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# **Engaging In and Engaging With Research: Teacher Inquiry and Development**

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## **Abstract**

The connection between teacher inquiry, professional development and school improvement was recognized thirty years ago by Lawrence Stenhouse. Stenhouse contributed many valuable insights into the role of practitioner enquiry in creating and utilizing knowledge about teaching and learning, much of which is still to be applied systematically in teacher education and professional development.

This paper draws on the Learning to Learn Phase 3 Evaluation, a three year action research project in which teachers in primary and secondary schools across the UK completed three cycles of practitioner inquiry to explore tools, pedagogies and other innovations which would promote dispositions of 'learning to learn' (Higgins, *et al*, 2007). The paper focuses on identifying those aspects of being involved in L2L that support teachers' learning and the way that the teachers themselves understand the impact on their professional development. Data from over 60 semi-structured interviews undertaken over the three years of the project, the case study reports compiled by teachers at the end of each year of the project and collaborative workshops involving teachers and University researchers as co-inquirers are used to explore teachers' learning. Qualitative methods are used to develop a thematic analysis of the interviews, case studies and the teachers' understanding of the relationships between inquiry, research and CPD in order to identify categories and generate key concepts that can inform a theoretical understanding of the impact of professional inquiry on teachers' learning (Miles and Huberman 1994). The findings contribute to our understanding of the role of inquiry and research in schools in supporting professional learning by suggesting how tools and models of working are developed.

**Key words:** teacher inquiry; teacher learning; knowledge translation

*"It is teachers who, in the end, will change the world of the school by understanding it". (Lawrence Stenhouse, 1981)*

This paper explores how a group of engaged, enquiring teachers orient themselves towards research. How do they see their roles in relation to research? Are they active consumers of reports from government or 'the academy' – 'engaging with' research to inform their practice and their own research projects in school? Do they move into the fray to present their findings as part of the wider discussion; are they 'engaging in' the process as active producers of research evidence? Do they switch between these roles? How do they develop the critical skills and confidence that will enable them to assess the warrant for action that each new idea carries with it?

The evidence discussed in this paper comes from work undertaken by teachers in the Learning to Learn Phase 3 evaluation, a project which ran from 2003-2007 in 33 settings: in primary (age 4-11) and secondary (11-18) in three clusters across England; covering areas of relative affluence and significant deprivation, in schools with mainly white, settled populations and in schools where fifty languages are spoken and turnover of pupils each year is as high as 20% (Higgins, *et al.*, 2005; 2006; 2007a). All the teachers in this study are working to educate children within the statutory frameworks put in place by the UK government: the National Curriculum, the national strategies for Literacy, Numeracy and Key Stage 3 (age 11-14) as well as within the guidelines enforced by an inspection framework

which – rightly or wrongly - places great emphasis on conformity of practice as a route to equality of opportunities for all learners. The overall picture is one of an increasingly structured profession, where the emphasis is on curriculum delivery rather than the craftsmanship of curriculum design (Hargreaves 1999a; Huberman 2001).

In this context of a regulated and increasingly homogeneous professional practice, Learning to Learn has something of a counter-culture flavour to it. Under the umbrella term ‘L2L’ and using a dispositions model (Wall and Hall, 2008) as a loose framework, teachers have complete autonomy to choose their research question and the focus of their classroom innovation. The University team (of which the author is a member) have several key roles in the project: providing specialist support, framing and examining the project as a whole, making thematic links between teachers and schools and acting as brokers to the wider research community (McLaughlin, *et al*, 2004) feeding ideas and content backwards and forwards. This is enacted through face to face research training (Baumfield, Hall and Wall, 2008), INSETs, residential conferences, the project website<sup>1</sup> and electronic support (Baumfield, *et al*, 2008).

