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## **Evidence of Authentic Achievement: the extent of disciplined enquiry in student teachers' essay scripts**

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### **ABSTRACT**

The purpose of this study was to describe the extent to which undergraduates engage in disciplined enquiry, as one means of operationalising critical thinking. Three hundred essays from second-year students were judged on the indicators of disciplinary concepts, elaborated written communication and analysis. Non parametric statistical tests revealed that disciplinary concepts were more in evidence than was analysis. This was manifest in written communications which were not, overall, elaborated into coherent essays. The results suggest that students need to appreciate that knowledge is an intentional, and perhaps, effortful construction of the human mind and that this involves the use of a knowledge-transforming strategy rather than the coping strategy of knowledge-telling. For this to happen, however, some current pedagogic practices may need to be revised

### **INTRODUCTION**

#### *The issue*

A fundamental assumption of the study reported here is that there is tension between 'good learning' and 'critical thinking'. That meaningful learning is reflective, constructive and self-regulated and that all learning requires learners to think and actively construct evolving mental models is not really in dispute, at least in contemporary cognitive psychology. However, while our current understandings of learning invoke the need to think critically, perusal of the literature points to differences in the meaning of critical thinking (Livingston et al, 2004; McGuinness, 1999; Moseley et al 2003). Given its lack of agreed conceptual clarity, the general finding that students in higher education allegedly find it difficult to think critically is perhaps not surprising (Bell et al, 2001; Meltzoff, 2001 ). While Barber's (2002, 2003) explanation for the lack of critical thinking in students' reading and writing (as a mindset of unquestioning reliance on the work of authorities and a belief that if something is in print it must be absolute and beyond criticism) has some intuitive appeal, pedagogical facilitation of critical thinking presupposes that we know what critical thinking is. The study reported here will offer a particular conceptualisation of critical thinking and will explore the extent to which the construct is evidenced in the academic essays of a sample of undergraduate students. What is reported is neither a definitive nor comprehensive analysis

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of critical thinking. Rather the purpose is to pilot a pedagogic tool which may be of use to higher education tutors who wish to appraise the extent of critical thinking in students' written work, given that understandings of learning that are derived from cognitive psychology imply that assessment practices should articulate with the current quest for authenticity (Birenbaum & Dochy, 1996; Bowden & Marton, 1998; Brophy, 2002).

### *Critical thinking*

Critical thinking, following the Delphi Report (Facione, 1990), is understood as a process in which a person forms a judgment about what to believe or do in a given context. In being critical a person draws from a core set of cognitive skills: analysis, interpretation, inference, explanation, evaluation, and self-regulation both to form an initial judgment and to monitor and improve the quality of that judgment. These six constituent skills, identified in the Delphi Report (Facione, 1990) as being essential to the development of expert practice and functioning (Garcia & Pearson, 1994), are viewed as both recursive and non-linear and while each is characterised in a set of sub-skills, the Delphi Report makes clear that its contribution has been to construct a cross-disciplinary consensus of what is meant by critical thinking. This holistic characterisation has no necessary procedural or pedagogical algorithms associated with it, and while the Report carries many implications and recommendations for instructional and assessment practices, the operationalisation of such practices is an ongoing task for those concerned to support students' critical thinking (Livingston et al, 2004; McGuinness, 1999; Moseley et al 2003). Nevertheless, given that the deliberations of the Delphi Report are considered robust and that they underpin the articulation of significant policy documents on educational improvement and reform (Facione & Facione, 1996), critical thinking in this article is deemed to be compatible with the meaning invoked in the Delphi Report.

The significance of the facility to be critical is the increasing recognition of its power to drive knowledge development, to improve professional practice and to contribute to the development of an educated public. If a critical facility is not developed and applied, the learner is accepting whatever the expert allegedly says or writes on faith alone, with the possible consequence of incorporating misinformation into his/her knowledge base (Meltzoff, 2001). Critical thinking has been identified as essential to the solution of social, economic, educational, environmental, and health challenges of the 21st Century (Facione & Facione, 1996), and since these challenges are, in large measure, unknown and unknowable, we have to prepare students to participate in a future world on the basis of our current knowledge (Bowden & Marton, 1998); knowledge which, with the passage of time, will doubtless be viewed as incomplete or even inadequate. It is therefore important that students learn to use current knowledge either to modify existing knowledge or to produce new knowledge in order that new problems and challenges can be addressed and solved because this is what has characterised successful adults (such as lawyers musicians, entrepreneurs, novelists, designers, physicians) in the course of history (Newmann & Archbald, 1992). Worthwhile forms of human accomplishment are what Newmann & Archbald (1992) refer to as authentic achievement.

