

Special**Exploring Models of Development of Professional Practice in Learning and Teaching in Higher Education: What Can We Learn from Biology and Marketing?**by Charles Neame (c.neame@gsa.ac.uk)

Abstract: *This paper summarises the principal findings from recently completed doctoral research at the Institute of Education. The research identified two models or frameworks, which it integrated as a mechanism for explaining how innovation in academic practice might be encouraged and developed within a Higher Education academic community. The first framework is a classification of orientations towards the process of educational development: educational developers have responsibility for promoting and supporting educational and curriculum development in universities. This framework proposes that such developers choose to adopt different approaches, in response to personal preference or institutional constraints. The second model is taken initially from biology and uses the mechanisms by which viruses spread between host organisms to illustrate how ideas and forms of practice might also be transferred between individuals and groups. A similar application of this model has already been used in the concept of 'viral marketing'. Using an action research project in a UK postgraduate university as a case study, this research used these two models, through the emergent integrated framework, to suggest how new practice could be more successfully shared and deliberately developed within the university.*

A version of this paper was reproduced in the proceedings of a workshop on "Teaching and Learning in Higher Education Institutions" at Beijing Normal University, Beijing, July 2009.

Introduction and Contextualisation

This paper reports on research findings which emerged from an action research project undertaken at a British postgraduate-only university, and which has provided the basis for a doctoral thesis (Neame, 2009). The action research participants were mainly academic staff interested in strengthening the personal development planning (PDP) elements of taught postgraduate degrees, largely by developing more effective mechanisms for designing, supporting, and assessing student group projects. The topic of the action research, and the context for the associated doctoral research, was therefore innovation in group projects and PDP. The design and findings of the doctoral research itself were focused on the mechanisms for encouraging and developing this innovation amongst academic staff (and by extension, other innovative forms of academic practice).

Initially a two-part research problem was identified:

1. The difficulty of defining good practice in PDP systems and processes.
2. How to 'transfer' this good practice effectively between practitioners.

Although some discussion of "good practice in PDP" emerged from the research, such practice is always contingent upon context (Lloyd-Jones, Neame and Odedra, 2007; Coffield and Edward, 2009), and the research therefore did not seek to identify universal definitions of such good practice. Instead, it focused on the second part of the problem, namely the

processes whereby such practice is identified in academic communities and how it is then shared within them. This aspect of the research is addressed in this paper.

Educational Development Orientations

Ray Land (2004) studied the 'community' of educational developers who advise and support academic staff in Higher Education Institutions (HEIs) in respect of academic practice and curriculum development.

He explored the different orientations that these developers demonstrate in their work with the academic staff in their institutions, and classified them into 12 'styles'. Through this analysis Land provides a language with which we can examine how academics within institutions work together and interact as they develop new practice and curriculum. He cites Webb (1996) who says that:

'Development' may be viewed as a site for a contest; it is not a unitary concept for which, one day, we will provide a model.

Thus educational development involves "situated learning" within differing and unique "communities of practice" (Lave and Wenger, 1991). Lave and Wenger's perspective supported a research strategy of an institutional case study focusing on the institutional networks, and its internal mechanisms for educational development (Neame, 2009).

The 12 orientations identified by Land (2004) form the first framework used in this research, and they are summarised as follows:

1 Managerial / HRM

This orientation sees educational development as planned and aimed at managing transition from one state of academic staff competence to some other state, aligned with institutional policy.

2 Political – Strategic

This orientation sees educational development as building and using strategic alliances, and places importance on informal networks within the institution. This is a more pragmatic orientation than the managerial one, recognising the need for policy to be 'implementable', and that requires gaining the trust and collaboration of independently minded academic staff.

3 Entrepreneurial

This orientation emphasises the employability of graduates as a key objective.

4 Romantic (Ecological Humanist)

This orientation aims to support the personal as well as professional growth of individual academics.

5 Opportunist

Opportunist educational developers take advantage of context and circumstance to promote innovation. For example, a policy change may provide an opportunity to promote curriculum development within the institution.