The content of the teachers’ research projects has included a number of ideas including metacognition, dispositions and motivation, self-regulation, self-efficacy and self-esteem (see, for example, Claxton, 2002;

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<sup>1</sup>Phase 3: <http://www.ecls.ncl.ac.uk/121/> Phase 4: <http://www.ecls.ncl.ac.uk/1214>

Higgins *et al.* 2007b). The approaches developed by teachers are often eclectic and include cooperative learning (Kagan, 2002), Assessment for Learning (Black and Wiliam, 1998) and Thinking Skills (Baumfield, Higgins and Lin, 2002). However, we have identified key areas of overlap: the focus on communication; the responsibility of all learners (teachers and students) to engage in learning and the transformative role that explicit discussions of intent and process have upon learning (Hall, *et al.*, 2006). The classroom interactions engendered and supported by the particular pedagogical strategies characterised as supporting L2L not only make the process of learning more explicit and accessible to the learner, as is their stated intention, but also enable teachers to move beyond surface detail as the process of teaching is opened up to critical enquiry. Thus, for us, the personal ownership and focused *intent* of each teacher's inquiry is paramount in allowing this deep reflection to take place (Figure 1, below).

*Insert figure 1 about here*

The enquiry process is fundamentally shaped by each teachers' identification of an immediate problem to be explored, one which has an intrinsic value based on the benefits to all of exploring it and about which enough can be said so that the problem can be formulated and worked on: Simons and colleagues' 'situated generalisation' (2003). The intent of the enquiry, the rigour with which it is conducted and the communication of

the findings interact dynamically and differently in each context (Baumfield, Hall and Wall, 2008). The autonomous development of a personal research question is therefore at the heart of Learning to Learn.

The impact of this approach has been to tap into teachers' potential as innovators and so the tendency has been for the project brief to be interpreted and understood in a diverse number of ways, producing a complex map of innovation approaches, methodological frames and messy data sets. This introduces a level of unpredictability for the university team, since it is not possible for us to shape the project, or even to accurately predict what shape it may take on; however this transfer of the locus of control regarding the focus and direction of the research to the teachers is paramount in achieving the project aims of teacher engagement and empowerment (Higgins and Leat 2001). Overall, the developmental process for teachers over three research cycles is much more than the acquisition of a research 'skill set': encompassing personal perspective transformation, cultural change within schools and the broadening of external networks of collaboration, communication and critical challenge.

The role of the University also pertains to supporting teachers in engaging with research. We work collaboratively with the teachers to design pragmatic research tools (Baumfield, 2006; Baumfield *et al.*, 2007). These perform multiple functions in the classroom: they operate as pedagogical

tools, providing tight feedback loops (Hattie and Timperley, 2007) to improve the quality of teaching and learning in the moment as well as being data collection tools which provide academically rigorous evidence which teachers can realistically analyse themselves or with minimal support from the University team. Stenhouse, recognising the reality and burden of teachers' working lives counselled that "*the research act must conform to the obligations of the professional context*" (1983: 20).

We, together with our funders, the Campaign for Learning, provide a forum and status to support the process of "*systematic enquiry made public*" (Stenhouse, 1981), disseminating the case studies produced in each cycle through the project website, through conferences and policy briefings where teachers and academics present jointly and severally and through joint professional and academic publications (see, for example, Hall, *et al*, 2005, Wall *et al*, in press). This is intended to give teachers a voice in what is becoming an increasingly one-sided conversation about research and teaching, in which an emphasis on 'evidence-based' teaching has, over time, been modified in UK discourse to 'evidence-informed' practice (Hargreaves, 1997; 1999b; Elliot, 2001). The quality of that information about 'what works' needs to be problematised: there are serious questions about the quality and the homogeneity of the studies from which the evidence produced by systematic review is drawn (Hall and Higgins, 2004; 2005; Slavin, 2004); the decoding of meta-analysis and the way in which the results can feed in to teachers' practice is complex (Hattie, 2004) and it

is not clear how brokerage roles and communication networks should develop (Hemsley-Brown and Sharp, 2003). The evidence from Learning to Learn suggests that teachers develop a more robust and critical stance through the process of their own research, as well as a vocabulary and confidence to access the wider literature.

