

## **CHAPTER 11: RISK-TAKING AS A GENDER ISSUE**

### **11.0 INTRODUCTION**

I intend to show that many subject areas of the National Curriculum appear to encourage pupils to develop the ability to take 'risks' during their education. For example, in Attainment Target 2 of the National Curriculum in Mathematics, children are required to be able to estimate and approximate numbers and to do the same with measures. It is obvious that any estimate entails a willingness to be wrong, albeit slightly, and to accept the 'risk' that the error is not significant. It is my contention that it is vital for pupils to learn how to take risks in tackling problems. For example, the pupil who wildly guesses an answer attempting to elicit a response from a teacher and then when told the answer is unsuitable, wildly guesses another is taking risks but is not behaving in a manner likely to result in learning. In Attainment Target 1 of both the Science and the Mathematics documents, the ability to make and test conjectures is encouraged. Any conjecture has, by its very nature, the possibility of being erroneous and therefore it can be said that these Attainment Targets are designed to encourage risk taking. It is also clear that if a conjecture is found to be erroneous then the potential of understanding the reason(s) it was erroneous may lead to further conjectures. This accords with many of the theories of the growth of scientific knowledge (see Kuhn, Lakatos, Popper). However, if there is reticence about taking risk and the girls avoid making a conjecture to be tested, then they cannot learn how to disprove or improve that conjecture. If the boys are always the conjecturers, the girls may be relegated to the position of checking the boys' ideas and never developing their own.

Consulting Chambers Dictionary and Roget's Thesaurus provides an interesting insight into some of the words used in the previous paragraph. Conjectures are linked to guesses, estimates and intuitions. Roget places "feminine logic" under "Intuition: absence of reason". I was immediately struck with the notion that people will often use the term, 'a woman's intuition' as a means of belittling a woman's opinion. The first definition of 'risk' in the Chambers Dictionary is hazard. Most people associate risks to young people to imply danger and gender considerations usually mean that girls are encouraged to take less risks than boys. Some aspects

of life make this very sound advice i.e. girls are more at risk from sexual assault than boys and children are encouraged to avoid placing themselves in a dangerous environment.

During the search of the literature, I found the two easily identifiable factors which have an impact on the individual's willingness to engage in risk-taking:

- 1) self-confidence and
- 2) the role which s/he fulfil in the classroom (and outside it).

### 11.1 CONFIDENCE AS A GENDER ISSUE

The early work with adults estimating showed the importance of confidence on their willingness to estimate and work described in the previous chapter indicated the possible links of confidence in estimating with gender. A literature search uncovered further substantiation of the connection between confidence and gender. Walkerdine [1989] found that girls self-concept of their mental ability to be significantly lower than that of boys with the 'same intelligence'. She [ibid, p171] also found that girls who were not good in a subject lacked confidence and needed considerable help and support to grasp ideas but boys of similar ability "tended to bluff and cover up their faults". This shows that the willingness to take risks is not a panacea and it is possible that the 'reckless' boys need to be encouraged to be more careful. My main point here is that if girls hesitate to take risks and boys will do so, then girls will never have the opportunity to increase their commitment to finding the 'correct' hypothesis.

In a strange way, girls appear to be forced into the position of displaying lack of confidence. Walkerdine [ibid, p104] reports that although 'self-confidence' is "viewed as the key to girls' success, the mode of achieving it appears to be gender-differentiated. While boys may be described as 'abounding in confidence', 'overconfidence' in girls is a bad quality: 'She's never pushy. She's not overconfident. She doesn't imagine that she has amazing qualities or capabilities. That's part of her whole charm.'" It appears to be a case of regardless of what girls do, they do not get credit for being good in mathematics. Evidence of this is

provided by Walkerdine [ibid, p155] who notes that if girls make good progress in mathematics, it is because they are conscientious, motivated, ambitious and hard-working but successful "boys were credited with natural talent and flexibility, the ability to work hard and take risks."