### *Disciplined enquiry*

Acknowledging the work of Raven (1992), Resnick (1987) and Wiggins (1989), Newmann & Archbald (1992) conceptualise authentic, as opposed to contrived or trivial, achievement as comprising three elements. The essence of authentic achievement is the intellectual achievement of using knowledge "wisely, fluently, flexibly and aptly in particular and diverse contexts" (Wiggins, 1993, p.200) to address real world tasks and problems (Newmann et al, 1996; Wiggins, 1989; 1993). It is this flexible and context appropriate use of knowledge that Wiggins believes constitutes understanding, which is manifest in the production of pieces of discourse, artefacts and performances. The reproduction of cued knowledge, the application of algorithms and the performance of drills and exercises, although prerequisite for subsequent knowledge development, do not of themselves reflect understanding (the quality that Wiggins argues is at the core of authenticity), but are

nevertheless the cognitive tasks that have allegedly dominated the traditional, formal educational curriculum (Newmann & Archbald, 1992). As well as the *production of knowledge*, Newmann & Archbald's (1992) model of authentic achievement includes *valued goals and disciplined enquiry*. Valued goals refer to the aesthetic, utilitarian or personal ideals that are of concern to the learner and which may be over and above the elements necessary for documenting competence, task completion or achievement. The third element of authentic achievement is *disciplined enquiry* (Newmann & Archbald, 1992), which reflects an in-depth understanding of the formal knowledge associated with a particular topic/issue; which develops through looking for, questioning and creating relationships between and among different pieces of knowledge and which precipitates the creation of new knowledge when extant knowledge is recognised as inadequate for a given situation or problem.

While authentic achievement cannot be fully understood without reference to all three elements of Newmann & Archbald's (1992) model, the emphasis in this article is on disciplined enquiry since the conceptualisation of authenticity suggests that focusing on disciplined enquiry, rather than merely exhorting students to 'be critical' might operationalise critical thinking. Although researchers frequently use the referent, disciplined enquiry, few studies make clear the sense that is being proposed by Newmann (Newmann et al, 1996; Newmann, 1997). Newmann and his colleagues offer three global criteria, outlined in Table 1, which seem to resonate with at least some of what is meant by critical thinking as characterised by Facione (1990). While the criterion of Analysis perhaps comes closest to summarising the actual critical thinking skills suggested in the Delphi Report, the criterion of Disciplinary Concepts offers a context for evidencing critical thinking insofar as critical thinking does not take place in a vacuum, and the criterion of Elaborated Written Communication provides the means of observing the possession of disciplinary concepts and the powers of analyses, both of which are essentially cognitive activities. In summary, the aim of this study is to describe the disciplined enquiry evidenced in a sample of essays written on the topic of motivation.

**Table 1:** Criteria of Disciplined Enquiry

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1. <i>Disciplinary Concepts</i> - Ideas, concepts, theories and principles that are central to the academic or professional disciplines are employed
2. <i>Elaborated written communication</i> – Understandings and conclusions are explained through clear and coherent exposition, together with richness in details, qualifications and argument.
3. <i>Analysis</i> – Content is organised, synthesised, interpreted, evaluated and hypothesised to produce comparisons, contrasts, arguments, application of information to new contexts, and consideration of different ideas or points of view.

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Source: Adapted from Newmann, Marks & Gamoran (1996) and Newmann (1997).

## METHOD

### *Design*

Engagement in disciplined enquiry was determined through analysing essays written in relation to a module on educational psychology being taken by undergraduate students who were studying to be primary teachers. Although the essay *can* be a decontextualised task, several stages removed from an active demonstration of knowledge being used in an authentic, real-world contexts (Biggs, 1999), the central criterion that any task must meet for it to be classed as authentic is its fidelity to the real world ways in which knowledge is used in the discipline or field of study into which the student is being inducted (Wiggins, 1989;1993) Since the purpose of the essay questions was to have students analyse and evaluate different

perspectives on motivation rather than say, judging how well the student teacher could motivate a class of pupils, the essay offered an authentic vehicle for the fine-grained critical analyses required. Moreover, essays have the potential to precipitate cognitive change (Bereiter and Scardamalia, 1987) and to drive higher-order thinking (Resnick & Resnick, 1993) and thereby may be more authentic than cursory consideration might suggest.

