There's a bug going round… can you 'catch' good educational practice?

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This paper uses the language of metaphor to present a way of perceiving and approaching the sharing of innovation in academic practice between educational developers and their colleagues in academic departments.
The scholarly and theoretical foundations for this paper were laid in doctoral work (Neame 2009), and aspects disseminated in subsequent publications (Neame, 2011, 2013). This paper aims to summarise some of the central ideas and models which came from that work, in a manner that will encourage educational development practitioners to critique and experiment with their application them in a range of scenarios.

Background: a metaphor for educational development
A continuing research question revolves around how academic communities come to adopt innovation in their learning and teaching practices. We know a great deal about the way such communities form and work (Lave & Wenger, 1991), and how they develop cultures and practices that are frequently resistant to outside influences (Becher & Trowler, 2001). The educational developer may typically find herself asking "*how do I influence these colleagues? They just aren't interested in anything that doesn't originate from their own department, or from one of their own conferences*." Another way of putting the same question, in a language that has emerged from its scientific roots into our everyday language, might be: "*how do I get my ideas about educational practice into the DNA of an academic community*?"
That simple metaphor captures several interesting ideas which characterize the educational development problem: academic communities functioning as organisms which are distinct in behaviour from other organisms; those communities/organisms having systems of internal communication and regulatory structures that are both sophisticated and organic; change in those systems and structures being either evolutionary or abrupt, depending on what forces the 'DNA' is exposed to. An abrupt change might be thought of as a genetic mutation, and an evolutionary change might represent the combined results of such mutations on the organism over a long period of time. The final point about this part of the metaphor is that mutations may be harmful, beneficial, or neutral in their impact on the organism.
What is the point of this metaphor? The premise of the paper, and the work which it draws on, is that the metaphor (or one related to it) can help influence change by envisioning the process of change and development in an organic and visual way. The metaphorical narrative to be followed is to ask if a particular organism (let's say, an academic department that is particularly unresponsive to ideas about new teaching practices) can be influenced if 'infected' by a beneficial 'virus', where the virus represents a particular innovation.
If we accept the potential of the metaphor, where does the educational developer fit into the metaphorical narrative? The educational developer is already 'infected', and a carrier of the virus, but the potential for the virus to spread to other carriers will depend on a number of factors. To drop further into the metaphor once again, those factors include such things as: the durability or longevity of the virus; the number of opportunities for infection to take place; the inherent infectivity of the virus; and the susceptibility to infection of the potential new 'host' organism. Translating back again from metaphor to educational development, we can ask how robust or durable a particular idea or form of practice may be. And how can educational developers create and promote interactions with academic communities which are conducive to their adoption of the idea? How 'sticky' is the idea (is it intellectually and pragmatically accessible)? How freely do the target academic community's systems, processes and

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conventions permit consideration of ideas which originate outside the community's normal areas of engagement?

Table 1: Viral features and academic communities

Viral feature	Analogous feature of an Academic Community or educational innovation
Durability	Is it a genuinely robust innovation or idea?
Opportunities for infection	How, when and through what relationship do educational developers and members of the target community interact?
Infectivity of virus	Is the innovation or idea accessible intellectually and applicable in practice?
Susceptibility of new host organism	How does the target community conventionally engage with ideas that come from unconventional sources (i.e. outside the discipline), and is there a way of using those conventions to influence the community effectively?

To integrate these ideas as a narrative, an educational developer might need to consider carefully why, and in what form, an innovation in teaching or learning environment might genuinely benefit a particular academic community. If able to answer that, then the 'crunch question' might be how can we engage successfully with the community, in order to maximize the chances of colleagues within it taking up the innovation? That question engendered a model of development orientations based on Land's original analysis of such orientations (Land, 2004). This model is outlined a little later.

The issue of 'infectivity' is arguably a simple question of good teaching practice and programme design: is the concept right? Is the context appropriate and authentic? Is the level appropriate for the audience? Can it be taken forward into practice? If the answer to any of these is 'no' then the idea will not be 'sticky' enough to be accepted by the members of the academic community concerned.