Recent research in to teachers' careers, beliefs and professional practice (Day et al, 2006) suggests that a resilient professional identity is supported by a degree of autonomy in how teachers practice and the extent to which they are allowed to exercise their professional creativity and develop their craft. The impact of this professional 'working space' appears to be important both in terms of how effective teachers feel themselves to be and their motivation to remain in the profession and is expressed in the difference between experienced teachers 'crystallised' expertise and expert teachers' 'fluid' expertise (Berliner, 2001) . It is important therefore, to examine the autonomy and agency of teachers *as learners*, using the frameworks already in use to assess learning autonomy in further and higher education (Ecclestone, 2000; 2002). However, the professional in search of support to make change need not start by browsing the research shelves, selecting one and asking "How might this work in my classroom?" As craftsmen, teachers may explore how well a mass-produced solution will address their own problems and instead consider producing something for themselves: a bespoke, tailored resolution. However, given the time and effort involved, there remains a



tension for teachers between privileging their contextual expertise and the risk of re-inventing the wheel.

For some teachers, having sufficient grounding in exploration to make sense of the research literature in context is an important starting point as Elliot argues:

*“educational research, as opposed to simply research on education, will involve teachers in its construction and execution and not simply in applying its findings. Teachers engage in educational research and not simply with it”*

(Elliott, 2001; 565, emphasis in original)

This rests upon Stenhouse’s conception of teachers as active agents, engaged in exploring the ambiguity of teaching, the areas of debate and contention. In contrast to the medical model of research informed practice, the role of the teacher researcher is not to solve problems definitively but to know more about them. Therefore, the starting point is not on the shelf but in the learning environment, since it is there that the teacher can identify the areas of challenge and cognitive dissonance, where things stop working or produce unintended consequences. These problems are the grit in the oyster that motivates teachers to undertake enquiry and the pursuit of greater understanding becomes part of professional practice and identity. His description of these fertile areas of educational understanding: *“They are the focus of speculation, not the object of mastery”* (Stenhouse, 1975; 85) connects with Knorr Cetina’s description of professional knowledge concerns as ‘epistemic tools’: *“it is the unfolding ontology of these objects which accommodates so well the*

*structure of wanting, and binds experts to knowledge things in creative and constructive practice”* (Knorr Cetina, 2001: 182). It is here that professional enquiry reconnects with theory-generating aspects of academic research, where theory, technique and context dynamically interact in classrooms, producing new perspectives (Latta, *et al*, 2007).

Our developing understanding of these issues has led us to hypothesise that teachers in the Learning to Learn project would show some signs of engaging in professional inquiry in their classrooms, relating this to the experience of others and research literature and policy documents through a wider enquiry, which would then inform the development and focus of the next cycle of classroom inquiry.

### **Research design**

Data for this paper is drawn from the yearly interviews and construct generation exercises at training events and project conferences. These have explored the opportunities for teacher learning and extent to which the teachers have felt the process to be transformative (Hall *et al*, 2006). Most recently, the team have explored with teachers the idea that innovative teachers are better psychologically prepared for learning and change (Hall and Wall, 2006). In Year 1 of the project, an interview schedule was devised by the research team with the aim of gathering the main themes and experiences of L2L as perceived by the participating teachers. In Year 2, we devised a schedule which would enable us to

validate the thematic analysis from the first year and to explore teachers' own learning experiences. In Year 3, the focus of the interviews was on reflection, including the changes that had taken place in teachers' views of learning and teaching. These themes are discussed in detail in the project reports (Higgins *et al*, 2005; 2006; 2007a). Interview schedules were sent to all the schools in the project prior to the interview taking place. This meant, since we were trying to elicit their considered opinions of the progress of the research and the underlying principles of L2L, teachers had the opportunity to discuss the issues in the interview with colleagues and to reflect on them before the telephone interview took place.

