

# **The Problematic Relationship between Knowing How and Knowing That in Secondary Art Education.**

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## **Abstract**

This article explores and attempts to rectify the current conceptual confusion found in secondary art education in the UK, including the national examination known as the General Certificate of Secondary Education taken by students at the age of 16, between procedural knowledge or "knowing how" and declarative knowledge or "knowing that". The paper argues that current classroom practice confuses procedural knowledge with declarative knowledge. A corollary is that assessment evidence for "knowing how" which is shown or demonstrated is confused with assessment evidence for "knowing that" which requires spoken or written forms of reporting. The article traces this confusion to three dualisms: the Cartesian dualisms of mind and body, an individual mind and the distributed mind of culture, and the more recent mind-in-brain hemisphere dualism. The article advocates a Wittgensteinian solution to the current conceptual confusion in art education in the UK, so that mind is understood as embodied and relational.

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*The idea of thinking as an occurrence in the head, in a completely enclosed space, makes thinking something occult. (Wittgenstein, 1970, # 606)*

*'Thinking', a widely ramified concept. A concept that comprises many manifestations of life. The phenomena of thinking are widely scattered.....It is not to be expected of this word that it should have a unified employment; we should rather expect the opposite. (Wittgenstein, 1970, #110-112)*

This article analyses the current malaise in the respective treatment and teaching of declarative knowledge in relationship to procedural knowledge in art education in England. The current confusion between “knowing how” and “knowing that” which this article will attempt to rectify is symptomatic of much deeper and widespread misconceptions that result from inadequate representations in art education of what constitutes a thinking human being. Although the main focus is on secondary art education, the discussion has relevance for achieving conceptual clarity about fittingness between forms of knowledge and forms of assessment in other phases of art education, especially courses in initial teacher training. The article takes on an extra significance given that there is a growing government expectation in England that all teachers including secondary art teachers contribute to, amongst others, the literacy and thinking skills strands of the National Key Stage 3 Strategy for eleven to fourteen year olds.

To give the reader an immediate insight into the current confusion that prevails in England between procedural and declarative knowledge, it will be instructive to analyse inconsistencies in the national *General Certificate of Secondary Examination* for art that is taken by students at the age of sixteen. The new GCSE specifications expect candidates to provide evidence of knowledge of art in its social and historical context, while at the same time not requiring them to submit written forms of reporting to communicate such evidence. As the meanings of art in its social and historical contexts can only be conveyed to others through the “knowing that” forms of reporting of declarative knowledge, the comment in the specifications that students are not required to provide such evidence makes no sense, especially given that no GCSE specification mentions the alternative arrangement whereby candidates could record spoken evidence on video or tape recorder to meet this requirement.

Providing an example of the difference between “knowing that” and “knowing how” in art education might be useful at this point. Suppose a GCSE candidate in England shows good evidence of “knowing how” in the way they make self-portraits in a style derived from Rembrandt, such evidence would not be able to stand as evidence for “knowing that” about Rembrandt’s artistic practice in a seventeenth-century Dutch, Protestant cultural context, as someone could be ignorant of such a specific cultural practice but still produce a competent self-portrait using chiaroscuro and impasto paint, as Rembrandt did. The new GCSE specifications confuse this issue, as evidence for “knowing how” is described or shown, in contrast to evidence for “knowing that” which requires written or spoken explanations or interpretations.

The muddle in the current GCSE specifications between “knowing that” and “knowing how” can be made transparent by analysing whether each of the four assessment objectives requires evidence of procedural or declarative knowledge, or a mixture of the two. The analysis is carried out against the Assessment and Qualification Alliance’s GCSE specification for 2004; however, all other GCSE boards replicate the same inconsistencies as those highlighted in the Assessment and Qualification Alliance’s specification.

The introduction to the assessment objectives in AQA’s specification (paragraph 6.1 and 6.2 below) establishes that evidence is to be understood as that which can be demonstrated or

measured. In the terminology of this paper, this involves understanding whether the evidence base is found in procedural or declarative knowledge (recorded in italics within square brackets below).

## Assessment Objectives

### 6.1 Introduction

The Assessment Objectives represent those qualities which can be demonstrated in candidates' work and which can be measured for the purposes of assessment

6.2 Candidates will be expected to demonstrate a response to all of the assessment objectives in each component of the examination. They are equally weighted.

