QUEENSMILL GENDER DIFFERENCES IN THE CLASSROOM PILOT STUDY BRIEFING

This briefing note summarises the background to the Queensmill Gender Differences in the Classroom Pilot Study, and the context in which the study was conducted. It outlines the aims, data collection methods and findings of the study. Finally, it presents the implications of the findings for practice at Queensmill and for potential future research.

Background to study

Since classification in 1943 (Kanner, 1943), gender disparity has been a distinctive feature of ASD, with current male to female ratios reported at 4.3:1 (Fombonne, 2007). Nevertheless, a recent review of the literature continues to show a paucity of research in this aspect of ASD with females more likely to experience a lack of identification, delay or misdiagnosis of ASD (Rivet and Matson, 2010). Later on in life, despite no gender differences in cognitive and language ability, female adults experience poorer outcomes with respect to educational, vocational, residential and social status (Howlin et al., 2004).

In 2012 at Queensmill the number of female and male pupils in Reception and KS1 was eleven and thirty-six respectively. This would be in line with Fombonne's account as but for Queensmill this was an increase in girls from previous years. It was also commented by staff that the girls were 'different' to the boys in the classroom and around the school and that were likely to transfer to the autism base at Fulham Primary more quickly.

This was of interest to Dr Catherine Carroll, who at the time was Senior Lecturer in Special and Inclusive Education at Roehampton University and Programme Convener for the Post Graduate Certificate in Autism run in collaboration with Queensmill. She was able to apply for a small research grant from Roehampton to investigate in what ways they girls performed differently in the classroom. The research received ethical approval from Roehampton University. It was also planned that some of the research would contribute to a parallel study that was investigating how to strengthen the decision making process concerned with pupils moving to the autism base at Fulham Primary. This is reported in a separate briefing.

Aims of the Gender Pilot Study

1. To investigate ways of measuring functioning and performance, in addition to National Curriculum levels, in the classroom.
2. To use these measures to analyse any differences by gender.

Data Collection Methods

Checklist	Approaches to Learning (AtL) completed by teachers for all pupils in Nursery, Reception and KS1 (N=56)
National Curriculum Levels	P Levels and EYFS data collected on Nursery, Reception and KS1 pupils (N=53)
Vineland Adaptive Behaviour Scales	Completed by teachers on 9 pupils from Reception and KS1

Measures explained

Approaches to Learning (AtL) Checklist
This questionnaire was devised by Catherine Carroll and drew, in part, on the readiness for school literature. It consisted of 23 questions focused on the 4 themes of:
i.   Eagerness and curiosity to learn
ii.   Initiative, engagement and persistence
iii.   Reasoning and problem solving
iv.   Invention, imagery and creativity

Each theme included a series of statements describing a behaviour and the teacher had to rate how often they observed that behaviour in a pupil on a five point Likert scale from never to usually.

Vineland Adaptive Behaviour Scales (VABS)
(Teacher Rating Form)
The VABS is a comprehensive standardised assessment of personal and social sufficiency for a school setting. It includes the 4 broad domains of:
i.   Communication (how a pupil listens, pays attention, uses words to speak and write)

ii.   Daily Living Skills (daily habits & hygiene, time, money, maths, follow rules & routines)
iii.   Socialisation (interaction, play, leisure, responsibility & sensitivity to others)
iv.   Motor Skills (gross & fine motor)

Main Findings
The NC data revealed some differences in academic attainment with respect to gender with boys performing better in Year 2 (Table 1) but there were differences in results with the AtL Checklist and VABS (Table 2), with girls consistently rated as functioning at a higher level than the boys in the classroom.

National Curriculum (NC) Levels
Table 1 shows that boys and girls attained similar NC levels, except in Year 2 where the boys did better in Language and Literacy and Maths as shown in Table 1.
Table 1

	Boys Average Attainment	Girls Average Attainment
EYFS: Maths	22-36 months	22-36 months
EYFS:Literacy	16-24 months	22-36 months
Year 1 Language and Literacy	P4	P4
Year 2 Language and Literacy	P5	P4
Year 1 Maths	P4	P4
Year 2 Maths	P5	P4

Approaches to Learning Checklist
In all of the 23 questions, girls were rated higher than the boys. In 5 of the questions the difference was statistically significant. In four of the questions responses were approaching statistically significant. The areas of most difference were deliberating choices, maintaining focus and persistence, seeking help, problem solving, invention and aspects of play.

Vineland Adaptive Behaviour Scales
As with the trend in the AtL Checklist, the average standard score (SS) for girls was higher in all 4 domains and in the overall Adaptive Behaviour Composite standard score as shown in Table 2.
Table 2

	Communication (SS)	Daily Living Skills	Socialisation (SS)	Motor Skills (SS)	Adaptive Behaviour Composite (Overall score for adaptive behaviour) (SS)
Boys' average	37	43	59	56	42
Girls' Average	54	61	68	69	58

Conclusions
- The AtL and the VABS were able to identify many differences in functioning in the classroom with respect to gender and allow for greater accuracy in describing some of these differences. Both methods allow for non verbal pupils or those with limited language and complemented the NC levels.
- The differences in scores between the boys and girls in all three data collection methods presents interesting findings. Why would NC levels be the same (or higher in one year group) for boys and yet girls perform consistently higher on the other two measures? However, the numbers in the study were small and therefore it is not possible to generalise in any way.

Next steps
Senior Leadership Team and staff to discuss the findings and consider:
i.   Possible explanations for findings
ii.   Efficacy of using the VABS across the school.
iii.   What longitudinal data on pupils to systematically build up (perhaps in discussion with PLASN-R).

Catherine Carroll will write up the findings for submission to an academic journal.