The final question of 'susceptibility' is in a sense an integrating one. If the previous factors are favourable, then the educational developer can select approaches and forms of engagement which are most likely to allow the idea to take root in those favourable conditions.

 The remainder of the paper aims to explicate the models which represent these ideas, and how they may be taken up and applied in different contexts and scenarios.

Democratic and interventionist orientations to academic development
Land (2004) classified educational developers' orientations to their roles, institutional environment, and to educational development itself. He identified 12 orientations which he analysed in detail, based on more than 30 in-depth interviews with developers in different institutions. That is a fascinating piece of research, but the taxonomy which resulted from the analysis is arguably too complex to use in the everyday work of educational development. It sits more comfortably on the "*high hard ground … of research-based theory*" rather than the "*swampy lowland* [where] *messy, confusing problems … defy technical solution*" (Schön, 1987). In my research (Neame, 2009, 2013) I reduced the 12 orientations model into a simpler dichotomous model consisting of two categories of orientation: interventionist, and democratic. In some situations, an interventionist approach may work well. For example, a department head may want a group of inexperienced staff to have some specific staff development around good assessment practice. A day is scheduled in the calendar, and the colleagues in question arrive at

the venue in a various states of readiness and enthusiasm. Clear objectives have been agreed between the department head and the educational development unit providing the 'training', as some colleagues insist on calling it. Their satisfaction from the day's events may well depend on a sense that they have been equipped with some sort of assessment tool-kit, or route map, that they can henceforth use to do the job properly. They do not see the 'trainer' as part of the community, and the event is more of a transaction ('my time in exchange for your knowledge') than an engagement between peers.

Now imagine that a colleague from another department hears about the event, and comes to discuss opportunities for some equivalent CPD for her own colleagues. You are invited over to the department to discuss possibilities over coffee with a group of staff, and the eventual set of development activities agreed upon seem to emerge from a more democratic process that is based on trust between peers. By the time the workshops you planned between you have been completed, other ideas for further engagement are also under discussion, and you feel more or less at home when you walk into the department for the next meeting. The contrast between the two approaches is evident.

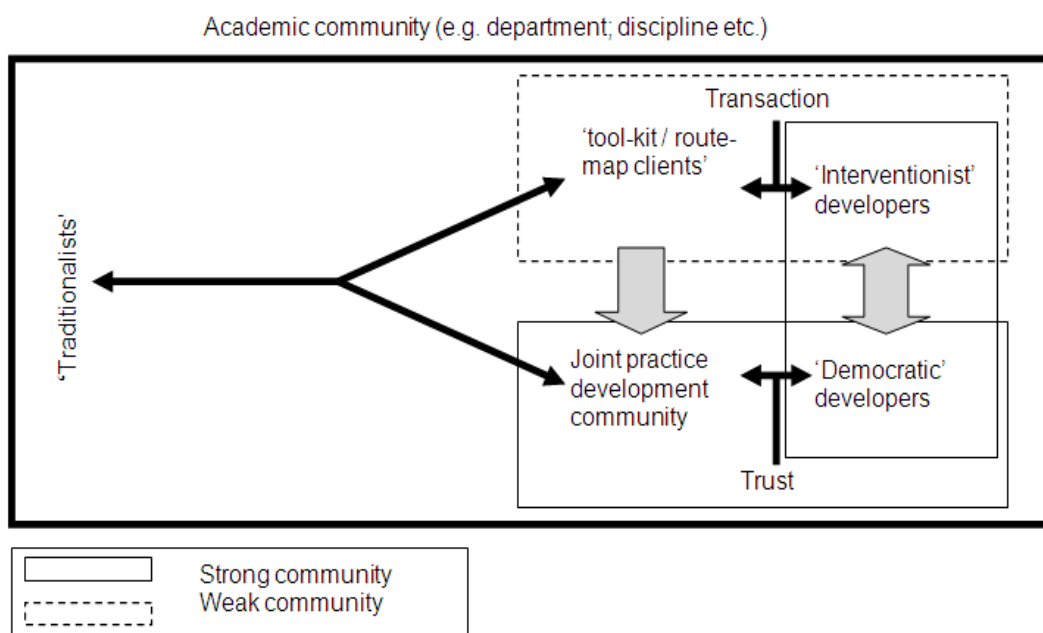These contrasting scenarios are summarised in the figure below.