Candidates will be required to demonstrate their ability to:

AO1 record observations, experiences and ideas in forms that are appropriate to intentions [*evidence base - mainly procedural knowledge but could also be met through declarative knowledge*];

AO2 analyse and evaluate images, objects and artefacts showing understanding of context [*evidence base - both procedural and declarative knowledge, with the latter being used to evaluate images and show understanding of context*];

AO3 develop and explore ideas using media, processes and resources, reviewing, modifying and refining work as it progresses [*evidence base - mainly procedural knowledge with declarative knowledge being used as part of the process of giving verbal feedback to own work*];

AO4 present a personal response, realising intentions and making informed connections with the work of others [*evidence base - combination of procedural and declarative knowledge with the latter being used to make informed connections with the work of others*].

Assessment objective one is generally understood in art and design education as requiring evidence based in procedural knowledge. However, this need not be the case as to “*record observations, experiences and ideas in forms that are appropriate to intentions*” could be met through the use of the verbal reporting of declarative knowledge. Assessment objective two could be fulfilled with a mixture of procedural and declarative knowledge, or be exclusively met by the latter as the knowing is of the “know that” variety. A candidate could carry out a visual or verbal analysis of a work of art, but an evaluation of the same work of art cannot be achieved with an exclusively “know how” approach, as the evaluative process requires judgments that are reported through first or third person forms of verbal reasoning. Furthermore, the first half of the assessment objective must be understood in relationship to the wider requirement that the analysis and evaluation be linked to an understanding of the context of the art in question, which in turn requires third person explanations. Therefore it becomes clear that the form of knowledge required to meet this assessment objective is of the “knowing that” kind as understanding art’s contextual meanings requires evidence based in explanations conveyed through declarative knowledge. Assessment objective three deals with evidence that is shown through procedural knowledge, with further, explicit evidence of the reviewing process being given by the use of first person forms of declarative knowledge. Assessment objective four requires evidence of candidates “*making informed connections with the work of others*”, something that could combine procedural and declarative knowledge. However, the word *informed* qualifies the nature of the evidence base, making it more like the understanding of explicit interpretative reasoning (Best, 1992), as opposed to the implicit presence of copies of images and the inclusion of postcards of works of art and the like that are currently stuck into sketchbooks as a way of attempting to meet this assessment objective.

The analysis makes it transparent that the specification's subsequent statement that "*There is no requirement in the Scheme of Assessment for Art and Design for candidates to produce written work as part of the Coursework or the Controlled Test*" is at odds with the earlier remark that "*The Assessment Objectives represent those qualities which can be demonstrated in candidates' work and which can be measured for the purposes of assessment*", unless, that is, AQA expects candidates to record spoken evidence to meet the relevant assessment objectives. This interpretation is highly unlikely given that the documentation does not discuss this possibility. Therefore the text should be interpreted as not requiring any form of declarative knowledge. On purely logical grounds this does not make sense, as assessment objectives AO2, AO3, and AO4 require written or spoken explanations and interpretations as the knowing required to meet these assessment objectives is of the declarative kind.

Why has this error of categories in the current GCSE art specifications gone undetected, and what does the presence of such conceptual confusion in a flagship public examination indicate about the current state of thinking in art education in England? To answer these questions requires a historical survey of the prevailing ideas that have impinged on art education over the last hundred years, many of which can be traced further back to the enlightenment conception of knowledge and the person.

## **Background**

The last thirty years have witnessed a number of publications (Field, 1970; Eisner, 1972; Leondar & Perkins, 1977; Best, 1985, 1992; Taylor, 1986, 1992; Clark, et al, 1987; Abbs, 1989; Smith, 1989; Efland, et al, 1996) which, despite differences in detail, are in general agreement that the previous modernist curriculum that focused exclusively on "knowing how" to make art did a disservice to the wider purpose of enabling students to become competent in the full range of thinking skills that the subject requires, to include "knowing that" about different practices of art, so that art education more accurately reflects the way art is always situated in wider social and cultural reality and cognition, something that modernist practices of art and art education denied in favour of a universal or essentialist understanding of art that transcended the particularity of specific social and cultural practices.

