

## ***THE EMERGENCE OF LEARNING AS A FOCUS IN A RURAL REGION: EFFORTS TO DEVELOP A LEARNING REGION.***

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### **Overview**

In recent years, the term 'learning' has become heavily used across a wide range of social and economic fields beyond its traditional lexical home of educational writing and practice. Business discussion centres on the 'Learning Organization', Vocational Education and Training talks of 'Workplace Learning'; there are International conferences on 'Action Learning', 'Experiential Learning' and books on themes such as Vail's *Learning as a Way of Being* (1996). 'Learning' is, in the modern vernacular, *in* as a commonly utilised significant element used to explain and support development and future orientation. This paper seeks to examine, and report on some practical research aimed at contributing to the idea of developing a Learning Region. It will first give a brief outline of the setting, the Gippsland region in the Australian state of Victoria. Then, an overview of the conceptual umbrella being utilised to tie together these studies and ideas will be outlined followed by a description of four separate studies each aimed at different elements of regional development, but based on learning as the uniting theme.

### **The Region**

The Gippsland region of Victoria, the southern most mainland state of Australia (only Tasmania is more southern), is a narrow, mostly coastal region between the Great Dividing range of mountains in the west and the southern and bottom eastern coast of the state. It is rich in natural resources such as brown coal and water (and related dairy and farming industries), as well as being the main energy base for the state (electricity is generated in the central Latrobe valley, utilising the vast brown coal deposits and the gas and oil fields in the Bass Strait. In the last decade or two there has been a privatisation of the electricity and brown coal industries which were formerly owned by the state through the State Electricity Commission (SEC) and a resultant contraction in the regional workforce and economy.

Areas of the region have long suffered from high levels of unemployment, poverty, youth issues and a general poor image nationally and state-wide. More than one politician has referred to the region as something of a 'basket case'. Locals feel resentment at this type of stereotypic description and there have been efforts to restore morale and social capital through a range of projects, task forces and fun ding rounds.

Educationally the region has a considerable number of schools to service its approximately 200,000 inhabitants, including a smaller rural campus of a major university and two Technical and Further Education Colleges (TAFE). At least two other universities in the state have a presence and one other TAFE college also has some activity in the region. The region, in past years has, however, not always seen these educational and learning institutions as valuable resources, let alone learning *per se* as a significant element in regional development. It has the lowest school retention rates in the state and some of the schools are amongst the lower end of student outcome measures and higher in rates of absenteeism than state benchmarks.

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## **Suggesting Learning as a Regional Focus for Growth and Development**

Amidst this setting, members of the university community have been endeavouring to facilitate a number of projects aimed at documenting, encouraging and supporting learning as a means of community change, growth and development which is driven by and for the local population. In the last decade a number of initiatives have been undertaken under this broad developmental aim or as we term it here, the 'umbrella' of regional learning.

First, there have been wide ranging discussions and presentations by university staff on aspects of developing the region centred upon learning as a unifying rubric (Cairns, 1998; 1999; 2000; Sheil 1997; 2000). Whilst these were broad, they suggested that the region needed a more overt learning focus to move ahead. To some, the ideas were interesting but to others they were merely academic dreaming. However, gradually, a small group of people have worked away on a range of issues and ideas they have generated which could be said to relate usefully to the ideas expounded. It is more that these views have emerged as a regional *Zeitgeist*, than a direct consequence of the papers and discussions.

Over the first five years of this decade, a number of research scholars at the Monash University's Gippsland campus have embarked on a series of projects and theses which have and are continuing to generate further interest, data and developmental understanding which will contribute to the learning region emerging and developing.

### **The Research**

The pattern of research across the region is held together by an abiding interest in 'learning' as a core element of regional development and action. This work involves a small number of different yet synergistic research and development efforts which seek to clarify aspects of regional social capital development, networking and knowledge use in regional activity, community Development through study circles and enhancing the communication skills of community members, formal educational pathways enhancement through innovation and integration of providers and levels, and targeted support programmes for 'at risk' students in secondary schooling. Each of these research programmes will be briefly outlined below. Some are complete, most are ongoing and works in progress. All are linked to Masters or Doctoral theses work at Monash University under the supervision of the first author.

