increasing Interdisciplinary Projects and Programs at VIU*

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**INTRODUCTION**

The question this report seeks to address is: why should VIU investigate expanding and developing models of inter or multi -disciplinarity and what are the potential benefits to students, faculty and the institution of doing so?

The digital age has created a great shift in the production and distribution of knowledge. The proliferation of data and information has exponentially complicated both our own and our students working lives and will continue to do so. As the information ocean rises, many educators have shifted their focus from knowledge as the accumulation of information to knowledge as the acquisition of the ability to problem-solve, to integrate, analyze and theorize all this data. Today's worker expects to have several distinct careers over the course of their working life, to be required to adapt to change effectively and to manage information without being mired in it. One way to encourage students to develop the necessary adaptive skills for this changing environment is to help them build capacity to integrate different methodologies and ways of knowing, both within their own work and by working with others who have different skills and experience from their own. Today's social and economic problems will be most effectively addressed by citizens who work from their own area of expertise, in collaboration with others who are working from theirs, in order to bring a powerful array of approaches to bear on those problems.

Universities around the world have responded to these epistemological shifts by experimenting with new aggregations of knowledge and methods of teaching. Students have demanded that knowledges be actively brought together by the academy rather than leaving them to make connections on their own among the disciplines they are studying. This approach is well-suited to problem solving, to working collaboratively with a team for a common purpose, to expanding understanding of a particular concept or idea and to generating fresh perspectives and solutions. The fear most often expressed about moving to a multi/interdisciplinary approach is that the knowledge bases of the traditional disciplines will be undermined, that knowledge itself will be watered down, that increasingly we will lose knowledge itself in favour of a kind of pseudo-democratization of opinion. Indeed this is already happening on the internet which was first embraced, we must remember, by universities and researchers as a way of keeping up to date with one another's research and to improve their ability to deal with large research

problems. With the explosion of data has come a different problem: how to filter and evaluate data in order to determine its usefulness to us. It is time to turn, not to data management (which is already being done) but to knowledge management.

**PROCESS**

I began preparation for this report by reading a variety of sources on multidisciplinarity and interdisciplinarity—some for and some against, some with very specific matrices in mind, some very general. Brandon Nelson, from the Education Planning Office, helped design and then facilitated two focus groups on Interdisciplinarity with faculty from a broad range of disciplines. The focus groups were drawn from a list of names provided by Dr. Steve Lane of faculty who had attended meetings on the subject in the past.

In addition, I met with a number of people who could not attend the focus group times, but who had expressed interest in multi/interdisciplinary programs. Due to restrictions caused by my own time restraints I was not able to meet all those requests, for which I apologize. No student focus groups were conducted; that research remains to be done.

It was not my mandate to recommend specific multidisciplinary or interdisciplinary programs, nor do I, though I do provide a list of ideas for such programs brought to my attention while I was conducting my campus research. It is not intended to be prescriptive in any way and should serve only to demonstrate how broad and rich the possibilities are. Nor do I evaluate those which already exist at VIU. I do make some broad recommendations, based on my research into the literature and/or discussions with faculty of both issues of concern and of good practice in the ongoing development of multidisciplinary or interdisciplinary programs.

I do summarize both issues of concern expressed in the literature and focus groups, and best practices recommended by those engaged in the development of multi/interdisciplinary programs.

**DEFINING OUR TERMS**

One of the obstacles to the establishment of multi/interdisciplinary programs has been widespread misunderstanding of the differences among several types of delivery systems for what we might call aggregated knowledges. In addition, universities using these models often

use the terms multidisciplinary and interdisciplinary interchangeably.  The consensus can be stated as follows:

## MULTIDISCIPLINARY

In a multidisciplinary approach courses are chosen that follow a parallel path, focusing on a particular subject or related subjects but not sharing intersecting projects or assignments.  For example, a student with an interest in Modernism might try to put together a matrix of relevant courses from Art History, History, English, Philosophy, or Liberal Studies, but it is the student, not necessarily the faculty, who is creating the connections between the disciplines. (Davis, 2007, Newell, 1982). Multidisciplinarity can be described as "a kind of sequential movement back and forth from one discipline to another, like serving eggs followed by mushrooms rather than a mushroom omelet" (Davis, 2007).