Figure 1: Engagement models, and shared communities of practice (Neame, 2009, 2013)

The challenge is to exploit the viral model of practice development to allow all participants to eventually move from a transaction-based mode of engagement to a trust-based mode. The viral analogy offers two (possibly more) explanatory narratives in this regard. The first is the biological narrative: a virus (in the biological sense) attaches itself to a cell within an organism and then 'breaks into the cell'. A virus cannot reproduce itself autonomously, but relies on the reproductive function of the cell's DNA to reproduce the virus at the same time, and to pass it on to other cells. So the biological model gives us the idea of a host cell, susceptible to infection (let's say, an academic who finds the new educational ideas she has discovered to be appealing and worth exploring or adopting at her own individual level). The host cell introduces the virus into the organism as a whole (the academic's department or other community). Because the community/department recognizes the host cell as 'belonging' it is less resistant to the potential for more widespread infection by the virus. In other words, if our academic starts promoting the

benefits of the new educational ideas they are more likely to get a receptive hearing than if an outsider, such as an educational developer, tries to do the same.

The second narrative is another viral analogy in itself. In the 1990s the idea of 'viral marketing' emerged, describing a new way of disseminating ideas, and the behaviours they stimulated, by methods of communication that mimic some of the viral mechanisms already outlined. Rayport (1996) proposed 6 'rules' of viral marketing, and these can also help to visualize the ways in which academic practice can be influenced.

Rules of viral marketing (Rayport, 1996, annotated in Neame, 2009): application to educational development scenarios

Table 2: Viral rules and an educational development interpretation

Rayport's viral rules	Interpretation in educational development context
Rule 1: Stealth is the essence of market entry	The 'viral' marking approach avoids 'development by proclamation'; it assumes that hearts and minds are won not by management decisions to enforce changes in practice, but by subtler and more patient approaches which aren't perceived as impositions. This is a feature of more democratic orientations to development.
Rule 2 : What's up-front is free; payment comes later	Academic staff engage with the 'carriers' of new practice informally and through discussion and dialogue before expecting them to commit to an investment in the form of change in their own practice. The 'initial learning' comes free. Changing practice, and embedding that change, represents the investment to follow.
Rule 3: Let the behaviours of the target community carry the message	'Viral' dissemination of practice depends on the normal interactions of an academic community. The carrier of the good practice message needs opportunities to share ideas within the community, which other 'susceptible' members take up. Action Research provides a supportive 'infrastructure' for these behaviours, in contrast with more formal and extrinsic activities such as training, policy guidelines, or publication of case studies (valuable though these may be in other contexts).
Rule 4: Look like a host, not a virus	Contagious carriers are part of host community: the 'good practice' message is just another piece of information of the kind, or in a form, that the community shares anyway. Influence of an educational developer depends on the status of (a) the developer and/or (b) other community members, who may take on *de facto* development roles.
Rule 5: Exploit the strength of weak ties	Unlike dependence on a central, or formal dissemination mechanism, if one member of the participant community is susceptible to 'infection' by a carrier, that individual may also become a carrier, and spread practice through contact with colleagues unconnected to the educational developer. Thus

	organisational *hierarchy* is not as important as the network *structure*.
Rule 6: Invest to reach the tipping point	Dissemination of practice through 'infection' of weak ties may be a long-term process. It relies on practice being robust enough to survive for long enough, in order for increasing numbers of community members to come into contact with it. Eventually, if enough of them do so, and the practice is genuinely robust, it will spread: The *infectivity* and *durability* of the message are themselves measures of its *value* as practice.

The viral model: integrating an orientations approach with the viral metaphor
The next step was to combine the perspectives presented so far into an integrated model for guiding the management of educational development relationships and initiatives.
The first perspective involves distinguishing between democratic and interventionist approaches to the development context. The next perspective involves evaluating the state of the relationship with a particular academic community in terms of its susceptibility to 'infection' with a benign 'virus', by which we mean an innovation or form of good practice from which the community and its students can benefit, if the members of that community are prepared to adopt it.