Abbs (1996), after Kuhn (1970), describes the change advocated by this literature as a shift in paradigm. Abbs' choice of the word paradigm is significant because it was first used by Kuhn to describe "*revolutionary*" changes in scientific knowledge that required fundamental reconceptions of scientific practice rather than minor adjustments to existing "normal" scientific enquiry. The same purpose motivated the advocates of the new paradigm for art who desired a fundamental change to the practice of art education rather than the few superficial adjustments that have actually taken place. These minor accommodations maintain the confusions and shortcomings embedded in older, "normal" practice, while at the same time giving the impression of being "*revolutionary*", a state of affairs that threatens the integrity and future direction of art education in England and the rest of the UK.

Despite attempts by different governments to inscribe particular versions of the new paradigm for art in the National Curriculum, and belatedly in the assessment objectives of public examinations, those responsible for the actual implementation and inspection of the teaching, monitoring, and assessment of learning in art have not understood the issues in that way, with the result that the new paradigm continues to have little impact on classroom practice, so that those responsible to government for the design and improvement of the curriculum and external examinations like the Qualifications and Curriculum Authority, or inspection bodies like Ofsted who monitor and appraise the quality and range of curriculum in schools, because they have no deeper insight into forms of knowledge, cognitive processes and art education, end

up replicating the current confusion of school practice. Rather than supplementing the modernist emphasis on procedural knowledge with declarative knowledge, as the new paradigm for art fundamentally requires, art educators in the UK illogically subsume the latter under the former, and in so doing misunderstand the weight of argument that art education should engage with different but complementary forms of knowledge for making and understanding art.

To fully understand why this confusion currently reigns in art education in the UK, especially given that since 1992 the National Curriculum has required the teaching and assessment of both procedural and declarative knowledge, it is necessary to trace its roots to the art education version of what Ryle (1949) describes as “*the official doctrine*”, that legacy of the dualistic representation of someone as mind and body that the quote from Wittgenstein given at the very beginning of this article attacks as “*occult*”, in which a person “*lives through two collateral histories, one consisting of what happens in and to his body, the other consisting of what happens to his mind.*” (Ryle, 1949, p. 11) With the “*official doctrine*” the disembodied mind is the locus of true knowledge, while the body deals with inferior practical skills. So ingrained is this dualistic representation of abstract, conceptual, discursive and linguistic forms of understanding as developed in the mind, and practical, concrete knowledge found in the body, that a whole mythology of education in the UK is based around it, signified in the division between “academic” and “practical” subjects, and the still all too common annual practice of tutors advising “academically” able pupils to do a “non-academic” GCSE art course as a way of relaxing from the rigour of academic work.

Hargreaves (1983) provided an interesting insight into how the Cartesian dualism between mind and body worked out in the practice of secondary art education. Because he could find no evidence of declarative knowledge being used or taught in the art lessons of the day, Hargreaves was left to argue that the involvement of adults with gallery and museum art exhibitions must be due to an irrational experience that he called “*conversive trauma*”. Hargreaves’ research revealed art educators’ compliance with the “*official doctrine*” that art education equates with procedural knowledge.

Hargreaves’ carried out his research approximately ten years after the emergence of the new paradigm. It reveals a community of practice of art teachers unaware of new ideas in curriculum design. Although there is now more time devoted to “knowing that” in secondary art education, mainly because of the pressure and prescriptive influence of the National Curriculum and external examinations, the increase in time is not necessarily matched by improved pedagogical knowledge and methodology, which suggests that the fundamental position, treatment and understanding of declarative knowledge in the art curriculum has not significantly changed in practice over the last twenty years.

Rod Taylor’s (1986, pp. 71- 82) case studies revealed that it was not unusual for secondary students to gain their declarative knowledge of art through influences from home, often in opposition to the prevailing ethos of the art lessons they attended at school. Brandon Taylor (1989) links the poor understanding and treatment of declarative knowledge to art teachers’ weak subject and pedagogical knowledge. Bowden (1989) highlights the reservations art teachers in the UK have about systematically engaging with declarative knowledge, and draws attention to the importance of creating a better framework that would lead to more effective classroom teaching. Mortimer (1989) describes some strategies rather than providing the systematic treatment Bowden thinks is required if classroom practice is to be improved. Mortimer’s list has more to do with activities for improving “knowing how” than developing “knowing that”, and in this respect replicates the more general method of using works solely as a starting point for, to give this practice its best gloss, the post-modern idea of appropriation and pastiche, which Hughes (1989) thinks easily slips into plagiarism.