Table 1 about here

The interviews were conducted on the telephone by a team from the Research Centre for Learning and Teaching at times arranged to suit the teachers' work schedules during the Summer terms of 2004, 2005 and 2006. Interviews varied in length between 15 and 45 minutes and were all tape-recorded and transcribed before analysis. All of the data from the project was analysed using content analysis and thematic clustering supported by the use of qualitative analysis software (NUDIST5 and N7). At each stage of the analysis, feedback, challenge and validation were sought and received from the teachers in the project. Many a cherished notion had to be discarded and we are confident of the robustness of what remains as co-constructed understanding by all the participants in the

project: teachers, co-ordinators from the Local Authorities involved, university staff and the funding body.

### **Teacher's views of the research process**

The sections which follow illustrate the different stances towards educational research that we observed and debated within the project and then map them onto a matrix of stages of learning and autonomy developed within the project, recognising that the boundaries between the various stages are relatively 'fuzzy' (Bassey, 2001; Hammersley, 2001).

Two key strands have emerged from our analysis:

- teachers' recognition of their own competence in relation to research methods and rigour and
- how this self-recognition impacts on their orientation towards experts and the 'expert self'.

### **Getting the research done: tools, approaches and standards**

The acquisition of a research 'skills set' dominates teachers' thinking in the early cycles of practitioner enquiry and the first year interviews emphasised two key points (which are illustrated by the quotes from a primary teacher (4-11 years) and secondary teacher (11-18) below).

Firstly, the role of the University research team is strongly constructed as powerful and of higher status than the teachers: we were seen at that time as mentors, instructors, assessors of the quality of projects. Secondly, the process of training and instruction is challenging: this is experienced by

many of our teachers as positive and exciting, but for some – particularly those who did not volunteer – the effort involved could be at odds with the intrinsic interest of the method offered.

*in terms of having a research team at the university too, just to run things through and make sure that we're approaching things from the right way and that we're being thorough as well about it, that's been really useful too.*

(Secondary teacher Year 1 interview)

*looking at the whole research process for me personally has been you know ... has certainly been the most learning I've ever had to do ... and it's been a real learning curve....how you go about a research project. The whole thinking of your hypothesis and then data collection, planning it out, it's been one of the more interesting parts of it.*

(Primary teacher Year 1 interview)

The group meetings, conferences and residential weekends have been deliberately structured to include elements of training, group process development and feedback loops for all the participants. They have been a vital aspect of maintaining the teachers' engagement and motivation in the project and underline the importance of the 'face to face' in enquiry support.

*You've got another training session, so you come back to it, and you think yeah this is what I'm in the job for and go back and feel inspired again. You know it's like a shot in the arm, that's been really helpful... all of the Campaign for Learning training has been really helpful, because they're very practical and you know you get help there with structuring the research project and also informal chats with liaising with other schools*

(Secondary teacher, Year 2 interview)

Over time, learning becomes a group activity and the initiation phase has been marked by teachers talking about the value they place on contact with others in similar circumstances.

*we went to the conference you know just sitting and listening to what other people had done and their focus for their research and the way they'd approached it and the way they as a staff... and just talking to other people, on that scale helped as well to sort of home in on what we were doing and why*

(Primary teacher Year 2 interview)

However, similarity in terms of curriculum area or the age of the children was often not the most important identifying factor. One of the key markers of development in teachers' thinking appears to be an identification with one another in terms of methods. As teachers become more confident in their procedural understanding of research, they become able to relate that knowledge to their own experience, and to their core ideas and beliefs.