One reason for investigating the potential links between gender and risk taking was my concern that girls could be disadvantaged by teaching and learning styles calling for pupils to engage in open-ended tasks which involved them in making a 'risky' hypothesis and then developing it. There appears to be some evidence which contradicts this idea and I present it here to raise both sides of the issue. According to an HMI publication [DES 1989], the more varied teaching approaches were helping girls to improve their confidence. This report [ibid, p21] also notes "Girls appeared to be more confident than boys in working situations which were relatively open-ended and in which the task was sometimes to pose the problem for oneself rather than to tackle a problem as set by the teacher." However, the report [ibid, p4] states that girls tended to over-rate the difficulty of more items than boys. On the other hand according to the Royal Society [1986, p2], "By the end of primary school boys have developed more confidence than girls in the fields of mathematics that are the most important at secondary school." There is also some evidence to indicate that some marking schemes may disadvantage girls who are less willing to take risks. [ibid] This conflicting evidence indicates that the problem is not a straightforward one. The evidence presented in the last chapter suggests that the girls were much less confident in their ability and only slightly less competent but certainly not significantly. The question arises - is the girls' lack of confidence contributory to their slightly lower accuracy scores? If they were more confident, would their estimating ability improve? I do not have the answers to these questions but I suggest they will be worth considering in future research.

I would like to conclude this section with an extract from Counting Girls Out. "A statement in Delamont's (1976) study of an upper middle-class girls' school sums it up that there can be few boys of whom it can be said, as it was of one girl in her study: 'She only answers when she's sure she's right'". [Walkerdine 1989, p70]

## 11.2 THE ROLE ASSUMED BY THE RISK-TAKER

There are a variety of ways in which the gender of the pupil has an influence on his/her learning. One of these is the role which the pupil assumes within the classroom. One obvious aspect of this is in the expectation of the teacher. Walkerdine's study [ibid] of teachers showed that their responses during interview showed a common theme which counterpoised the "active, enquiring, rule-breaking child with the well-behaved, passive, rule-following child. The ways in which teachers phrased their responses almost always meant that active children were boys and passive ones girls." Clarricoates [1983, p53] states "Societal myths of stereotypes pertaining to 'femininity' and 'masculinity' do influence teachers' beliefs about what girls and boys are like. Such behaviour as 'adventurous', 'boisterous', and 'disruptive' in boys was seen as being linked to their 'high creativity' and 'imagination'." Girls encountering this 'aggressive' environment might easily be ignored. To quote the old adage, 'the squeaky wheel gets the grease' but the above indications have an important impact upon the particular activity of risk-taking if girls believe it to be 'unfeminine'. Clarricoates cites research which consistently itemised "the fact that girls reveal a higher degree of anxiety about both the teacher and other pupils. This is usually interpreted as 'wanting to please the teacher' and as a sure sign of 'conformity'." [ibid, p54] It is rather obvious that an 'anxious', 'conforming' person is not going to be the ideal candidate to be a risk-taker. Another aspect of the importance of gender in the classroom is the perception that the boys' unwillingness to accept authority is seen as part of their make-up but the "girls were expected to be orderly and good at getting on with their work." [ibid, p58] This quiet acquiescence may mean that the girls are expected not to do anything which requires the teacher's intervention eg embark on proving/disproving a risky conjecture.

The interaction between pupils within the classroom is another important factor in the manner in which they approach their education and again I claim that the gender of the pupil affects this relationship with special regard to risk-taking. Whyte [1986, p35] found that the "girls' more careful and precise way of working may lead to them avoiding practical elements in favour of the 'safer' task of writing up the experiment." She

goes on to state that this does not imply that girls have less aptitude for science or technology. The girls' role in the classroom does, however, have an impact upon their learning. Clarricoates [op cit, p58] found that by the time the girls arrived at "secondary school, they perceived a need to hide their ability". According to Whyte [op cit, p30] question and answer sessions appear "to benefit pupils who are willing to shout out answers, many of them 'wrong', or at least off the point, at the expense of pupils who are not risk takers." The hands-up rule also can exclude all those pupils who are unwilling to look foolish for making a mistake. She also found that "girls in mixed classes are apparently self-conscious about speaking up at all, while boys in contrast, revel in the limelight, happily, if wrongly, guessing at answers to questions and probably learning a good deal in the process." [ibid, p30] One possible reason for this 'additional' learning is that the boys, having guessed an answer and having a 'stake' in that answer, either develop the means of defending their answer or of adjusting it to get agreement from peers or the teacher. Both of these strategies can be valuable to their learning. In the specific environment of the science classroom, Whyte found that the boys' careless messing around appeared to set a pattern for "how science is supposed to be done. In the belief that messing around can be creative and lead to pupils solving problems or making their own discoveries, teachers may welcome it, but the implication can be that this is the only way to 'do' science or technology." [ibid, p36] If girls see this behaviour as 'scientific', they may not value their own careful efforts and I suggest that those girls who have a systematic way of working (which can be very productive) may perceive their teacher's praise of the boys' efforts as belittling to the girls' efforts along different lines.