### **Re-integrating Community Knowledge**

The Graduate Certificate in Regional Community Development (developed by Dr Helen Sheil at Monash University) offers a systematic approach to engage, skill and resource community groups and organizations. A Model of Collaborative Engagement for Transformation (Sheil, 2000) has been designed from the earlier research of past successful programs that enabled local people to participate in decisions that impacted on their lives (Mitchell, 1994; Bailey, 1996). Through this collaborative process local people become the educators and researchers with access to resources of a regional university campus and the professional status of a post graduate qualification. Increasingly research is confirming that the future of small towns will be closely related to those measures which communities ...can identify, develop and implement (Henshall and Associates, 1988; Huggonier, 1999). The approach taken by the Graduate Certificate program is that rural communities benefit from time to learn to work and plan together before establishing future

directions. To nurture and respect this local knowledge of histories and landscapes a study circle kit *Building Rural Futures through Co-operation* (Sheil, 1997) was designed. Study circles have a philosophy of respecting the life experiences of all participants to enable them to work together on issues which may be too large to deal with alone (Study Circle et al., 1997). Located within communities study circles provide the space and time for people to develop and begin to implement activities in which they share a common interest. A professional development manual *Growing and Learning in Rural Communities* (Sheil 2000) used as a text in the Graduate Certificate program introduces them to the strategies within the kit and principles of adult learning that support local people's personal and community development (Freire, 1994; Vella, 2002).

Each regional worker enrolled in the Graduate Certificate becomes an educator within their community or workplace introducing community members to this collaborative way of working. Communities begin with manageable projects and then continue with more ambitious ventures. In some communities there has been a 2<sup>nd</sup> wave of study circles, and in some even a 3<sup>rd</sup> wave, evidence of their credibility. For example in 2004 twenty-two graduates introduced another 200 people to the strategies, and these people established projects within their communities involving more people. The projects are locally determined and have included establishing community newspapers, festivals, choirs, improvement of waterways and coastlines, reinvigorating environmental groups or hall committees, establishing stroke support group, gardening clubs and planning an indigenous cultural centre.

Communities are introduced to a range of indicators including capital indicators where they record subjective views of the state of their community at the beginning of the study circle, and again towards the end of their project (Sheil, 2005). An integrated framework of community that looks at social, political, economic, cultural, personal, spiritual and environmental aspects of community life facilitates inclusion of issues close to people hearts (Ife, 2002). It has been our experience that the engagement is dynamic, immediately relevant with a high level of generosity and willingness to share knowledge and resources with other communities.

Within the region the approach is gaining credibility and new partnerships are developing between local government, communities and the university. Graduates are being employed as local researchers in programs, ensuring that money and skills stay in the region. As local people increasingly become partners in decision-making they can develop 5 year or 10 year plans that can be designed into the programmatic budgets of departments, or be invited to participate at relevant forums. Rural people and organizations are welcoming a collaborative approach that values their knowledge and are prepared to invest time and resources towards building sustainable futures.

Rural communities are on the map, enabling the regional heart to beat more strongly in future planning.

## **Leadership and Social Capital in the Region**

*Carolyn Theodore is researching the possible contribution of the Community Leadership Programme, which has been in operation for nearly ten years and is community developed and funded, may have made to the Social Capital of the region.*

By 1995, the Latrobe Valley in South East Victoria, Australia was attempting to respond to high unemployment and other difficulties and disadvantage related to the huge changes in the region brought about by the corporatisation of the former State Electricity Commission, which had been the largest single employer and a dominant social player in the region. There was considerable social and community destabilisation and loss of Efficacy across the Gippsland Region. The Gippsland Community Leadership Program (GCLP) was formed as a deliberate strategy to redress this by educating the leaders of the community in a program involving networking and engagement with leaders from several spheres and sectors across Gippsland and Australia. This programme, which has now been in place almost 10 years, has seen some 200 to 250 potential community leaders pass through. This research seeks to examine the issues surrounding the possible contribution such a learning programme has made to the social capital of the region.