### *Participants*

One hundred second-year undergraduates from a large, Scottish university were registered for a core, educational psychology module in part fulfilment of the BEd degree; a professional award for entry into primary teaching. The participants wrote three essays (each of 750 words) in response to questions on the topic of motivation as a part of their course work. This essay writing task was conducted at the end of the module during class time, in controlled conditions and without the aid of textbooks or other print resources although the students had been advised of the questions from the very beginning of the module. The pedagogic purpose of the task was to provide students with the opportunity to improve their metacognition through some self-assessment and debriefing.

### *Stimulus Material*

Five essay questions, of which participants chose three, were prepared

1. How would humanism explain bullying? What does humanism suggest or imply as ways of dealing with bullying? How effective do you consider that would be in dealing with bullying?
2. List three advantages and three disadvantages of a behavioural approach to class control. Where do you stand in relation to the competing claims?
3. How does Attribution Theory explain how people can be differentially motivated?
4. When people feel competent their self-esteem is likely to be enhanced. Suggest three strategies through which you could promote competence in the classroom. Briefly explain why each strategy would promote competence and point out what you would see as potential difficulties in each of your strategies.
5. The literature suggests that teachers should create an atmosphere of trust with boundaries. Describe briefly what might be meant by this and discuss what you see as both helpful and problematic in trying to create such an atmosphere.

These were a representative and valid sampling of the content universe of the module and were constructed to invite students to clarify and interpret material; examine and reconcile any differences in opinion; and offer careful appraisals stressing both advantages and limitations. Further, the questions were designed to elicit responses at particular levels of the SOLO Taxonomy (Biggs and Collis, 1989). The aim of the first three questions was to elicit relational level thinking where the students would integrate their new knowledge into some sort of whole and reflect this in coherently structured prose, in the belief that novice teachers should have some understanding of the psychological knowledge which can help them to explain/manage particular educational problems. The aim of the other two questions was to elicit extended abstract thinking where the students would use a complex and abstract concept or set of concepts to interpret some phenomena in the belief that undergraduates should be able to function at this level of thought (Biggs and Collis, 1989; Biggs, 1999).

### *Analysis*

Five academics knowledgeable about the topic of motivation (in terms of theory and practice) judged the extent of Disciplined Enquiry using the criterial indicators posited by Newmann and his colleagues. To establish interrater reliability, the indicators had been discussed by the judges in advance to develop satisfactory levels of shared meaning (McDonald & Sansom, 1979). Judges were also trained in applying proficiency levels for each of the indicators on an ordinal scale of Unsatisfactory 0, Satisfactory 1, Comprehensive 2 (see Table 2), in the wake of criterion-referencing being understood as inherently problematic (Wiliam, 1996; 1998). To maintain reliability each question was marked by one judge (thereby reducing item-to-item carryover effects) and a moderator sampled the marking of all five judges, with differences

being resolved by reference to the entire judging panel. Given the small number of choices and the size of the judging panel, it is fair to conclude that judgements were not made on the basis of chance.

## RESULTS

In analysing the results, the aim was to investigate the existence of disciplined enquiry through the indicators of disciplinary concepts, elaborated written communication and analysis across five essay questions. Since the measurement level of the data was ordinal, all of the statistical procedures were non-parametric.

1. Two observations can be made from perusal of Table 3. One is that Questions 1, 2 and 3 were selected more often than Questions 4 and 5, and would appear to have been easier for the students given the distributions of proficiency levels in respect of the variable of Analysis. The other is that on each of the variables, the students demonstrated unsatisfactory, satisfactory and good levels of proficiency. On One-Sample Chi-Square Tests, the differences between these levels of proficiency was significant ( $p < 0.05$ ) for all variables except that of Analysis in question 3.