6 Researcher

Assuming that academics are inherently influenced by the power of ideas, this orientation encourages research related to the academic practice of staff, in order to challenge orthodoxy, and to empower staff to identify innovation.

7 Professional Competence

According to Land, in this orientation “the role of theory is subjugated firmly to the role of being the handmaiden of practice”, and achieving professional and technical competence is the focal point.

8 Reflective Practitioner

The reflective practitioner orientation stands in contrast to the previous category. Land cites Graham Gibbs (1996) to summarise:

The emphasis is not on competence but on the process of becoming more competent.

This perspective has much in common with Donald Schön’s concept of reflective practice, as an organic way of addressing what he called “messy, confusing problems [which] defy technical solution” (Schön, 1987).

9 Internal Consultant

The developer as internal consultant sees him or herself as a provider of support to individuals or departments in the institution. At one level this is a responsive model: “bring me your issues and I’ll help find a solution”. On the other hand, it is seen by some not so much as a reactive approach, but as a “proactive strategy for infiltrating departments”.

10 Modeller-Broker

The modeller-broker collates examples of good practice and promotes them within the community of practice, possibly in parallel with the orientations of opportunist or internal consultant, using those approaches to ‘broker’ good practice around the institution.

11 Interpretive – Hermeneutic

Land (2004) captures the epistemological position behind this orientation in a quotation from Webb (1996), whereby educational development is “a dialogical activity: it is staff development by conversation”.

12 Provocateur (Discipline Specific)

This orientation concerns discipline related teaching practice, where educational development may (in part, at least) depend on staff within disciplinary departments who can act as “agents provocateurs” and agents of change.

Variation

Finally, Land recognises the “permeability” of these orientations and the likelihood of educational developers taking an eclectic approach. This permeability proved central to the application of the framework in this research.

In the research reported here, analysis of these 12 orientations allowed them to be further categorised into two broad groupings: ‘interventionist’ and ‘democratic’. The essential difference between these two ‘meta-categories’ is that the interventionist orientations tend to describe developmental approaches whereby a problem is solved by the developer as agent who is external to the local academic community (such as ‘*internal consultant*’), whereas the democratic orientations relate to approaches in which the developer works more explicitly as a member of that academic community. Examples of the latter include ‘*romantic (ecological humanist)*’, ‘*reflective practitioner*’, and ‘*interpretive hermeneutic*’.

Viral Transmission

A further model applied in the research was that which explains the spread of viruses within and between host organisms. Biological viruses are simple parasitic microorganisms which cannot reproduce autonomously. To reproduce they invade living cells and use the cells' own mechanism for copying DNA.

The virus may reproduce faithfully or as a mutation, which allows it to adapt to different hosts in different environments. The spread of the virus, following reproduction, usually happens when the host cell dies and bursts, spreading the virus to neighbouring cells.

Non-destructive examples of useful viruses, such as those which have been genetically modified to attack cancer cells, or others used as vectors to take beneficial genes into animal cells, demonstrate that the principle of viral dissemination is not necessarily malign (Carter and Saunders, 2007).

The concept of viral marketing uses viral contagion as a metaphor for social behaviours (Rayport, 1996). Rayport proposed 6 'rules' for viral marketing, as follows:

“Rule 1: Stealth is the essence of market entry”. Viral marketing is not about expensive high profile campaigns.

“Rule 2: What's up-front is free; payment comes later”. Products or services promoted through viral marketing do not require consumers to make immediate financial commitments.

“Rule 3: Let the behaviors of the target community carry the message”. The marketing message and channel must be designed to allow the usual behaviour of target consumers to spread the marketing message.

“Rule 4: Look like a host, not a virus”. Carriers of the message should belong to the target consumer group, or appear to.

“Rule 5: Exploit the strength of weak ties”. In social contexts, the cumulative influence of many casual or weak connections between individuals is greater than that of a few strong relationships. Thus marketing programmes that allow information to be spread easily throughout such casual networks can be particularly effective.