The research has opened up a number of substantial issues surrounding the notions of Leadership, Social Capital and Community. Subsidiary questions have become core discussion points in formulating this project. These include key aspects such as:

- What forms of leadership are conducive to a specific region's development and social change?
- How has the program influenced the region's "social capital"?
- Which definition of "social capital" is appropriate?

This latter question has led to much further analysis and discussion.

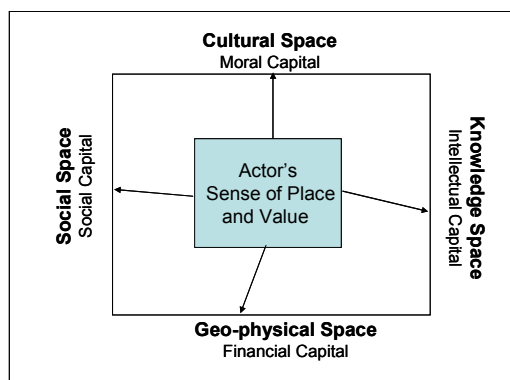
Despite an immense reach and popularity the concept of *Social Capital* has been critiqued as illogical, theoretically dubious, and even dismissed as a code for reduced government services: social capital is, therefore, not a neutral term. Which, if any, understanding of social capital is appropriate and helpful to apply to a diverse and disempowered region with a community program aimed at social change?

Within the Faculty of Education at Monash University, Gippsland Campus, this research applies the theoretical lens of Critical Theory to the Social Capital literature. Beneath this lens with its associations with feminism, postmodernism, and liberation pedagogy, the multitude of understandings and empirical applications of Social Capital refocus into an alternative, pragmatic image. It is anticipated that this perspective may have a better chance of avoiding the distanced and reductive view so criticised in the literature, by permitting those involved and affected to contribute to the development of their own social capital questionnaire. This is a work currently in progress and should be completed in 2006. Current progress will be mentioned at the conference and should include preliminary work on interviews and scoping work for follow up survey data gathering in late 2005 and early 2006.

## **Modelling of Learning Regions**

*Edwin Achorn is researching ways to model and predict regional development based on investigations of agent based modelling to study knowledge interactions and distribution across a region and how this contributes to learning and development. The world industrial economy has given way to the rise of a knowledge-driven, service-orientated and information-based global economy. At the same time, regions have emerged as a key arena of competitive advantage for nations (Porter, 1990; Porter, 1998).*

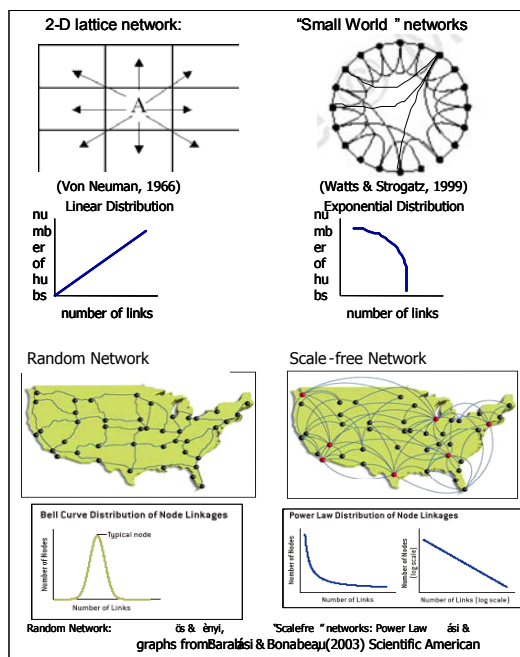
Over the past decade or so, research into regional economic growth and development has expanded dramatically (Scott and Stoper 2003). Geographers, economists, business and social researchers have looked at the 'Regional Problem' from their perspective. There is a consensus among researchers from different fields that the concept of place is important and that a region is a valid unit of measure. There has been a convergence in their theories and models with their belief that knowledge attributes of a region is a key factor in explaining regional differences (Cook and Morgan, 2000; Dunning, 2000; Storper, 1997). Their models explain the growth of knowledge-rich metropolitan places but fail to account for the growth of some small non-metropolitan regions.