Figure 2 aims to capture that integrated model. Working from the top of the figure down, it first shows an assumed timeline, starting with the 'exposure' phase, when the initial engagement between an educational developer and an academic community takes place. Making no particular assumptions about how long this and subsequent phases each last, the next phase is the 'infection' phase, when the community starts to experiment with new practice in some way. The third phase, 'replication', is when that experiment is starting to become accepted as more conventional or widespread practice. The final, 'further exposure' phase is about moving on to a new community, or beyond the original group within the department or school, when the same initial challenges and barriers about resistance and suspicion may need to be addressed all over again.

The emphasis on democratic or interventionist orientation is likely to shift as the educational developer works through the phases with the members of the academic community. In the exposure phase the initial engagement may need to be more interventionist, in the form of a formal development plan such as design of a series of formal workshop series, perhaps. Or it may take the form of informal engagement with a colleague or colleagues from the department with some leadership influence (formal or informal) within the department. The emphasis here then is shown in Figure 2 to be evenly balanced between intervention and democratic engagement. As that engagement moves through subsequent phases it becomes increasingly democratic, as it shifts towards implementation, and the need for the academic community members to take ownership of their new ides and new practice.

How do the 'viral rules' apply as this development unfolds? In the exposure phase, the most significant rules relate to: 'stealth', in order to avoid creating additional resistance as a result of anxieties within the target community that the educational developers are intent on imposing an alien or managerialist agenda; avoiding anxieties about the need for unwelcome commitment; and encouraging those involved to engage their own contacts in the initiative wherever possible.

Moving on into the more 'democratic' phases the other rules come into play: ensuring that the people and the behaviours required fit well with the normal conventions of the academic community; educational developers need to feel at home with the community they are working with, not feel that they need to wait to be invited in.

The final rule, 'invest to reach the tipping point' (Gladwell, 2002), is about keeping the engagement going until ideas and practice are really embedded in the conventions of the community.
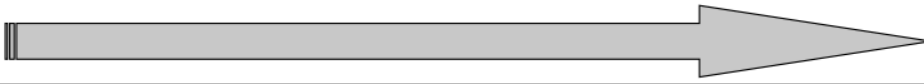
Direction of movement				
Process/stages	Exposure	Infection	Replication within host community	Further exposure
Primary supporting orientations (recognising variation and permeability between them)	• Democratic • Interventionist	• **Democratic** • Interventionist	•**Democratic**	• Democratic • Interventionist
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 (Rayport, 1996):	Observations on process stages:
1. Stealth is the essence of market entry	**Exposure**: a mix of interventionist and democratic orientations, as the nature of various interactions with staff dictates
2. What's up-front is free: payment comes later	**Infection**: democratic orientations more important. Most 'viral' rules apply
3. Let the behaviours of the target community carry the message	**Replication**: democratic orientations predominate. 'Market entry' (rule 1) replaced in relevance by concerns with proliferation of practice (rule 6)
4. Look like a host, not a virus	
5. Exploit the strength of weak ties	**Further exposure**: A mix of orientations again, but using the academic community itself to 'carry the message' (rules 3 & 4)
6. Invest to reach the tipping point	

Figure 2: Integrating metaphors of viral marketing and biological process to explore adoption of educational development innovation

Testing and applying the viral model
Of course, metaphors and models are only useful if they help our understanding of real world situations, or if they help us determine how to respond to particular contexts or challenges. This paper is presented as an encouragement to others to test the viral model in situations with contextual relevance to each individual.

First, a brief summary case study, by way of example.
In the case study university, an action research group of academic staff from across the university had formed with the purpose of exploring and sharing practice around student group projects, and how these can be used to promote personal development planning (PDP) for postgraduate students. The action research group represented many departments and disciplines from across the university, but there were a few areas which were notably absent. The group's efforts to recruit representation from one school in particular (School A) had been unsuccessful. This was the largest school in the university, and its absence from the action research group was cause for concern.
In terms of the viral metaphor we have been exploring, School A was 'resistant' to the virus (i.e. good educational practice represented by innovative approaches to PDP). It seemed to be something of a sealed community, perhaps by virtue of its size, whereby it was perceived not to engage very actively with other areas of the university unless there was a particular inter-