**Table 2:** Descriptors of proficiency for the criteria of disciplined enquiry

Descriptors	0	1	2
<b>Disciplinary Concepts</b>	Uninformed about topic. There is little reference to the relevant knowledge on motivation. The material used in the response contains many, or fundamental, errors or confusions.	Limited knowledge of topic. There is some basic understanding but there are omissions and inaccuracies, and a lack of awareness that reasons or evidence underpin what we 'know'	The response reflects an understanding of ideas, concepts, theories and principles that are central to the topic of motivation and to the question being addressed.
<b>Elaborated written communication</b>	The response has no clear organisation and reads like a series of disjointed statements.	There is an attempt to set out the response in an organised way but the substantive points of the response will not be communicated clearly. The relevance of some points may be less than clear.	There is richness in details, qualifications and argument, in an organisation which is both locally and globally coherent. The question appears to be fully addressed
<b>Analysis</b>	The account is largely descriptive and comments made are general and/or vague.	Some critical thinking skills (such as identifying flaws in reasoning or limitations of theories) are deployed but these are not articulated to explain understandings and conclusions.	The response reflects higher order thinking with content by organising, synthesising, interpreting, evaluating and hypothesising to produce comparisons, contrasts, arguments, application of information to new contexts, and consideration of different ideas or points of view.

**Table 3:** Frequencies of rating for each variable

Rating	Question 1			Question 2			Question 3			Question 4			Question 5		
	0	1	2	0	1	2	0	1	2	0	1	2	0	1	2
DC	2	65	11	8	43	18	0	50	26	3	15	13	2	17	20
EWC	5	37	36	4	57	8	0	69	7	4	25	2	2	24	13
A	24	44	10	20	35	14	0	42	34	23	8	0	35	4	0
N		78			69			76			31				39

There was a significant difference in essay choice preferences ( $\chi^2 = 46.6$ ,  $df = 4$ ,  $p < 0.01$ )

DC=Disciplinary Concepts; EWC=Elaborated Written Communication; A=Analysis; N=Total number of essays for each question

2. In each of the questions, comparison of the variables suggested disciplinary concepts, elaborated written communication and analysis to be different elements (which is substantiation for the theoretical claim of Newmann and his colleagues). On Friedman Tests these differences were significant at 0.05 levels of significance for all questions. Planned comparisons between pairs of variables, as suggested by Marascuilo & McSweeney (1977), using the Wilcoxon Test highlighted particular differences as can be seen in Tables 4 and 5.

**Table 4:** Questions in which the variables differed significantly ( $p < 0.0167$ )

Questions	Matched Pairs
1, 3, 4 and 5	Analysis and Elaborated Written Communication
1, 3, and 4	Elaborated Written Communication and Disciplinary Concepts
1, 2, 3, 4 and 5	Disciplinary Concepts and Analysis

**Table 5:** Variables of significant difference ( $p < 0.0167$ ) in each question

Variable	Questions
Disciplinary Concepts	1&5
Elaborated Written Communication	1&4; 1&2; 1&3
Analysis	1&4; 1&5; 2&5; 3&4; 3&5; 1&3; 2&3

Three (3) examples of responses (in ascending order of unsatisfactory to satisfactory) to question 4 are produced in full in the appendix. These are representative of the overall quality of the cohort's essays and are included in full since the alternative practice of reporting on illustrative segments of text is inconsistent with the aims of this study.

## DISCUSSION

The findings reveal some useful insights into students' engagement with the elements of disciplined enquiry. The global distinction between questions 1, 2 and 3 on the one hand and questions 4 and 5 on the other suggests that not all of the essay questions were viewed as equally attractive! That the first three questions (at relational level in the SOLO Taxonomy) were answered more often than questions 4 and 5 (which were at the extended abstract level) possibly suggests that students were able to differentiate between questions which are more or less cognitively demanding. Such a conclusion is consistent with the raft of literature (such as

Crooks, 1988; Ramsden, 1997; Gibbs, 1999) which finds that students are strategically sensitive to the intellectual demands of assessment tasks. However, while students can make global (and very possibly accurate) judgements as to the relative amount of cognitive engagement they need to invest in tasks which they construe as requiring 'deep' or 'surface' learning, the findings in this study make clear that they are not equally conversant with each of the elements of disciplined enquiry.