**Figure 1: Actor's sense of place and value in the four spaces**

Knowledge activity drives the development and growth of a place if enabling conditions exist within the regional area of the place. The critical factor is the existence of an efficient network linking actors with a strong sense of place. They work with action-oriented business organizations operating within a regional-system that is effective in identifying and using high-value knowledge. The current research project under way is to develop a general model of the knowledge network of a place and its measurement framework. The model will be used to study regional differences in smaller knowledge-driven regions. This project combines the theoretical framework from regional studies with the methods from Complexity Science and network modelling tools to build a regional model in four spaces, Figure 1.

Research into the "Small World" puzzle has defined ground-breaking methods to explain the behaviors of networks, (Watts and Stogatz, 1998). Strength of weak ties, degrees of separation, degree of clustering, network architecture, hubs and the power law have been shown to be key factors in defining networks in general. A complex network can be modeled with simple rules (Barabasi, 1999; Buchanan, 2002). Many of the agent models use a 2-D lattice network to represent space. The structure of the network over which actors interact in the real world has a significant impact on the efficiency of the communication (Watts and Stogatz, 1998) (Buchanan, 2002). Actors use different types of networks in space (Figure 2). Agents in our models must reflect this complexity.



**Figure 2: Types of Networks found in natural and social interaction**

Networks can be classified by looking at the distribution of the number of hubs (agents) that have a set number of links (Barabasi, 2002). The form of this graph is different for each network type, see figure 2. The scale-free networks, with a power law distribution, are the most efficient structure and are common in biological and social networks. It is a network with some hubs having many connections but with most hubs having only a few links. Regions with linear or random networks are less efficient in transferring knowledge than regions with scale-free or small-world type of networks. Survey and interview data from residents of the region are used to set the network parameters of the four network spaces defined in the agent-base model of the region (Achorn, 2004).

### Agent-based Models

Agent-based modelling is a new way of doing science that has developed from the concepts and techniques of complexity theory. It involves the study of many actors and their interactions. The models start with simple rules of learning and actions but will display complex behaviours. Agent-Based Models were developed as a tool for complexity theory research. They are used to explore 'complex' systems where the whole is greater than the sum of the parts (Lewin, 1992; Holland, 1995).

(Robert Axelrod, 1997) has described Agent-Based Modeling as the third way of doing science in contrast with the two standard methods of induction and deduction.

Agent-Based Models (ABM) are computer simulations that represent individual actors in a dynamic system (Gilbert and Troitzch, 1999). Agent-based simulation can capture 'real life' social

systems on a computer by replicating the behaviors of heterogeneous participants and modeling the interactions between them.

The models of actors are software 'Agents' that have:

1. Internal data representations (*memory or state*)
2. Means for modifying their internal data representations (*perceptions*)
3. A fixed set of rules which they must follow (*behaviors/decision making*)

'Agents' represent heterogeneous individuals who interact with each other and/or their environment based on a pre-defined set of rules. Agents can be very simple with few rules or complex with many rules. From these interactions, macro-scale behaviors may emerge.

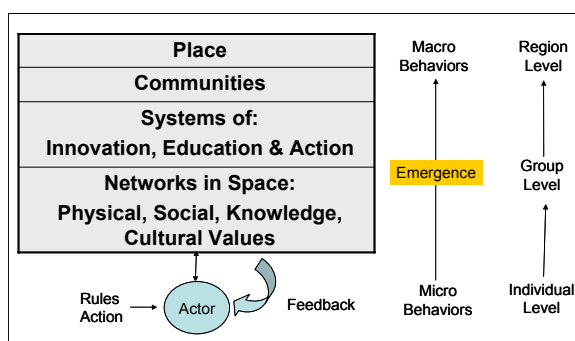


Figure 3: Emergence of regional parameters from activities of actors

The movement from the low-level rules to higher-level sophistication is called emergence (Holland, 1998). It is a bottom-up not a top-down view of science. For example, the properties of water emerge from the interaction of hydrogen and oxygen atoms not from the sum of the properties of the two gases. ABM consists of a space, framework or environment where interactions take place. Behaviors for this space are defined for the agents with a basic set of rules and by characteristic parameters. The aim of ABM is to look at global consequences of individual or local interactions in a given space. Agents are seen as the generators of emergent behavior in that space. The aim of the current research program is to use agent-based modeling of learning regions as a tool to study the impact of policy changes in the development of a successful place.