*'What's been really good for us has been the support with how to collect data from the [University] Team, all the different ideas on the kinds of data, the importance I think of soft data and when we push so hard all the time your [exam] data or whatever, and the feeling that you know, there are other benefits for our children especially, and that's you know, how can we collect them and present those, so that people understand that you are developing the whole child and not just the child who takes a test.'*

(Secondary teacher, Year 3 interview)

For this secondary teacher, the research process itself is a pragmatic tool, enabling the school to reconnect with a more holistic view of education and this was a goal from the beginning. For other teachers, the most important learning has been unexpected, an unintended consequence.

*at first I thought oh no... there isn't a single meaningful experience, just gradually changed I suppose. But then I was thinking about it more and thinking about what I do, I do realise now that I have changed my practice, quite dramatically actually and what I do now, I've been teaching now for thirteen*

*years and what I've done in the last two/three years since I've been involved in learning theory, is now I now model everything, things that I would never have thought before. For years I've said to children, right off you go and write a story. I've told them what to do, but I've never actually shown them what I want, what a finished acceptable piece of work would look like.*

(Primary teacher Year 2 interview)

## **Owning the understanding of research**

Novice teacher researchers often have an undifferentiated view of the contents of the ivory tower: the research evidence is equally valid and academics all have 'expert' status.

*I think it's opening your eyes to certain things, giving us the opportunity to experience it by attending courses or bringing in experts.*

(Primary teacher Year 2 interview)

Over time, the interactions of experience and the culture of questioning seem to encourage teachers to be more discriminating in selecting aspects of research that map on to their current concerns in school, exercising personal judgement about the alignment of research with their priorities.

*One of the things that I thought was really interesting was the last conference in Bristol, one of the presenters was speaking about the way assessment for learning helps in the learning to learn agenda and you know just coincidentally really we've had the two strands running through our school this year as major areas and looking at the overlap between both those two areas and seeing how we could present that as a sort of coherent strategy was really powerful*

(Secondary teacher, Year 2 interview)

*I think that actual conference was the biggest sort of critical moment really because both of us have felt that we've been tinkering around the edges. It's to do with where we are and the situation our school is in and so on. We felt for a long time, we hadn't moved forward. Then of course when you go to something like that, you start thinking and talking to other people and hearing the latest thinking in education and it just*

*all began to fall into place and then gradually I think it has just come about that our school had moved forward so that what we're doing now in this year's research links in with our school improvement project and also we're also part of a network and that is just so interesting because we're now working with other schools and moving everybody forward. I can't say it's one single experience really, it's the fact that one thing has led to another and it's all falling into place.'*

(Secondary teacher Year 2 interview)

This appears to be associated with a growing awareness of the levels of understanding and expertise that teachers themselves possess.

*'[We were doing] an oral feedback and I was just struck, it was really sort of a moment for me, I was struck by the quality of the discussions of the teaching and learning and the feeling that the teachers have got really underneath what was happening. That was a wow moment for me'* (Primary teacher Year 2 interview)

Progressively, the celebration of one's own intrinsic value as a participant leads to a feeling of being able to reflect upon and challenge accustomed roles and, eventually, to an expanded idea of the teacher's role within a network of expertise.

*for at least those of us who are involved with learning to learn and other projects, some of the Heads of Dept who are certainly Advanced Skills Teachers, is that we ... it's a bit like a Venn diagram because you have so many initiatives going on that overlap. This afternoon I'm going to a University of the First Age meeting, it's ... what I'm going to be hearing there it's going to be close to what we're saying together and sometimes you're thinking ... was it Investors in Excellence I did this, you know or somewhere else... and I think that's a good thing.*

(Secondary teacher, Year 2 interview).