With the exception of question 3, there was significantly more evidence of disciplinary concepts than there was of analysis. In part this is not a surprising finding. In any learning, knowledge of concepts is of fundamental importance. If there is no evidence of knowledge, learning of the most essential kind has not taken place (Mayer, 1987) so it is desirable that students can show that they have grasped new knowledge, although it was a minority of students who showed their grasp of propositional knowledge to be comprehensive. In the essay questions which were posed there was an expectation that traditional, discipline-based theories and concepts in the study of motivation would be either applied or interpreted (Eraut, 1994) to demonstrate understanding of how psychological concepts in the study of motivation can illuminate professional issues and action. Regrettably, however, most of the students neither applied nor interpreted the knowledge but, instead, replicated it (Eraut, 1994). In other words the knowledge used to answer the essay questions was frequently a reproduction of the materials in students' prescribed and recommended reading, and indeed this may account for the very different performance on question 3, which could, on reflection, be interpreted as a 'straight, theoretical piece' and for which the rehearsal of other's ideas and criticisms may well produce a competent response. This phenomenon of knowledge replication is, according to Eraut (1994), a significant feature of higher education (possibly because of its dominance in school) and is consistent with studies reviewed by Entwistle (1997), Kember (1998) Prosser & Trigwell (1999) and others which find that novice students, and even some finishing students, conceive of learning only as the accretion of knowledge. However, learning at the relational or extended abstract levels (Biggs and Collis, 1989) is not just a matter of learners passively adding to their existing bases of knowledge. If learning is to be generative or transformative – such that it can be used to solve new problems and interpret new situations – students must analyse their knowledge to organise, synthesise, interpret, and evaluate various pieces of knowledge. It is to the indicator of analysis that the discussion now turns.

There is no shortage of guidance on the possible and accepted criteria through which psychological explanations can be analysed (Bell et al, 2001, McGhee, 2001). Indeed the students in this study had, through the recommendation to read Porter (2000), been advised that possible criteria included the effectiveness and functional significance (of a theory or synthesis of theories) and the ethical considerations implied (by a theory). While some might regard these criteria to be fairly close to 'common-sense', they nevertheless allowed evaluation of the different accounts of motivation. Given the paucity of psychology in teacher education courses (Francis, 1984; 1995; Gold, 1999), it was deemed pedagogically sound to focus on a few, potentially meaningful criteria in the expectation that students would make use of them in their essays. This expectation would appear to have been fulfilled only to a limited extent.

The criteria of functional significance and ethical considerations were used rarely in the essays. In a minority of scripts, it was pointed out that theory could shed light on a particular issue or problem (for example that Humanism could explain why a differentiated curriculum was important in a class of 30 pupils) or that a particular theory might be ethically suspect (for example that Behaviourism might at times smack of bribery). The criterion most typically used was that of effectiveness, where the practical requirements of applying a particular theoretical orientation to professional practice was invoked. So, for example, Behaviourism might be considered in terms of the logistics of implementing extrinsic reinforcement or Humanism might be considered in terms of the logistics of encouraging autonomy for all pupils in a class. But these evaluations rarely extended to considering what further professional development could usefully enable a teacher to apply a theoretical orientation more effectively nor to any consideration of the educational value of any particular position. Further, in using this criterion, the students did not draw on empirical

evidence for the superiority/lack of effectiveness of a theory in promoting pupil learning. Rather, the students relied on pseudo evidence (Kuhn, 1991) where students narrated incidents of good/less good practice and attributed these to the theory's efficacy (or lack thereof) and thereby appeared not to appreciate that their reasons had to be co variations between antecedents and outcomes which were distinct from the context in which the claim was being made (Kuhn, 1991). The contention that the concept of genuine evidence in everyday thinking is limited (Kuhn et al 1988; Kuhn, 1991) seems to be corroborated by the findings in this study.

The lack of analysis evidenced in this study is consistent with the belief that learning is a passive experience of absorbing knowledge or copying facts into memory (Lochhead, 1985) while being unaware of the active role learners take in organizing and interpreting their own perceptions. Furthermore it is consistent with Kuhn's (1991) findings that in the main, people hold either an absolutist view (all knowledge is factual and certain) or a multiplist view (knowledge is comprised of ideas and emotions which are not amenable to proof) rather than an evaluative view (knowledge can be examined with respect to the adequacy or merit of its component parts). However, if knowledge is objective and certain, as absolutists believe, or entirely subjective, as multiplists believe, there is no need to examine competing or alternative accounts of a phenomenon (Kuhn, 1991). It is only if knowledge is viewed as the lively product of continuing examination and evaluation of different perspectives, that the role of analysis is meaningful. The lack of analysis found in this study is consistent with the students' preference for knowledge replication discussed earlier and with both long-standing and recent empirical findings (Hounsell, 1987; Smith et al, 1999).