A survey carried out by the Qualifications and Curriculum Authority (1998) identified that critical and contextual studies were almost exclusively used to support procedural knowledge for key stage 3 teaching. Addison (2000, p. 232) gives a summary description of the current orthodoxy of this practice, which relies heavily on copying the surface reproductions of works of art and other tactics that deal with a debased form of “knowing how” than anything related to “knowing that”, and which always “*decontextualise the artist’s work so that its original meanings and modes of production are ignored*”. Buchanan (1995, pp. 29-39) draws attention to the fact that only declarative knowledge can reveal understanding of the contextual meanings of art. Addison and Burgess (2000, pp. 14-36) write in almost despairing terms about art teachers’ unwillingness to engage with declarative knowledge and the wider contextual meaning of works of art. Harland et al’s (2000, p. 566) empirical research findings are consistent with this paper’s criticism of secondary art practice, as they identify the main gap in the general provision of secondary arts education, including visual art education, as:

*The development of critical discrimination and aesthetic judgement-making, especially the capacity to locate these in their social, artistic and cultural contexts; the furthering of thinking skills, or more accurately, a meta-awareness of the intellectual dimensions to artistic processes.*

Harland et al’s description of this general weakness in arts education, including visual art education, is consistent with the argument put forward in this article, but the way the analysis is expressed is unfortunate in that it perpetuates the dichotomy of the “*official doctrine*” between the “*intellectual*” aspects of knowing as in the mind, or in the more contemporary version of knowing as in the left hand side of the mind-in-brain, with the non-cognitive making of art controlled by the right hand side of the brain.

The art education version of this mind-in-brain dualism sees curriculum development in declarative knowledge as an unwanted attempt to give the subject academic status. In formulating reasons for resisting such curriculum development, art educators have drawn on popular misrepresentations of research into brain hemisphere functions to argue that because procedural knowledge for art seems more like the intuitive and holistic processes that the right side of the brain deals with, art’s purpose therefore is to balance the rational, analytical and discursive thought of the left hand side of the brain used in other curriculum subjects. Piirto (1998, p. 55) describes this form of understanding of brain functioning as a “*popular cultural myth*”. Such a myth perpetuates a modified version of the “*official doctrine*” as a mind-in-brain dualism in which thinking is reduced to neurological activity belonging to separate brain hemispheres.

What gets neglected in such an analysis is any idea of the brain functioning as a unified organ that, in turn, is part of a person’s thinking body linked to, in Wittgenstein’s words, the “*many manifestations of life*” that reveal the “*phenomena of thinking to be widely scattered*”. It is the social and biological body of individuals that thinks in art, not just one hemisphere of the brain.

Even if the dualistic right and left hemisphere mind-in-brain argument were valid, it would still fail to address the important point that knowing in art needs both declarative and procedural knowledge, as one form of knowledge can never substitute for the other. If “knowing that” in art education is as important and desirable as the new paradigm would indicate, this is because it is a necessary condition for developing certain forms of knowledge within the subject that cannot be realised through the singular concentration on the acquisition of “knowing how”.

The last hundred years have witnessed various models of art education impaled on such dualistic thought, with the consequence that the locus of creativity, knowledge and intelligence for making and understanding art has consistently been misunderstood and misrepresented. An early manifestation of such a misconception was the identification and promotion of child art

which, despite its many positive features, also represented a huge set back for art education as it implied that art was no longer understood as a discipline that involved complex social, cultural and artistic processes and cognition, but something that resulted from a natural, inward and solitary activity. The value that the child art movement put on the immediacy of the expressive act was only made possible once the more general cultural pressure to regress to unconscious or “primitive” sources was already established in the adult art practices of modernism (Gombrich, 2002). Such a desire to regress was part of a deeper historical pattern going back to the Romantic disenchantment with the rationalism of the enlightenment and its quest to privilege the conceptual, discursive, and linguistic knowledge of the mind over the so-called practical knowledge of the body.

The privileging of a type of animal knowing of the body that by-passed the disembodied mind, was in one way or another to dominate progressive art education for over half a century, and only began to wane as expressionism in the visual arts declined as a cultural force. The all too serious father figure of Abstract Expressionism was the last version of this tradition, which was eventually overthrown by the more playful and subversive tendencies of neo-Dada and Pop Art movements. Both used irony to murder off Abstract Expressionism by sweeping away the idea that art has an essence, which in the case of Abstract Expressionism was located in the authenticity of the regressive, bodily act. However, because irony is difficult to translate into pedagogy and to sustain in a formal way in a secondary art curriculum (Cunliffe, 2003), expressionism was replaced not by Neo-Dada and Pop Art but by the alternative form of essentialism known as basic design education that was a diluted and debased school version of Bauhaus practices.