### **Looking at the teachers' learning in the data**

This section seeks to explain the way in which we have put together different theoretical perspectives on teacher learning in order to analyse



the experiences of the Learning to Learn researchers. We have constructed a matrix which tries to map across Stenhouse's components of education (1975), the development of learner autonomy (in particular drawn from the work of Ecclestone, 2000) and the changing personal relationship to research which occurred through repeated cycles of enquiry in the Learning to Learn project. Ecclestone relates her understanding of learners' autonomy to the language that is used: the mastery of vocabulary, the targeted use of terms in relation to the self and the engagement with definitions are 'markers' for procedural, personal and critical autonomy. The descriptive terms are in the early stages of validation by the project team and the researching teachers and are a deliberate attempt to make links with the professional learning cultures literature (particularly Lave and Wenger, 1991) and key ideas from our understanding of how learners (normally characterised as pupils but broadened in our project to include everybody) deal with difficulty, ambiguity and challenge, both intellectually and personally in their day to day lives.

Stenhouse talks of education in its' broadest sense as being made up of four elements: *training*, *instruction*, *initiation* and *induction*. We have collapsed the first two into a single category for this purpose, since the first is the acquisition of skills and the second the organisation of information and these combined map more comfortably onto our understanding of procedural autonomy: the knowledge and skills needed

to operate as a teacher (see Table 2 below). Teachers working in this stage in an enquiry tend to cede a greater degree of control to others in the research process, absorbing more passively messages about standards and norms for working and listening to information drawn from research rather than engaging critically.

Table 2 about here

Initiation is very much an idea about how knowledge is socially constructed and mediated through experience, so it connects logically to the development of personal autonomy and the sense of self in relation to others. The role of networks and the brokering of practice and knowledge by different research partners are key features here, as is the development of an understanding of teacher learning as requiring bridging and scaffolding in a Vygotskian sense (Hall, et al, 2006; van Huizen, et al 2005), potentially (though not exclusively) carried out by university staff in role as ‘knowledge brokers’, mediating between the codified academic discourses (McLaughlin et al, 2004). For the teacher-researchers, their developing sense of self as agents within their own enquiries gives them ‘permission’ to engage more actively with the research methods and the products of others’ research.

Induction is the ability to synthesise, generate theory and reflect upon information and experience and with critical autonomy, refers to elements

of metacognitive awareness and skilfulness (Moseley et al, 2005; Veenman, 1997). Teachers and schools who have undergone cycles of enquiry appear to be developing key characteristics which are shared across contexts: a critical self-awareness which enables them to place themselves in relation to wider policy and social changes; a resilience to change and difficulty and a creative questioning of the purpose of each activity which is grounded in an explicit naming of their goals in learning and teaching.

### **Engaging ‘in’ and ‘with’**

*“...for a teacher negotiating his/her way to being a teacher there are multiple stories of what it is to be a teacher to be negotiated – stories that do not lend themselves to final resolution in relation to each other. Conceptions may be both idealistic and unachievable in themselves and impossible to reconcile with other conceptions.”* (Brown and England, 2004, p71)

Teaching practice is a complex inter-dependent and individualised system of ideas, beliefs and habituated practice; it is shaped by external pressures of policy, inspection and assessment; it is supported and informed by each teacher’s curriculum knowledge and pedagogic understanding; it is driven by the moment-to-moment interactions between teacher and students; and expressed in the use of ‘to-hand’ strategies for (amongst many other educational goals) instruction, explanation, scaffolding, questioning, extending discourse and extending metacognition. Each individual’s teaching practice is a fluid system, subject to motivational factors which constantly shift and change (Apter, 2001) and by the constant stream of

information about innovative approaches which come to the teacher from her colleagues, her management, her government, the media and the academy.

Both Stenhouse and Ecclestone are overtly hierarchical in their constructions: induction and critical autonomy are goals of education which underpin the independent, responsible engagement of each actor with the world. In the same way, we are coming to see the stance that teachers take towards research as *potentially* developmental; though, following Apter (2001), we see motivation to engage with research as fluid, subject to influence by myriad factors within and beyond teachers' professional lives. Teachers are not always actively engaged and they must be given the professional autonomy to judge when they are able to undertake enquiry.