“Rule 6: Invest to reach the tipping point”. The 'tipping point' is the term used to describe the point at which occasional infections become an epidemic (Gladwell, 2002). Viral marketing may take a long time to make a difference.

The research explored the potential for a 'viral model' to explain how ideas and forms of practice (as proxies for a virus) may be disseminated within or between academic communities in higher education (the viral 'hosts'). A model of transmission which fully described the transmission of and 'infection' with ideas within a university might be much more complex than one which describes infection with an influenza virus, however. This is because the period of persistent infectivity, and the susceptibility to infection of each potential 'host', will vary according to inherent characteristics of the vector and the host, as well as to changing conditions external to both. Trying to predict a tipping point, therefore, at which dissemination of an idea or a practice starts to increase geometrically, may be a futile exercise. Nevertheless, if the 'infection' is to all intents and purposes permanent (that is, once established, good practice is likely to persist until something specifically displaces it) then a slower, more arithmetic rate of infection may still achieve a change in the status quo within a reasonable period.

The research showed that there are a number of features of the viral model which help to explain how practice can be expressed, shared and adopted within educational communities of practice, depending on the particular conditions (analogous to **infectivity rates**, **durability of the 'virus'**, and **opportunity to infect**), which affect that practice.

In the context of Higher Education practice we might consider a new idea that affects teaching practice to represent the 'virus'. The rate of **infectivity** of the virus may be high or low, depending on how susceptible or resistant members of an academic community may be to the new idea. That 'resistance' may be influenced by context, such as the influence of senior managers, or peers within their discipline, for example.

The **durability** of an innovation may also vary, and be affected by its inherent strength as an idea, as well as by circumstances such as how long its proponents remain in the institution to promote it. Finally, **opportunities to 'infect'** other members of the community with the virus, or idea, may be low or high, depending on whether new practices tend to be developed within 'closed' departments or more openly.

Remembering that the context for this research was that of an academic community seeking to improve the support for student PDP (Personal Development Planning), the research questions which emerged from this initial analysis were as follows (Neame, 2009):

1. Does the 'viral' concept of mutation and transmission represent a useful metaphor in developing practice (such as that related to PDP) which is both sensitive to one set of local needs (those of a particular department, for example) and yet able to adapt successfully for other local needs (such as another department)?
2. How, then, might the characteristics of an institution encourage or inhibit 'viral' transmission or adaptive practice?
3. How may these characteristics be influenced, adapted or exploited to encourage growth and development of practice?

Method

The research drew on an action research project to develop PDP practice in a postgraduate higher education institution. The project provided an opportunity to understand important aspects of the development of good practice and its dissemination. It was designed around the principle of joint practice development (Fielding *et al*, 2005), for which participation, consensus and dialogue are pre-requisites, and definitions of action research identify it as a logical approach in that context. For example, Reason and Bradbury (2006), define action research as:

a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes, grounded in a participatory worldview.

This provides the first clue as to the possible importance of the democratic development orientations identified in Land's framework earlier. In addition, Rowland (2001) says that:

The challenge for academic developers... is to stimulate a questioning approach amongst academic staff not only to teaching, but to the very purposes of higher education itself.