## INTERDISCIPLINARY

Interdisciplinarity is defined more specifically in the literature as the application of multiple methods of inquiry, analysis, and reasoning to an idea, concept, or problem which is of shared concern to the disciplines involved.  As Frank asserts, "it is not enough just to know that in different social and /or scientific connections different things are thought, said, known—what matters is that one interprets what is said from the context in which it was said.  This does of course require a corresponding readiness, which comes through experience, to accept that an agreement between contrary or at least different positions or scientific disciplines is made possible precisely by renunciation of the development of common perspectives" (1992, p.235.).

The literature is consistent on one point—good interdisciplinarity requires both faculty and students to be engaged in the intersection of knowledges with the goal of creating new capacities and connections through that intersection. (Newell, 2010, Frost 1999).

Good interdisciplinarity honours expertise by allowing faculty to teach their own discipline while collaborating with experts in other disciplines in investigating a problem or concept. Interdisciplinarity is built on a foundation of strong disciplines; it is not a replacement for them.

**COMBINED MODELS**

Both multidisciplinary and interdisciplinary programs exist at the same institutions as does a combined model wherein students follow a multidiscipline model until their final year when they engage in an interdisciplinary capstone project. Well-designed interdisciplinary capstone projects can be especially useful in forging productive community partnerships of reciprocal benefit to the students, the institution, and the community. Alternatively students may have interdisciplinary projects each year after completion of their freshman year.

These differences are more than merely semantic. They demonstrate the difficulty and complexity of implementing a model of aggregated knowledges that best serves the educational objectives of the university, the faculty and the students, not to mention society-at-large. Because VIU is already using aspects of these approaches, as an educational community it would be wise to explore how we could expand and further develop these models.

**BENEFITS TO STUDENTS AS IDENTIFIED BY FOCUS GROUPS**

- Provides students with motivation and critical thinking skills-- "how can people really get along and maximize the human potential"
- Offers the opportunity to increase student and faculty empathy-- to learn in a deeper and more meaningful way
- Reflects a global reality and offers crucial preparation for students to pursue a broader range of opportunities when they leave VIU
- Offers students more choice and self-direction (autonomy); this may appeal particularly to our older students, who often have already developed strong interests and goals, which will benefit recruitment and retention.
- Some students are already trying to create their own multidisciplinary program by having several minors (such as 3); multi and/or interdisciplinary programs could help retention by making this easier and more visible
-  improve breadth options for students at VIU
- Potential for increased creativity among both students and faculty
- Opportunities to see how their disciplinary lenses can help them make sense of the world in a larger way

- Opportunities to see the synergies between different methods of inquiry and analysis and to feel the surprise of discovery in the interstices between disciplines
- Opportunities for more integrated and multi-faceted experiential learning
- Enhance opportunities for faculty-student engagement through team projects
- Enable students to learn more about inherent connections between disciplines and the knowledges they stand for; to look at issues from more than one discipline's angle; to develop different methodologies and understand the difference between methodology and subject matter; to potentially find out more about their own true interests.  The goal is to create connection of real breadth, not discrete boxes but instead the ability to move the concept from box to box.
- For some Professional programs interdisciplinary programs or projects could help   students get a more comprehensive and realistic breadth of education that matches the real world; creates a more connected learning community; and creates the possibility of collaboration and creativity
- When tackling a problem interdisciplinarity ups the education level in terms of insight into another area; students will be competent in more than one discipline, and have intellectual pluralism because they will be effective and flexible in several disciplines; with that students have greater intellectual power from other theoretical knowledge; from that it makes students more desirable to graduate schools, because they are solution oriented; and they are also a desirable commodity in a workplace