Finally, the roles which the pupils assume outside the classroom affect the way in which they accept risks. Young [1981] writes that boys are encouraged to be adventurous while they play with their meccano and model railway but the finding and keeping of a boyfriend is of primary importance to the girls. Even those girls/women who make a decision not to make it the be-all-and-end-all go through great internal conflict and guilt and run the risk of being ostracized. This is a risk which many are unwilling to accept and if girls see risk to involve this negative social factor, it would appear that risk taking would not be attractive to them.

### 11.3 RISK OUTSIDE MATHEMATICS AND SCIENCE

Discussions with colleagues in schools indicated that drama involved risk-taking of a personal or emotional kind. This was one area where colleagues considered girls to be more willing to take risks than boys. One teacher mentioned that girls will be quite willing to play the distraught individual in a very thoughtful way but boys would be silly given the same task.

I was interested in how other areas of the curriculum may involve risks and to this end, I studied other National Curriculum documents to ascertain any possible links with risk in these subjects. I found in the National Curriculum History document [DES 1991a] that there were aspects of 'risk-taking' encouraged. I found that some risk-taking, if one interpreted that term liberally, existed in the Attainment Targets at the various Levels. A list follows to show the Level and the Attainment Target statement which I think encourages risk-taking:

<u>Level</u>	<u>Attainment Target Statement</u>
6	AT1 "recognise that causes and consequences can vary in importance" [ibid, p4]
7	AT2 "describe the strengths and weaknesses of different interpretations of an historical event or development." [ibid, p8]
8	AT3 "show how a source which is unreliable can nevertheless be useful." [ibid, p10]

It is possible that I have been too liberal in my interpretation of risk and it may be true that there are no gender implications to the above Attainment Targets. I would like to consider the possible outcomes of an investigation "the dropping of Atomic bombs on Hiroshima and Nagasaki" [ibid, p45]. A risky hypothesis might be that this event occurred because the United States wanted to demonstrate to its friends and foes the massive weapon which had been developed in the face of the threat from Nazi Germany. This hypothesis could be developed through an argument which identified causes and consequences requiring skills of selection. The non-risk taking pupil might not engage in the problem of structuring the arguments but would accept the 'normal' argument that the

decision was made because it would save lives that would have been lost in a land invasion of Japan. I suggest the risk-taker will develop greater skills in constructing his/her arguments than the non-risk-taker.

I performed a similar analysis on the National Curriculum Technology document [DES 1990] and the information referred to above is replicated here for that document.

<u>Level</u>	<u>Attainment Target Statement</u>
1b	AT1 "suggest what might be done" [ibid, p3]
4c	AT2 "estimate the resource requirements" [ibid, p8]
8c	AT2 "show a willingness, subject to safety considerations, to experiment and take risks recognising the implications of decisions taken in designing" [ibid, p9]
4d	AT3 "adopt alternative ways... and recognise when help is needed" [ibid, p12]
6e	AT3 "show judgement in seeking advice and information" [ibid, p13]

These were not the only instances and it can be argued that there is only a tenuous link in some cases but it is intended to show the possible importance of risk-taking in other subjects. It does appear that risk-taking is a factor in some - if not all - areas of the curriculum.

I was interested in the effect of gender on the willingness to take risks across the curriculum. Walkerdine [op cit, p199] makes the point that the effect of focusing on a lack of confidence, among other factors, may "pathologise girls and normalise masculinity." I believe I have shown the potential that links between risk-taking and gender exist at present and the next chapter will discuss a survey of pupils and their reactions to risk. I found it interesting that some teachers told me that they thought girls were more willing than boys to take risks in drama and the research indicates boys to be more willing than girls to take risks in science and mathematics. It should also be clear that the quality of the response to a challenge by the 'risk-taker' is also quite important. A considered hypothesis is far more valuable than a hastily constructed wild guess. Teachers may need to encourage the overly reluctant pupil to 'have a go' and to persuade the reckless guesser to be more considered. These will be professional judgments on the part of the teacher. If gender is an

important factor in determining the reluctant risk-taker than it should be obvious that teachers should be aware of this. I also agree with Walkerdine and would ask that teachers are aware of the need to avoid 'pathologising' girls and 'normalising' boys by providing an environment which encourages risk-taking but not 'wild guessing' making the 'normal' environment a synthesis of the two stereotyped poles.

#### 11.4 SUMMARY

The literature search revealed that some aspects of risk in mathematics and science appear to have a connection with gender. I decided to attempt to find a means of discovering how pupils in schools felt about risk-taking and the next chapter will show this development.