The manifestation of students' thinking was in their elaborated written communication, which was only comprehensively evidenced (through being graded 2) in about a third of the essays. Writing tasks are problematic for many students in higher education and although the reasons for this are undoubtedly complex (Lea & Stierer, 2000), it may be that some students in higher education never actually appreciate the need for any real cognitive engagement in the process of writing. Bereiter & Scardamalia (1987) maintain that students learn to cope with the relative lack of structure in tasks requiring expository writing by resorting to a knowledge-telling strategy. Since this strategy is viewed by many as a way of satisfactorily, if not successfully, demonstrating achievement and negotiating assessment (Boud, 1995; Entwistle, 1997; Gronlund, 1977; Kember, 1998), there may be no real expectation that students will demonstrate elaborated written communication in the sense that Newmann and colleagues talk about. According to Bereiter & Scardamalia (1987) the knowledge-telling strategy is enormously resistant to change because it guides students in two ways: in the absence of external supports, it guides them in their determination of how to respond to the general form of the writing task (to explain, compare, discuss and so on); and it guides them to write what they know within the domain demarcated by the key words of the essay question. Having satisfied these two criteria of how to manage the text/discourse and how to manage the content/information as far as he/she is able, the student can then judge the essay to be 'complete'. In using a knowledge-telling strategy, the student will make use of the rhetorical devices that are appropriate for an essay such as writing in sentences and ensuring that each sentence follows sensibly from the previous one. To the extent that local coherence (Colley, 1987) was achieved in almost all of the essays in this study (and such essays reflected fairly sensible knowledge replication, as discussed above), it seems fair to say that a knowledge-telling strategy was being used. However, global or topical coherence was much less evident in the results. This too would be consistent with a knowledge-telling strategy. Global coherence is concerned with ensuring that the text as a whole is coherent, that statements are both consistent and are presented with justification, and that implications are made explicit (Bereiter & Scardamalia, 1987). It is this overall coherence which is needed if the text is to offer an argued position or some reasoning about causality or outcome (Colley, 1987), and since an argued position (in which there was analysis, and possible criticism, of extant knowledge) was largely absent from the students' essays, we are again reminded that most students probably view the task of essay writing as one of knowledge-telling.

The dominance of the view that essay writing is a matter of knowledge-telling underscores the point implicit throughout this article that essays only have the potential to precipitate cognitive change (Bereiter and Scardamalia, 1987) and drive higher-order thinking (Resnick & Resnick, 1993) if they are authentic (in the sense proposed by Newmann & Archbald, 1992) tasks. Writing, however, need not necessarily be guided only by the strategy of knowledge-telling. It is possible for essays to be constructed through a process of knowledge-transformation (Bereiter & Scardamalia, 1987). Such a process, however, requires that knowledge be conceptualised as an invention of the human mind rather than a 'natural' by-product of human development. To the extent that the elements of disciplined enquiry were absent from students' essays, authentic academic achievement was not evidenced. Disappointing as such a conclusion is, it is not surprising given the dominance of educational practices (such as assessing only what has been taught on a course and giving pass marks to students who don't actually address the assessment task but who show that they have learned something on the course) which inadvertently encourage the persistence of knowledge-telling (Bereiter & Scardamalia, 1987).

## CONCLUSION

The purpose of the small and limited study reported here was to consider the extent of disciplined enquiry exhibited by undergraduate students' essays. The overall finding, that students do not routinely engage in disciplined enquiry, was explained in terms of the status of knowledge. Because knowledge is seen to be non-contestable by the students, they see no need to analyse, critique or evaluate the content to which they are being exposed. It follows, therefore, that there is no need to argue for or against particular positions. As there is no need for argument, so there is no requirement to represent one's thinking coherently. One possible explanation for this is that since writing is such a difficult, and often loosely specified task, students respond to the task by using a coping strategy: that of knowledge telling. Furthermore, this strategy is may be maintained by particular types of educational practice which, although desirable in themselves, militate against the idea of using the writing task as an opportunity to learn. Writing, however, need not necessarily be guided only by the strategy of knowledge-telling but could, additionally, be effected through a process of knowledge-transformation (Bereiter & Scardamalia, 1987) in which students appreciate that knowledge construction involves an interaction between what is already known (substance or content) and the processes (methods or procedures). This in turn implies that students appreciate that learning/knowledge generation is at least an intentional, if not an effortful, process (Bereiter & Scardamalia, 1989; 1993). If we seriously want our students to be engaged in authentic academic achievement, we must, as a first step, be willing to scrutinise (and, where appropriate, reject) those educational practices which inhibit the development of disciplined enquiry.