**BENEFITS TO FACULTY AS IDENTIFIED BY FOCUS GROUPS**

- Giving faculty from different disciplines an opportunity to work together will stimulate future collaborative practices and generate scholarship in the faculty
- Faculty here don't get as many opportunities for renewal through leave, but developing interdisciplinary projects can be another form of renewal or revitalization for those interested
- Potential for increased creativity
- Potential for different pedagogical models, some with high levels of collaboration, some with less, but all with the potential to learn from each other

- Provides opportunities for personal and professional growth in teaching. Multi and interdisciplinary programs can change the student mix in the room which presents opportunities and challenges for faculty and students.
- Creates possibilities for more complex partnerships in relation to collaborations within the larger regional community; partnerships both with the community and organizations within the community and with other institutions.

## CONCERNS THAT NEED TO BE ADDRESSED IN THE DESIGN AND IMPLEMENTATION OF NEW MULTI OR INTERDISCIPLINARY PROGRAMS AT VIU (AS IDENTIFIED BY FOCUS GROUPS)

- We need to examine a variety of possible methods of implementation.  Both faculty and programs need to have some control over their participation.  Programs with external accreditation to answer to may find it especially difficult to participate.
- Faculty need to have knowledge about how such programs will affect them in terms of any reconfigurations of workload including added meeting or administrative elements.
- Attention must be given to the manner in which different and, in some cases even contradictory knowledges, can be respectfully and meaningfully integrated into an approach to a topic or problem.  Differences in epistemology and methodology must be understood and respected by faculty in advance of a project or program launching. Students will need to understand why a particular discipline has developed the way it has and why each discipline uses the methods of inquiry, analysis, reasoning, and expression which they have developed.
- Care needs to be taken to maintain disciplinary rigour.  Standards and assessment tools need to be discussed and designed in advance.
- Disciplinary identity also needs to be preserved. Programs need to feel assured that participation in such projects or programs are not an agreement to subsume or assimilate their distinctiveness.  This issue was raised by representatives of First Nations Studies for whom history demonstrates the necessity of this concern.
- If some programs or projects are to use teams how will they be determined and how will it be determined who works on what with whom?  The autonomy in the classroom is one of the appeals of the profession; a shift in autonomy can be a difficult adjustment.

- How will such projects and programs be budgeted for? How will FTEs be assigned? There is a general concern about whether resourcing new ventures will threaten pre-existing ones.
- How will such programs and projects be administered, especially those that fall outside a single decanal area? Will they be administered together, regardless of the disciplines they encompass?
- Some timetabling concerns may need to be addressed. Not all programs timetable on the same schedule and others (notably the lab sciences) require large blocks of time. Even students with double majors have not always found it easy to create a working timetable. One student trying to do an art/science degree had to schedult the two disciplines into alternate terms, for example. Interdisciplinary projects and programs might have to implement innovations in timetabling. For multidisciplinary programs cross-listing needs to be better implemented.
- We need to address the concern that creating new innovative programs for some students (which does have positive implications for both recruitment and retention) may, if it is allowed to come at the cost of more traditional program structures, leave students with a narrower focus high and dry thus negatively impacting recruitment and retention.
- Design, implementation, assessment, and administration of any such projects and programs must include faculty. Not just in the initial development and launch but in an ongoing capacity.
- Concerns were raised about sustained commitment. Innovation requires a large commitment of development time and energy but take time to disseminate. VIU needs to commit to a reasonable timeline for both development and support.
- Research amongst students, alumni, and the community to determine what types of interdisciplinary projects or problems they would like to see addressed.

**MODELS OF INTERDISCIPLINARITY AT OTHER INSTITUTIONS**

While the summary of the focus groups sets out some of the obstacles and many of the benefits of aggregated knowledges in a theoretical sense, I want to include here some of the specific examples discovered in my research that might inspire further discussion as to the applicability of these modalities to VIU.

1. University of Victoria—European Studies. Five faculties and 17 departments participate in this BA at UVic. http://web.uvic.ca/europe/ Students take specialized, in some cases, team taught courses in European Studies, but the majority of their courses are pre-existing courses from their various modern or classical languages, Anthropology, Economics, English, Geography, History, Art History, Music, Philosophy, and Political Science. Field schools and partnerships with both universities and institutions in Europe provide students with experiential learning components.