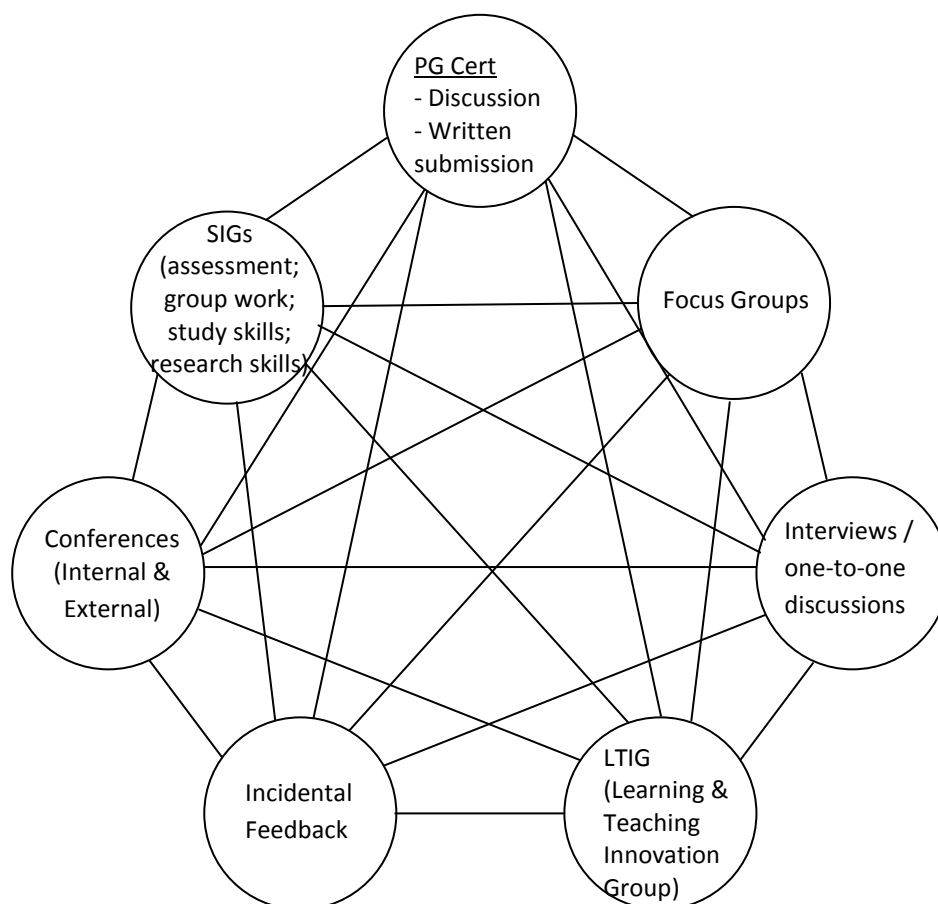
In a later paper (2002) he adds that:

what is required [for educational development] is an approach which is much closer to the principles of action research, that is, one which seeks to discern the students' experience and **in the process** to improve that experience (original emphasis).

This analysis supports an action research approach which draws on engagement with students and academic staff as a basis for the critical conversations which can lead to improvements in practice within institutions.

The action research process had several layers, and unfolded over approximately two years. In the first year groups of students were engaged, initially through a series of workshops and subsequently by means of two focus groups, to identify the scope and interpretation of PDP concepts which were valued by them. These concepts were subsequently used to inform the action research process with staff. The subject of this paper is not these concepts of PDP themselves, but the mechanisms by which staff began to consider and apply them in their own practice. Initially in parallel, and subsequent to the student engagement activities, the action research process engaged staff in a number of ways. Figure 1 illustrates the informal network of staff participants, which comprised staff with a variety of academic roles. The relationship of these staff with the concept and implementation of PDP programmes is varied: some have avoided it, considering it to be poorly articulated by the institution, and imposed within a managerialist institutional framework which has little pedagogical value. Others have managed to interpret and embed it within their courses in imaginative and educationally productive ways. The action research project sought to explore these innovative approaches and to encourage their wider adoption.

The action research activities were highly participatory and included group workshops and individual interviews, as well as interactive sessions at two conferences, to explore PDP purposes and activities, with reflective feedback sessions to identify next steps for the project. These steps were iterative and dialectical, each was shaped by the previous activity, and the participants were able to engage in debate as it unfolded. Participants frequently belonged to multiple groups, or took part in multiple activities.



Key:

- PGCert: Members of the university's in-house Postgraduate Certificate course in Learning and Teaching in Higher Education
- SIG: Special Interest Group
- LTIG: An informal SIG meeting to discuss and promote innovative academic practice within the university

Figure 1. The network of participants in the PDP action-research study

Data was generated from these participatory activities in a variety of forms: primarily notes taken at meetings and interviews, but also recorded as audience responses to a set of questions about PDP, via an electronic voting system for delegates at one conference. At another conference, a workshop group addressed a set of key questions to provide responses which were fed back to the action research group at the home institution. The data from all these activities were consolidated into a text of some 60 pages, the analysis of which produced the findings summarised below.