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## APPENDIX

### *Essay 1*

To ensure competence within a classroom it is important the teacher is organised. If the teacher is organised and relax in what they are doing then the children will notice this and can learn from them. Children like to have a routine to follow, so they understand when to work or when it is time to play. The teacher should clarify to the children how to enter a classroom, where to hang their coats, put their bags, where each child should be sitting etc. Encouraging the children to follow a routine also imposes an element of discipline i.e. if a children should hand their coat up outside the classroom before entering and they don't then they are forgetting an element of their routine and class rules. The example can also relate to the theory of positive and negative reinforcement. Then positive reinforcement encourages the child to be independent and responsible for their actions, however it is negative when they don't follow the class routines or rules.

All routines can help children to be independent to an extent because it encourages them to be responsible for their own behaviour this heightens their personal self worth (self-esteem) and competence.

A second strategy to promote competence within a classroom links with the efficiency of classroom routines it is reward systems. When a child follows a routine efficiently then praise can act as an enormous self-esteem benefit.

When a child is insecure it could be from a variety of factors such as personal health problems, or emotional problems at home. At school the: "teacher is not a counsellor" McGrath (2000) however it is important we try to provide a safe, secure and supportive environment to maximise their learning opportunities. The humanism theory by Maslow provides 5 elements which contribute to a person to enable effective learning, however anyone of the elements can fail which would have an effective upon those remaining i.e. if a child had low self-esteem then it could be because they feel uncomfortable in the classroom because of where they are sitting or who they are sitting next to. Nevertheless by have a low self-esteem they will not strive for independence and confidence required to achieve self-actualisation.

According to McGrath another technique a teacher can use to promote self esteem besides reward systems is to talk to the parents. When a teacher talks to the parents and praises the child then the child will receive praise not only from their teacher, but they will also be receiving appreciation from their parents.

Unfortunately not all children receive support from their parents therefore by giving praise to a child inside a class can help bring a child out of themselves.

The popular reward systems are group points or individual points for work. These are simple methods, but they can encourage children to become competitive and therefore increase competence.

Creating a class notice board for reward systems can allow children to see how well they are doing for themselves.

Finally another method of promoting self-esteem would be to encourage different methods of learning such as movement (physical) or musical. Routines and rewards can provide structure and motivation but children need variety in their class lessons to help expand their personal abilities. Within schools teachers tend to focus upon the logical and linguistic intelligences of the multiple intelligence theories, however many children do not excel in either of these areas. Therefore by introducing lots of physical education or music; i.e. making poems to rap, mediation techniques children can discover their abilities in other areas and they can build in their own personal achievement and self-esteem.

It is not always possible for teachers to encourage different techniques of learning because of cost, time and teaching demands, but even small changes can create an insight into a child's method of learning.

*Essay 2*

There are many strategies that a teacher could apply, which would promote competence in the classroom.

One of the Strategies which I would use is Maslow's theory of Humanism. I would provide the children with the 5 essential 'needs' in which Maslow states every child, or adults should have. The first need is physiological, where I could give the class a warm, comforting class to enter each day. I would give them clothes or food if they were not provided with these at home. However, the difficulty of this is some parents may take offence to this, if they could not afford to give the children what I could. If the children are provided with this need, they will feel physically comfortable and competent in the class. The second need that I would provide is safety. I would make sure the children as psychologically aware that they are in a class where they will be safe and secure. I would give them daily routines which show the children that I am providing them with security. When the children felt safe, their competence will rise and so will their motivation. Unfortunately some children do not get this 'need' at home, therefore, their competence and self-esteem rises and lowers.