### Engaging at Risk Youth

*Linda Harris outlines two programmes and reports on her study. The participants in the research Engaging Youth in Post-Compulsory Education (Harris 2005) were drawn from two Gippsland projects designed to enhance the engagement of youth in education: the Green PC Project and the Youth Education for All Program (YEA). Both projects relied on high levels of support from various sections of the community: local government; schools; adult education providers; private companies; welfare groups and the Baw Baw Latrobe Local Learning and Employment Network.*

The Green PC project provided computers to low income families who had a child in post compulsory education. The basic premise of the project was to bridge the 'digital divide' one element found to increase the risk of educational disengagement (McLaren and Zappala, 2002). The project also sought to increase the contact low income families had with schools, welfare agencies and adult education providers. Involvement in the project was found to have improved the students' academic results, class attendance, work completion and attitude.

The YEA Program was responsible for re-engaging youth who had either left school or who were in imminent danger of doing so. Students attended community facilities to undertake mostly practical programs. The research found that the close links between welfare agencies, schools, and community providers were important to the students being able to access training. Students developed relationships with education providers as the project unfolded and several went on to enrol in programs at the local TAFE institute. Other students re-engaged at school and had a longer term view of what school had to offer in terms of them gaining access to the courses and careers they had trialled during YEA.

Both programmes demonstrated solid support from the students, teachers and more particularly parents of those involved. There was evidence of reported increased engagement, perceptions of greater interest in learning and engagement and there was a range of successful outcomes in terms of employment and qualification completion amongst the participants. Both programmes have been expanded and are subject to ongoing additional monitoring.

### **The Gippsland Education precinct and related research and development**

In an effort to support a better set of educational pathways and opportunities, a number of educational groupings within the core valley of the region located near to the university campus (in the two nearest country towns) set out to convince the state government to fund what became known as 'The Gippsland Education Precinct'. This concept was for the university, the local high/secondary colleges and the Technical and Further Education (TAFE) College, together with the local Group Training Company (an apprenticeship training organization) to form a collaborative approach to innovative and integrated provision in a new enterprise. The concept was formulated as an 'Integrated learning centre' with a physical presence in the midst of the university campus which would house a few hundred year 11 and 12 secondary students and additional apprentices and TAFE attendees. The local secondary colleges (and ultimately those further afield) would also be part of an information technology 'Hub' which would extend expertise and interactivity from the precinct to other schools and thereby enhance their offerings.

The current progress (which had been delayed due to building issues) has a few aspects of the buildings open and operating and the bulk of the local secondary college years 11 and 12 student will move in at the start of 2006. The state government has poured around \$15 million into the building and start of the programme. Educational aims and principles have been written and staff are currently moving through a series of preparatory professional development activities to support a change in approach towards a more student centre and broader pathway perception for staff and students.

Staff in the Education faculty, together with teachers from the school, TAFE lecturers and Group Training staff have been discussing research opportunities. The university has enrolled, in a special cohort, a number of staff from the partners in to Masters of Education research degrees and the university staff with a number of other partner staff have formed a research 'cluster' group entitled LILY (Learning in the Later Years) which plans to research staff, students and programmes over the next three years at least in longitudinal and other studies.

The study of this exciting innovation should be beneficial to all involved. The Gippsland education precinct has been a talking point across the region and there are great hopes and some excitement that this effort may eventually be a core focus for learning in the whole region.

## Conclusion

This descriptive discussion paper has set out to overview a set of interrelated research projects taking place within a significant rural region in Victoria, Australia and to relate the work to the 'umbrella' notion of attempting to develop a fledgling Learning Region with the university research as an agent of change, development and documentation of what might work for regional growth and development.

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