The rationale behind the introduction of basic design exercises was to provide an essence or basic grammar of visual language for the first three years of secondary school, which could then go on to inform further learning in procedural knowledge for the post-14 age group. The approach did not work because the gap between the cognitively undemanding task, for example, of a typical basic design exercise like making a colour wheel, and the more complex requirement to articulate meaning through using colour in a sophisticated, artistic way was too great. So rather than acquiring a universal grammar of visual art, secondary students got small fragments of a visual grammar that could not build adult practices of art.

The essentialist approach that was common to both basic design education and self-expression in which art’s essence is found in a universal “knowing how” to the exclusion of any “knowing that” about practices of art in different social and cultural contexts, was also replicated in the dominance of formalist art theory. Clive Bell emphasised the intrinsic essence or “significant form” of art, so that aesthetics was equated with the perceptual exploration and description of form independent of other references to meaning related to the cultural context in which the art was made, as these were seen as extraneous to the appreciation of art. Formalism also insisted on the visual mode being bracketed off from other sensory modes, thus detaching an individual’s sensory exploration of the art object from wider cross-modal references to meaning associated with the metaphorical intelligence of synaesthesia and its wider connection to the scattered nature of thinking. Given that the new paradigm for art emerged in the early 1970s against the dominance of these practices, it is not too surprising it made relatively little or no progress in establishing firm ground for the role of declarative knowledge for reporting the contextual and other meanings of art.

The shortcomings in respect of dealing with declarative knowledge highlighted in this paper reflect three dualistic misconceptions of mind as embedded in older essentialist art practices: the dualism that locates declarative knowledge in a disembodied mind and procedural knowledge in the body; the dualism between right and left hemispherical functions of the mind-in-brain, with the right side dealing with artistic or intuitive thought to balance the left side that

processes discursive, rational thought; and the dualism between an individual mind and the distributed mind of social and cultural reality, as though art was an inward process carried out independently from its connections with surrounding cultural practices. Thinking that art education does not require declarative knowledge, or that procedural knowledge can stand for evidence of declarative knowledge stems from one or more of these dualisms. To transcend such dualistic thinking in art education requires reconceptualising the thinking human being.

Many philosophers of the twentieth century have attempted to resolve the Cartesian and other dualisms that continue to blight thinking in art education, including the specific version currently embedded in GCSE specifications. Lakoff & Johnson (1999) describe such philosophy as locating thinking “*in the flesh*”, in which mind is understood as distributed throughout an individual’s body that, in turn, is connected to past and present communities and the wider environment. There is no disembodied mind as our capacity to think is given in our embodied state and its wider, relational capacities (Welton, 1998; 1999), and, despite the degrees of abstraction required for some disciplines of thought, all thinking emerges from this concrete, embodied, social condition (Smith, 1988). Toulmin (1999), drawing on Wittgenstein’s and Vygotsky’s work, describes this perspective as “knowledge as shared procedures”, and in doing so correctly interprets Wittgenstein’s value for thinking as a practical and humanitarian enterprise. It is this kind of thinking that Harland et al (2000) identify as being the current weakness in art education.

Wittgenstein’s comment: “‘Thinking,’ a widely ramified concept. A concept that comprises many manifestations of life. The phenomena of thinking are widely scattered”, quoted at the beginning of this article, provides a more accurate insight into the distributed, differentiated and practice-based nature of cognition that, if adopted, would resolve the current confusion in the relative treatment of procedural and declarative knowledge in art education. Rather than being engaged in a false contest in art education, declarative and procedural knowledge would be better understood as playing on the same team, with the former used to give third person explanations for the contextual meaning of works of art, as well as making it possible for students to articulate first person verbal feedback and interpretations to their own and others’ procedural knowledge. As art is always a part of a historically specific community, an art education will require, at the very least, an understanding of the way art practices have been embedded in such sociocultural matrices. Anything less than this approach will have the tendency to lead art education back to the dualistic thought and essentialism that has been responsible for misrepresenting the thinking human being and the type of art they make and understand.

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