2. University of Victoria—CanAssist. This is an example of a project based institute within the campus that makes assistance devices for the disabled. http://www.canassist.ca/ While it is not a degree program students in a variety of degree programs (especially engineering and computer science) contribute to it and it has a high profile in terms of community partnerships. Since it began 3,000 students, 200 faculty and staff and 200 community volunteers have participated and they have developed partnerships with businesses, non-profits, schools and health care providers.

3. Simon Fraser University—School of Integrative Arts and Technology. http://www.siat.sfu.ca/ This is an example of a matrix which students can combine into either a BA or a BSc depending on the number of engineering and mathematics courses they include. This School concentrates on Informatics, Design and Media Arts. In the first two years students take a common program with courses in Math, Media Theory, Design Communication, and Computing and then choose their specialization for the final two years.

4. Carleton University—Institute of Interdisciplinary Studies. The Institute offers a Directed Studies option and three majors—Child Studies, Human Rights, and Sexuality Studies. Sexuality Studies, for example, http://www5.carleton.ca/iis/programs-of-study/sexuality-studies/ offers four courses of its own with students taking the rest of their degree from specific courses in Anthropology, Canadian Studies, Geography, History, Law, Music, Philosophy, Political Science, Psychology, Sociology and Women's and Gender Studies.

5. Stanford University—Senior Reflections. This is an interdisciplinary capstone project for biology majors. http://www.stanford.edu/~suemcc/TSR/Home.html Majors work with instructors in biology and the creative arts to produce a work, such as a film, artwork, or piece of creative writing which will be exhibited. The purpose of the project is to encourage students to reflect on their major and creatively share those reflections. On the FAQ page

for this course the last question is "Are you sure this is a good idea?" to which the reply, in its entirety is "Yes!"

6. Acadia University—Environmental and Sustainability Studies.  This is an interdisciplinary program with multiple streams. http://environment.acadiau.ca/Home.html All students take a core of courses in their first two years that include the "Philosophy of Sustainability" and "Investigating Sustainability" which is described as a trans disciplinary research methodologies course where students work with community or organization clients on actual projects.  Programs contributing to these degrees include Business, Recreation Management, Economics, Biology, Sociology, History, and Political Science.

7. University of Nevada, Reno—Lafer (1994) provides an interesting description of an interdisciplinary project at the University of Nevada on the local Truckee river which included faculty and community members working together. Participants included historians, biologists, land developers, conservationists, poets, citizen lobbyists, business people, anthropologists, economists, sociologists, economists, politicians.  One community targeted as students were local teachers. While that particular project ended the importance of the river to a number of programs is demonstrated on their website: http://www.unr.edu/search?q=truckee+river

8. Portland University—University Studies.  http://pdx.edu/unst/unst-introduction  This award winning innovative degree structure at Portland State configures a degree with a foundation of two years of Inquiry courses, beginning with an interdisciplinary Freshman Inquiry Seminar, moving into inquiry clusters in second year and more concentrated major courses in the next to years, and culminating with team senior capstone projects.  This spring the students have 56 capstone, community-based projects to choose from on everything from violence, to urban gardening, to literacy, to urban asset mapping, to GLBT local history http://pdx.edu/unst/capstone-courses-spring-term-2012 An account of their philosophy behind this structure can be found at: http://pdx.edu/sites/www.pdx.edu.unst/files/unst_overview_model.pdf

The above examples illustrate the wide range of possible directions multi/interdisciplinary programs and projects can take and the particular concepts or problems they are best-suited to addressing. There would seem to be a "multiplier effect" when two or more disciplines focus their methodologies and theoretical perspectives on a common topic.  When the university is able

to provide a framework in which this meeting of minds can take place, the students, faculty, and the topic itself all benefit from an enrichment of perspectives where multi/interdisciplinary programs have been extensively developed it has often been in response to student demand for degrees that equip them to be more effective in critical thinking, theorizing large problems and being agents for change. In the US the greatest growth in interdisciplinarity has been in programs which are "socially incorporative". "globally inclusive", or intersections of sciences (Brint, 2007).