By definition, the participatory nature of the research laid certain obligations on the principal researcher in respect of the protection of the participants from any potentially adverse consequences. Although the spirit of the project at the centre of the research was fundamentally constructive and collegiate in nature, when reporting and analysing the participation of individuals there is a risk of misrepresentation, or of associating participants with a position which they may find uncomfortable, or which may expose them to criticism of some kind.

Accordingly, and in line with the BERA ethical code of practice, precautions were taken to ensure that no participant was identified (all participants were allocated pseudonyms); that the purpose and nature of the research was explained to all participants before they took part in any research activity; and that all were invited to refuse to participate if they wished, or to review any part of the research outputs which referred to them in anonymised form before inclusion in the research outputs.

Findings

The analysis of the data involved its codification according to categories relating to the research questions set out above. This codification was used primarily to investigate:

- How the characteristics of the 'viral model' of adoption might help explain adaptability of practice to local contexts, and
- How 'contagion' (that is, spreading of good practice and innovative ideas) might be encouraged by particular educational development orientations and processes.

The analysis sought to draw parallels between the characteristics of the function of a biological virus, in terms of infectivity, opportunities to infect, and durability / adaptability, and the 'rules' of the metaphorical application of a viral concept as in viral marketing.

"Rule 1: Stealth is the essence of market entry". This feature of successful educational development innovation was borne out by several examples from the research. Where new practice was overtly mandated by central institutional directives, such as a requirement to incorporate a PDP programme into every MSc course in the university, it was frequently seen by sceptical academic staff as alien to established practice and met with resistance. On the other hand, where such practice was proposed by members of the action research group, who were seen as trusted members of the academic community, it was considered much more openly, and explicitly adopted on occasion by these same sceptics.

"Rule 2: What's up-front is free; payment comes later". Participants in the research project, and their academic colleagues, were not required to make any commitment to a particular innovation or form of practice by virtue of their participation. Only if they subsequently decided to make changes to that practice did this represent 'payment' in terms of committing time and effort.

"Rule 3: Let the behaviors of the target community carry the message". The 'message' is the equivalent of the virus's DNA, and this 'rule' emerged as an important feature of an effective environment for new practice development. Those members of an academic community who prefer 'democratic' orientations to development (as opposed to 'interventionist' approaches, whereby an institution might dictate new practice), will respond best to innovation which they see as being proposed and developed by members of their own community. Thus they may ignore a centrally originated proposition, but accept the same proposition when it comes from an immediate colleague. A clear case study which emerged from the research, and which illustrates this point well, concerned a course director who was sceptical of the model of PDP as formally proposed by the institution. However, when a trusted member of his own community (ie, the course directors' group within his own school) proposed the same model he agreed to adopt it. That 'trusted group member' was a participant in the action research network, who had thus proved 'susceptible' to infection with the 'virus' of innovative practice herself. Once 'infected' (and accepted as she was in her own School as a member of that host community), she managed to 'infect' other colleagues in turn.

“Rule 4: Look like a host, not a virus”. This rule simply illustrates the final point of the previous paragraph.

“Rule 5: Exploit the strength of weak ties”. This case of new PDP practice development (described above) came about not as a result of a central plan to encourage such practice in a particular course, but because the somewhat disparate network illustrated in Figure 1 happened to produce a linkage between a ‘susceptible’ individual and her own academic network. Aiming to engage such a wide and diverse network, rather than target a few key individuals, allows unexpected ‘opportunities for infection’ to be exploited, as this particular case shows.