The third need I would provide, is love and belongingness, where I would make the children aware that they are a part of the class, and by involving them with decisions. I would make it clear that we all are equal within the class. This will let the children no that they are worth something, therefore their competence will rise. Sometimes children do not receive any of this need elsewhere, therefore look-out for it in the class. Unfortunately I cannot provide this need all day, everyday. The fourth need I would provide the Children in Self-Esteem need, where I would give them tasks which are not too easy and not too hard, but just at their level. This will boost their confidence and competence. I would also provide a lot a praise to increase the children's self-esteem. The last one of Maslow's suggested needs which I would provide would be, Self-actualisation. This is where I would encourage the children to do their best in every task, and encourage them to meet their own learning goals. This would build on the children's competence; however there are some children who do not have to confidence in themselves to meet this need. I would have to guide some children to gain this need. The Second Strategy I would use to promote competence in my class would be to use Skinner's theory of behaviourism. This is where I would never use forms of punishment with the children. As an alternative I would use positive and negative reinforcement. Punishment desists behaviour, whereas positive and negative reinforcement encourages behaviour. I would apply positive reinforcement by praising the children, for their good work and behaviour, use gestures which lets them know I am pleased with them. I would give the children rewards. McGrath (2000), states, "Rewards are generally devised to improve motivation". I think this is true, and will promote competence. By applying this theory, the children will repair this behaviour again. I would also use negative behaviour. This is where I would take something away from the children so they will repeat a behaviour again. For example, I would say to the children "if you finish your language work I will not give you any homework tonight". Children do not normally like homework, so they will work harder to get their work finished.

I am aware I have to be carefully when I am giving out rewards, because I may think a particular 'reward' will be 'rewarding' to a pupil, therefore promote competence. However, for some children they need more, because the reward I give them may mean nothing to them. This in return will not make the children repeat the behaviour I want them to.

The third strategy I would use to promote competence within my class would be to apply various types of power to the class. I would never use coercive power; however I would apply my expert power. This is where I can use my power to deliver the curriculum to the children, where they enjoy it and feel they are learning successfully from it. This will certainly enhance their competence. I will also use reward power to award children for their successful learning. I have to watch that I use my expert power efficiently by delivering the curriculum in many different ways to suit the children's different learning needs and styles.

*Essay 3*

My first strategy to promote competence in the classroom would be to begin with what the children already know. This would not be a case of repeating something they had already done but a development. This would promote competence as the children may already have competence in a certain subject, so by introducing something else through this, they would not be scared about it but confident due to the previous knowledge. Obviously a difficulty could be repeating work which has been previously looked at or boring the children by looking at the same type of work but the advantages of a greater competence would be seen in larger quantities. The children's confidence will be boosted by something which they have ideas about so they will not feel worried about submitting ideas. Their enthusiasm would flourish because of the knowledge they have to submit and build upon and no-one would feel left out as the class would all have some knowledge of the topic. This would in turn boost their overall competence and ability to complete the new task. It would be a problem if some children had no previous knowledge but it would give the children a chance to collaborate in mixed ability groups to teach each other what they know.

My second strategy would be to build a good relationship within the class. Without this the children may be disruptive and have a lack of confidence and self esteem. This would transfer to a child's work because they may not pay attention to a teacher which they do not get along with so their competence in their work would drop as a result. Potential difficulties in this strategy would mainly evolve if the teacher and class, generally never got on, although unlikely. It could also be difficult when teachers and their class's have good relationships because the children might lose the idea of the teacher as an authoritative figure and feel that they do not have to complete the tasks given. This would be up to the teacher to enforce the correct barriers; there will be a little happiness in the class so little competence in work.

My third strategy would be to install a points or rewards system which all children in the class would adhere to. It would take the direction of points for good work, effort and behaviour and a reduction if none of these are achieved. This would allow children to see how well they are doing which would boost their confidence and self esteem. The children would be rewarded with an activity which they enjoy doing or 'golden time' which depends on how well they have done over a week to how much time they get for doing their own thing. There are a few difficulties within this strategy, the first one being pupil rivalry. Although this could encourage the children to do as well as they can it could also lead to children fighting about who is better or that someone is a teachers pet and so on. It could also lead to some children feeling inadequate if they have a lower score than their other classmates. This would be up to the teacher's discrepancy to make everyone feel like they have done well. It would be quite unlikely that a child would not receive any 'golden time'. Thirdly, the competition may take control and the work could be rushed just so they could get points. Clear rules would have to show that just as many points could be given for effort as quantity.

In general the points system gives the children something to aim for which may make them feel that the work they are doing is worthwhile and would raise their competence.

In conclusion, all three strategies aim to raise competence in different ways, but all would benefit the children if the rise in competence can be met.