## TOPICS FOR INTERDISCIPLINARY INQUIRY AND DEVELOPMENT PROPOSED BY VIU FACULTY IN FOCUS GROUPS OR CONVERSATION

What kinds of integrated studies might work at VIU? Here are some possibilities—without prejudice—that might be part of future discussions:

- Gerontology Studies (Nursing, Psychology, Anthropology
- Child Studies (Early Childhood Education, Education, Psychology, English, Child and Youth Care, Sociology)
- Health, Culture, and Community
- Social Justice (History, First Nations Studies, Criminology, Sociology, Women's Studies)
- Consciousness Studies
- Environmental Studies
- West Coast Ecology
- Directed Interdisciplinary Studies
- Politics of Resource Management
- Centre for Sustainability
- Canadian Studies
- European Studies (Modern Languages, History, Liberal Studies, Philosophy, Art History)
- Cultures and Consumption (Sociology, Anthropology, Media Studies, English, Economics)

The provincial Government has several objectives for post-secondary education which could meaningfully inform future discussions as well. Both community partnerships (such as business, universities, social planners, health units, etc.) and experiential learning are presently being

foregrounded.  Multi/Interdisciplinary approaches are particularly amenable to the collaboration these initiatives require.  There may be funding available for new initiatives that both capture local enthusiasm and interest and meet government objectives.  The challenge will be to expand into integrated models at a time of economic restraint.  It is not necessarily more costly to develop more interdisciplinary experiences/courses/programs for students—and, as well as having the potential for measurable benefits in recruitment and retention, it would certainly be an exciting opportunity for all concerned.

There is a tremendous amount of research available on designing, establishing, assessing, and maintaining multi/Interdisciplinary programs. We could find excellent templates for almost any possibility in the literature already available.  I believe there is great potential for the development of programs that could inspire a new cohort of learners and assist VIU to envision its "niche" in the changing post-secondary environment globally.

## ADDITIONAL RESOURCES

http://studentaffairs.stanford.edu/haas/principles/document "Principles on Ethical and Effective Service".  This is an excellent document from Standford's Haas Center on creating ethical practices in community partnerships.

http://www.uta.edu/ints/faculty/REPKO_Outcomes_AEQ.pdf Repko, Allen.  Assessing interdisciplinary learning outcomes.

http://muse.jhu.edu/journals/jhe/v080/80.3.mansilla.html Mansilla, Veronica Boix, et.al. Targeted assessment rubric: an empirically grounded rubric for interdisciplinary writing

http://www.goodworkproject.org/wp-content/uploads/2010/10/26-Assessing-ID-Work-2_04.pdf Mansilla, Veronica Boix and Howard Gardner.  Assessing interdisciplinary work at the frontier: An empirical exploration of "Symptoms of Quality".  This article looks at how 60 people in interdisciplinary work at places like Harvard and MIT evaluated success.

http://www.interdisciplines.org/ this is a website for virtual conferences on interdisciplinary problems from the Institute Nicod, Paris. So far they only have two conferences archived but they have three open at present. Interesting links also.

http://www.units.muohio.edu/aisorg/index.shtml# webpage for The Association of Integrative Studies.

http://www.icis.unimaas.info/about-icis/ Webpage for the International Centre for Integrated Assessment and Sustainable Development at Maastrict University in the Netherlands.

http://www.ingentaconnect.com/content/beech/rev/2002/00000011/00000002/art00007 Feller, Irwin. New organizations, old cultures: Strategy and implementation of interdisciplinary programs.

http://www.springerlink.com/content/b1q4u6hm2p1n4415/ Stone, Tammy, et.al. (2009) Launching interdisciplinary programs as college signature area: An example. This is a short but excellent article on the process used at the University of Colorado to create a transparent process for the selection of interdisciplinary programs.

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