disciplinary research project in which its staff were involved. Opportunities to introduce the aims of the action research group to the school, or any of its departments, either on a formal or informal basis, seemed elusive. The first explicit approach was therefore interventionist and strategic in character. The author (an active member of the action research group) wrote to the chair of the School's internal academic board and requested the opportunity to make a short presentation at the board's next meeting. This request was duly granted, and the presentation was indeed short: I simply expressed a concern that external quality assurance pressures on the university were resulting in increased expectations that we should all be able to justify our institutional approaches to PDP, whatever they might be. Would any of the course directors present be willing and able to attend a future meeting to explore the nature of these pressures? A number of colleagues assented, and I left the meeting, promising to send an invitation in the near future, which I did.

Exposure
Only one of the course directors attended that eventual meeting (to be fair to one other: he agreed to attend but was unavoidably detained when the day came!). The meeting therefore took the form of a dialogue between me and the course director in question, whom I have elsewhere called Theresa. It was a highly productive discussion: Theresa, it turned out, was deeply concerned with matters of quality assurance and enhancement, was full of creative ideas for addressing both in a constructive manner which had student well-being as its goal, and was prepared to take the discussion of the action research group's ideas back into her school. Accordingly, the subsequent academic board in School A (without me being present) addressed PDP as an agenda item, but an item that was introduced by one of its own, not by an outsider. The action research group had found its 'susceptible carrier', taking the virus into the centre of the host organism! Furthermore, and in line with Rayport's 'rules' of viral marketing, the behaviours of the target community were starting to carry the message. At the same time, the constructive discussions with Theresa had introduced a much more democratic, trust-based approach to the development initiative – as far as she was concerned, anyway.
The transactional, interventionist orientation was not yet redundant, however. As a result of her discussions with colleagues, Theresa brokered a meeting with a department head (Chris), who was prepared to discuss the potential for piloting the development of a 'PDP theme' within one of his taught postgraduate programmes. We had a formal meeting in his office, at which he laid down a number of ground rules about limits to the expectations of time commitments for his staff and students, about preserving the priorities of the course, and so on.

Infection
I proposed a plan and a schedule for adding new interactive elements to existing components of the students' learning activities. The only substantive additional time commitment was a meeting with the small course team over coffee, to agree the aims and outcomes of the pilot PDP exercise to which the department head had consented, and 20 minutes at the start of one particular study module to explain the proposal to the students. The substance of the pilot activity (which consisted mainly in modifying forms of student interaction with their course and foregrounding additional developmental assessment criteria) is not relevant to the principles here. However, from the point of view of testing or illustrating the viral model the process as a whole was encouraging. The first activity was to video a set of student presentations, then organize the students such that they were able to critically review their own and each other's presentations in terms of agreed criteria. The outcome which most surprised the teaching staff was that the students began arriving at subsequent events with their own video cameras! The staff were delighted at this show of enthusiasm.

Replication: from transaction to trust
It was a short pilot, and an undemanding one, which ended with a Christmas lunch for the course team, to which I was invited. In a relatively short space of time I had moved from a formal, transactional relationship with the department within School A, mediated through the department head, to an informal, highly collegiate relationship with a small group of staff. Discussions about extending the pilot, both within the original course and onto other courses within the school, could begin to take place more widely, and be taken more seriously by other staff, as those discussions were now being initiated by recognized community members rather than 'outsiders' such as me.

Taking it forward: does this apply in other contexts?
The example above does not test a hypothesis scientifically. It does shows how a metaphor-based model of interaction can help to characterize the state of a relationship between an educational developer and a 'target' academic community, and to guide the forms of interaction which are more likely to encourage the relationship to flourish.

These insights can be put to the test by others, who are encouraged to report their own experience. The template at annex 1 may provide a framework for exploring other scenarios.

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Annex 1 – exploring applications of the viral model

Scenario:	
What's the state of exposure?	
What's the right orientation (Democratic or interventionist)?	
What viral rules apply?	
What actions should you take next?	
What initial outcomes do you expect?	
What state of exposure do you expect that to lead to?	