“Rule 6: Invest to reach the tipping point”. The ‘tipping point’ is the term used to describe the point at which occasional infections become an epidemic (Gladwell, 2002). If the purpose of educational development is to encourage innovative and effective practice to spread across an institution, (or parts of it), then an important aspect of the democratic approach is to accept that the pace of such development must be organic rather than planned: it will be determined by the ‘durability’ of the innovation, and the network structures that constitute the community. We must acknowledge that an innovation which fails may simply not be ‘good enough’; if it **is** good enough, then time and a robust system of democratic development will allow it to become embedded.

Land’s (2004) framework of educational development orientations has been discussed above, including its broad classification into ‘interventionist’ and ‘democratic’ categories which emerged from this research. One of the principal outputs of the research was an attempt to integrate this classification with the viral model described above. The purpose of this integrated model was to show how the viral ‘processes’ and characteristics might be influenced or exploited by encouraging a particular developmental approach. This model is shown in Table 1 below. The figure divides the process of educational development and innovation into three stages which can be mapped against the sequential viral infection processes of exposure, infection, and replication within a community. At each of these stages a different emphasis in the orientation of the educational development approach can be seen to support the effectiveness of that development. The orientations in bold type indicate ‘democratic’ orientations (the remainder are ‘interventionist’). At the exposure stage interventionist approaches are more relevant: organising explicit interventionist events (such as a conference) to attract the attention of the academic community, for example. At this stage just a few of the ‘viral rules’ are also important, although later on in the process we can see that most of the ‘rules’ are relevant, most of the time. Also at these later stages the emphasis of the development orientation needs to shift increasingly towards democratic approaches, if the sceptics in a community are not to simply turn their backs on the development in question. Finally, as the process moves on and other parts of the community are also exposed for the first time, interventionist approaches may once again become more appropriate for a while.

Conclusion

An action research process, which involved a wide range of academic staff from across an institution, allowed the concept of a viral model of academic practice development and dissemination to be proposed. At the same time, observation of different educational development ‘orientations’ categorised simply as ‘interventionist’ or ‘democratic’, suggested that the deliberate manipulation of such orientations alongside the viral model could help to influence the adoption of new practice by otherwise resistant parts of an academic community.

Table 1. The viral process, and the development orientations which support it: An emerging model (Neame, 2009).

Direction of movement				
Process / stages	Exposure	Infection	Replication within host community	Further exposure
Primary supporting orientations (recognising variation and permeability between them)	<ul style="list-style-type: none"> • Opportunist • Strategic • Internal consultant • Modeller-broker • Romantic / ecological humanist • Provocateur 	<ul style="list-style-type: none"> • Strategic • Internal consultant • Romantic / ecological humanist • Researcher • Reflective practitioner • Provocateur 	<ul style="list-style-type: none"> • Romantic / ecological humanist • Interpretive-hermeneutic • Reflective practitioner • Provocateur 	<ul style="list-style-type: none"> • Opportunist • Strategic • Internal consultant • Modeller-broker • Romantic / ecological humanist • Provocateur • Researcher
Most relevant viral rules/characteristics	1 2 5	1 2 3 4 5	2 3 4 5 6	2 3 4 5 6
State of practice	Existing practice: Status quo. Starting to talk about new practice.	Engaging with new practice.	Implementing new practice within the community.	New practitioners talking about new practice – developing the original community.
Viral rules (see p 12 and p 16-17):		Observations on process stages:		
1. Stealth is the essence of market entry.		<p>Exposure: A mix of interventionist and democratic orientations, as the nature of various interactions with staff dictates.</p> <p>Infection: Democratic orientations more important. Most 'viral' rules apply.</p> <p>Replication: Democratic orientations predominate. 'Market entry' (rule 1) replaced in relevance by concerns with proliferation of practice (rule 6).</p> <p>Further exposure: A mix of orientations again, but using the academic community itself to 'carry the message' (rules 3 & 4).</p>		
2. What's up-front is free: payment comes later.				
3. Let the behaviours of the target community carry the message.				
4. Look like a host, not a virus.				
5. Exploit the strength of weak ties.				
6. Invest to reach the tipping point.				

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