

**Computing Studies, Home Economics and
Mathematics
Ayr Academy
South Ayrshire Council**

15 June 1999

Inspection of Computing Studies, Home Economics and Mathematics

Ayr Academy

South Ayrshire Council

1. The Inspections

HM Inspectors carried out inspections of computing studies, home economics and mathematics at Ayr Academy. The departments inspected were chosen as part of a national sample of subjects taught in secondary schools. The visits took place in February and March 1999.

For each of the subjects, HM Inspectors visited classrooms to observe teaching, examined pupils' work and interviewed staff and pupils. They looked at accommodation and resources for learning. They assessed the methods used by the departments to assure the quality of learning and teaching.

The findings are based solely on the inspection of the three subject departments. They should not be assumed to apply to other departments in the school, or to the school as a whole. The school and education authority may, however, find it useful to consider the wider implications of this report for the school.

2. The School

Ayr Academy has a roll of 595 pupils. It is located in the centre of Ayr. It serves the Doonfoot area and the villages of Annbank and Coylton. Almost a third of the pupils attend as a result of placing requests. Attendance was below national levels.

3. Computing Studies

Accommodation, resources and staffing

Accommodation for computing studies was fair. The two rooms used for computing studies were in different parts of the school. The small size of one room restricted teaching methods. The department had adequate provision of computers and a good supply of learning materials.

The department was staffed by two experienced teachers. Both were principal teachers in other departments and these responsibilities limited the time available for development work in computing studies.

Courses

The S1/S2 course included most of the elements recommended in national guidance. More links should be developed with other subjects. Standard Grade and Higher Grade courses were well designed and met examination requirements. There was a very good range of National Certificate modules. Course outlines lacked detail.

Learning and teaching

The overall quality of learning and teaching was fair. Teachers explained work clearly and used a variety of methods. They should use homework more regularly and question pupils more rigorously to improve knowledge and understanding. The majority of pupils were suitably motivated. However, some did not work hard in class and did not do homework. Senior pupils were reluctant to answer questions. The good organisation of classes and range of courses helped to meet pupils' learning needs from S3 to S6. In S1/S2 staff should provide more challenge for higher attaining pupils. The staff used a suitable range of assessment methods at each stage.

Attainment

The following were features of pupils' attainment in computing studies.

- At all stages, performance in coursework was good.
- At S3/S4, most pupils could use software packages well to carry out a range of tasks. Some were able to write high quality computer programs.
- The majority of pupils at S1/S2 attained appropriate national targets for information technology for their stage.
- At Standard Grade, the number of Credit awards had remained well below the national average for the last three years. The number of Foundation awards had increased to a figure well above the national average. Pupils' performance in computing studies was broadly in line with their performance in other subjects.
- At S5/S6, the majority of pupils performed well in coursework. Most pupils following modular courses carried out practical tasks well.
- At Higher Grade, presentations had increased over the last three years. In 1998 they were in line with the national average. The number of band A-C awards achieved was below the national average in 1998.
- Over the last three years, the majority of senior pupils have been successful in a range of National Certificate computing modules.

The overall quality of attainment in computing studies was fair at each stage.

Management and quality assurance

The principal teacher of computing studies was also responsible for physics. He was hard working and had very good relationships with staff and pupils. He organised the computing studies department well and had produced many good learning materials for pupils. He now

needed to take further action to improve standards of attainment. Each teacher had taken part in professional review activities and had attended staff development events. However, they needed more training in recent advances in information and communications technology.

The department had taken some steps to ensure a consistent approach to teaching. In collaboration with senior staff, it had considered Standard Grade results in detail and taken steps to improve performance. This aspect of self-evaluation should be more systematic to accord with the school's intentions. The targets in the department plan were in line with the school's plan. The plan should include an accurate audit. The department had successfully implemented most of the targets in earlier plans.

Ethos

The ethos of the department was good. Staff morale was high. Relationships between staff and pupils were good, and teachers had high expectations of pupils' behaviour. Teachers used praise effectively in most classes. Almost all pupils behaved well in class. However, a number lacked commitment to work hard.