The discourse in the UK of 'research-informed' practice positions the teacher as an observer of the research process and a consumer of research products. The tensions within this model of using research which posits that research can have a direct linear effect on specific practices tied to desirable outcomes have been extensively explored elsewhere (Hammersley, 2005) but our concern here is the way in which this model contributes to growing trends for teacher passivity. If teachers are to choose between innovations in the same way that shoppers choose detergent, based on the reputation of the producers and the attractiveness

of the packaging, this distracts from the task of assessing what the conditions are in their classrooms, what the pressing needs of the learners (teachers included) might be.

In contrast, the process of teacher inquiry as practised within Learning to Learn grounds the individual in context, in relevance to the learners and sustains the process through the increased motivation brought by rapid and responsive feedback. This is supported by the focus on two key values from the project: teacher autonomy and the responsibility to make public the work that is done. Teachers gain in confidence in articulating their embodied practical knowledge and in translating the contextual understandings of their own classrooms to a wider audience. Moreover, this participation in the wider learning community of the project fosters the critical engagement with ideas and approaches which underpins teachers' future decision-making about innovation and change in their practice. We have observed a relational and developmental interplay between engaging in an inquiry in the classroom and engaging with the canon of research literature and guidance produced by academics and policy makers. However, to return to Stenhouse, it is the teachers who will make change through their understanding and so the final words should be theirs:

*'I'd previously viewed my role as to deliver this, this and this and that the children would be learning this, this and this, whereas now I'm thinking more about 'how can I explain to the children about how they're going to learn about this'. So as*

*opposed to it being a process, that is done to them by me, I'm thinking more now about how I can involve them in the learning process so it's kind of a complete switch round in my brain of what my role is, because I want the children to be able to understand, not just what it is that I'm teaching them, but how they're going to take it in and reclaim the knowledge'*

(Primary teacher Year 2 interview)

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Figures

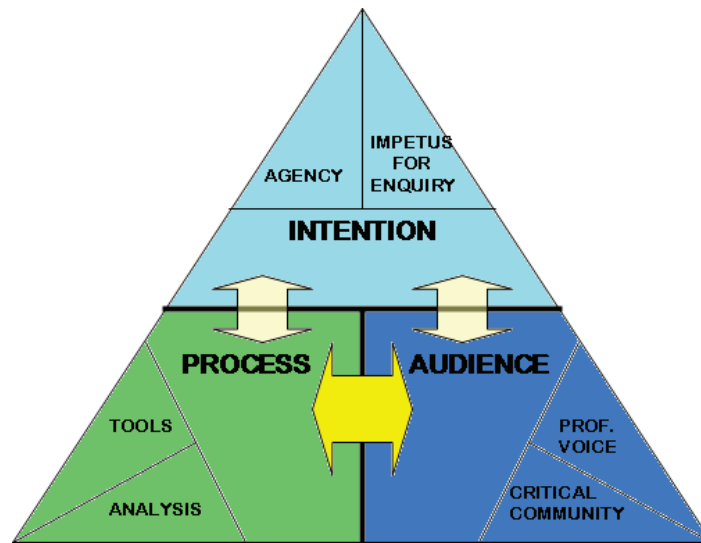


Figure 1: Elements of enquiry (from Baumfield, Hall and Wall, 2008)

Tables

Table 1: Interview samples Year 1 and Year 2

	No. of teachers interviewed	Male	Female	Primary	Secondary
Year 1	20	3	17	15	5
Year 2	24	4	20	13	7
Year 3	14	3	11	10	4

Table 2: A matrix of ideas about teacher learning

Stenhouse (1975) Educational processes	Ecclestone (2000;2002) Learner autonomy	Engaging in and with research
Training and instruction	Procedural autonomy	Looking at the ivory tower <i>Disengaged interest</i>
Initiation	Personal autonomy	Audience participation <i>Legitimising peripheral participation</i>
Induction	Critical autonomy	Resilience <i>Creative persistence</i>