4. Home Economics

Accommodation, resources and staffing

The department had sufficient accommodation. However, the overall quality was fair and some features were unsatisfactory. In particular, one of the rooms needed to be upgraded to meet health and safety standards. Ventilation in the department was inadequate. Resources, generally, were in good supply and were very well organised. Some of the equipment needed replacement.

The department had an appropriate number of experienced teachers. However, during the last year there had been four changes of teachers in the part-time post. There was no auxiliary support.

Courses

The S1/S2 course was well organised and some units had a good focus on aspects of health education and technology. The course required further revision, however, to take full account of national 5-14 guidelines. Courses at S3 to S6 were good. The department's plans for implementing the Higher Still programme should improve provision for pupils who find a one-year Higher course too demanding.

Learning and teaching

The overall quality of learning and teaching was good. Teachers generally gave clear instructions and explanations. They involved pupils effectively in most lessons through good use of questioning. However, they should increase the pace of learning and provide more challenge for some pupils to improve their attainments. Homework should be used more consistently at S3/S4. Most pupils responded well in class. The department should extend its strategies for supporting S1/S2 pupils experiencing difficulties with learning. At S1/S2, arrangements for assessment should be revised in line with national advice. Assessment was good at S3 to S6.

Attainment

The following were features of pupils' attainment in home economics.

- At all stages, most pupils were performing well in their coursework. At S1 to S4 coursework did not always challenge pupils to achieve their full potential.
- At Standard Grade, the proportion of General awards was in line with the national average. Credit awards were below the national average but had improved in 1998.
- At Higher Grade in S6, there had been a few presentations in 1996 and 1998. Levels of success were good.
- Performance in National Certificate modules at S5/S6 was generally below national averages, with too many pupils failing to complete courses.

The overall quality of attainment was good in S1 to S4 and fair in National Certificate modules at S5/S6.

Management and quality assurance

The experienced and committed principal teacher provided good leadership. She had

established good teamwork among staff. The department was very well organised and staff were deployed effectively. Further staff development was needed to take forward priorities in the department's development plan. Staff were due to participate in the programme for staff review during the current school year.

In regular departmental meetings, teachers reviewed and discussed their work. Discussion of examination results with senior management had identified priorities for action to improve attainment. The principal teacher should work with senior promoted staff to introduce a more systematic approach to monitoring the work of the department. They should use national performance indicators to evaluate courses, learning and teaching, and attainment. The department development plan was fair. It contained appropriate priorities but should provide more detail on targets and on criteria for measuring success in implementing projects. The department had made good progress towards achieving previous targets.

Ethos

The ethos in the department was good and there were very positive relationships among pupils and staff. Most pupils responded well to their teachers' appropriate expectations of behaviour. The department made very valuable contributions to school events and activities.

5. Mathematics

Accommodation, resources and staffing

The department had good accommodation. Although some rooms were rather small, they were conveniently located and generally well maintained. Display was good in most rooms. The department had recently been given additional funds to improve significantly its course materials. It was not well supplied with computers.

There were sufficient teachers and they had a good range of experience. However, there had been considerable changes in the staffing over the last two years.

Courses

The department was developing a new S1/S2 course. The current course did not conform with the 5-14 guidelines. However, teachers were giving additional attention to mental calculation. At S3/S4 and S5/S6, courses met examination requirements but most were too dependent on text books. Staff required better course guidelines at all stages.

Learning and teaching

The overall quality of learning and teaching was fair. Aspects of teaching were good. Teachers gave clear explanations and most used questions effectively. In some very good lessons, they interacted well with pupils. Some teachers made good use of homework but practice varied. Staff should set and mark homework more consistently. They should have higher expectations of

the quality and presentation of pupils' work. The majority of pupils worked conscientiously in class but some were difficult to motivate and made insufficient effort. Although the range of courses met the needs of most pupils from S3 to S6, work at S1/S2 sometimes lacked challenge. Overall, the department needed to broaden approaches to assessment and improve recording and reporting. Staff were in the process of revising assessment in S1/S2 to determine pupils' attainments in relation to national targets. They should complete this work and immediately introduce national tests in line with national guidance.

Attainment

The following were features of pupils' attainment in mathematics.

- Performance in coursework was fair in S1/S2 and S5/S6 and good in S3/S4. Number skills were a consistent weakness.
- In S1/S2, the majority of pupils were achieving appropriate national targets for their stage. Many others were working well below these standards.
- At Standard Grade, the proportion of Credit awards was consistently below the national average. The proportion of Foundation awards was well above the national figure. Pupils' performance in mathematics was broadly in line with performance in their other subjects.
- At Higher Grade in 1997, pupils' performance was better than in their other subjects. In 1998 performance dropped and the proportion of A-C awards fell well below the national average.
- There were some good results in the Certificate of Sixth Year Studies in 1998.
- Success rates in National Certificate modules varied across the different modules.

The overall quality of attainment in mathematics was fair.

Management and quality assurance

The principal teacher had been in post for less than a year. In this short time he had worked effectively to initiate curriculum development and improve consistency of practice across the department. He had a clear view of the improvements required and had gained the confidence of staff. The teachers were committed and working well as a team. They were keen to participate in further staff development to support the department's plans for improvement. The principal teacher had attended in-service training for professional review. All members of the department were due to participate in the school programme for staff review later in the session.

The principal teacher analysed examination statistics carefully. In a useful first step towards systematic self-evaluation, he had also used national performance indicators in discussion with staff. The department should make better use of the weekly departmental meetings to discuss learning and teaching and share good practice. The department's development plan was in line with the school plan and had appropriate priorities. It should include more information about targets, timescales and staff development needs. Given the staff changes, the department had made a good start in implementing its plan.

Ethos

The ethos was good. Relationships among staff were very positive and relationships between teachers and pupils were good. All staff offered additional assistance to pupils and were involved in the weekly programme of supported study in mathematics.

6. Key strengths

- The organisation of resources and courses in the home economics department.
- The broad range of National Certificate computing modules in S5/S6.
- The high quality of some pupils' computer programming in S4.
- The effective management of change by the principal teacher of mathematics.
- The very good teamwork in the mathematics and home economics departments.
- The valuable contributions to school activities made by members of the three departments.
- The positive relationships among pupils and staff in all three departments.

7. Main points for action

The school and education authority should act on the following recommendations.

- The education authority should address the deficiencies in accommodation in home economics. It should also address health and safety issues in other parts of the school, including an upgrading of toilets.
- The school should review the place of computing across the curriculum in S1/S2 as recommended in *Achieving Success in S1/S2*¹.
- The school should complete the revision of S1/S2 courses and assessment arrangements in mathematics and home economics in line with national 5-14 guidelines. National tests should be introduced immediately in mathematics.
- In computing and mathematics, teachers should further review teaching and learning with a view to raising standards of attainment.
- In home economics, teachers should increase the pace of learning and provide more challenge for some pupils. They should extend strategies for supporting S1/S2 pupils experiencing difficulties.

¹ *Achieving Success in S1/S2* - a report on the review and provision in S1/S2 by HM Inspectors of Schools, SOEID, 1997

- In each of the departments inspected, teachers should use homework more consistently and effectively.
- In line with the schools' plans, senior promoted staff and the principal teachers should work to introduce a more systematic approach to self-evaluation.
- The departments should improve their development plans and seek further staff development to help them implement the priorities.
- With support from the senior management team, the computing and mathematics departments should continue to develop strategies to improve the work ethic among pupils.

After one year, HM Inspectors will invite the school and education authority to report on progress in meeting these recommendations. They might, thereafter, visit the school again to assess, at first hand, the progress being made.

Copies of this report have been sent to the headteacher and school staff, the Director of Education, local councillors and the Member of Parliament. Subject to availability, further copies may be obtained free of charge from the office at the address below.

If you want to make a complaint about any aspect of the inspection or about this report, you should write in the first instance to the HM Chief Inspector whose address is given below. If you are unhappy with the response, you will be told in writing what further steps you may take.

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