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Office for Standards in Education
Alexandra House
33 Kingsway
London
WC2B 6SE

Telephone: 020 7421 6800

Web site: www.ofsted.gov.uk

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The post-16 subject guidance published in 2001 comprised: art and design; business education; classics; design and technology; drama and theatre studies; engineering and manufacturing; English; geography; government and politics; health and social care; history; information and communication technology; law; mathematics; media education; modern foreign languages; music; physical education; religious studies; science; sociology.

Further booklets published in 2002: agriculture; basic skills in literacy and numeracy; construction; dance; English as a second or other language; hairdressing and beauty therapy; hospitality and catering; leisure and tourism; psychology.

Contents

Introduction	1
Common requirements	3
1 Standards and achievement	5
1.1 Evaluating standards and achievement	5
1.2 Analysis of students' work	6
1.3 Talking with students	8
1.4 Lesson observation	10
2 Teaching and learning	11
2.1 Evaluating teaching and learning	11
2.2 Lesson observation	12
2.3 Other evidence on teaching and learning	15
3 Other factors affecting quality	17
3.1 Curriculum	17
3.2 Staffing	17
3.3 Accommodation and resources	17
3.4 Leadership and management	17
4 Writing the report	19

Introduction

This booklet aims to help inspectors and staff in schools and colleges to evaluate standards and quality in agriculture and associated subjects for students post-16. It complements the *Handbook for Inspecting Secondary Schools* (1999), the supplement *Inspecting School Sixth Forms* (2001) and the *Handbook for Inspecting Colleges* (2002).

This guidance concentrates on issues specific to agriculture and associated subjects. General guidance is in the *Handbooks*. Use both to get a complete picture of the inspection or evaluation process.

This booklet focuses on evaluating standards and achievement, teaching and learning, and other factors that affect what is achieved. It outlines how to use students' work and question them, the subject-specific points to look for in lessons, and how to draw evaluations together to form a coherent view of the subject.

Examples are provided of evidence and evaluations from college inspections, with commentaries to give further explanation. These examples are included without any reference to context, and will not necessarily illustrate all of the features that inspectors will need to consider. The booklets in the series show different ways of recording and reporting evidence and findings; they do not prescribe or endorse any particular method or approach.

Inspectors and senior staff in schools and colleges may need to evaluate several subjects and refer to more than one booklet. You can download any of the subject guidance booklets from OFSTED's web site (www.ofsted.gov.uk).

Our Inspection Helpline team, on 020 7421 6680 for schools and 020 7421 6703 for colleges, will respond to your questions. Alternatively, you can e-mail collegeinspection@ofsted.gov.uk or schoolinspection@ofsted.gov.uk.

OFSTED's remit for this sector is the inspection of education for students aged 16–19, other than work-based education. In schools, this is the sixth-form provision. In colleges, the 16–19 age group will not be so clearly identifiable; classes are likely to include older students and, in some cases, they will have a majority of older students. In practice, inspectors and college staff will evaluate the standards and quality in these classes regardless of the age of the students.

This booklet concentrates on the most commonly found courses in agriculture and associated subjects. As an inspector in agriculture and associated subjects for students aged 16–19, you will need to make sure that you are familiar with the particular course objectives and examination syllabuses used by the institution. In particular, you will need to know the specifications for:

- | first diplomas;
- | national awards, certificates and diplomas;
- | national vocational qualifications (NVQ);
- | general national vocational qualifications (GNVQs) at foundation and intermediate levels.

These courses cover the areas of agriculture, amenity and commercial horticulture, animal care, equine studies, agricultural engineering, farm management and countryside and environmental studies. However, the principles illustrated in this guidance can be applied more widely, for example, in arboriculture, fish farming, floristry and landscaping, which many college departments also offer.

In all agriculture and associated subject courses, you should expect to find strong links with industry. Students will often spend much time on work experience, or they may be on a work-based training programme. Make sure that they are learning while they are at work. You should also make sure that the college and the employer are clear about how students are assessed and how their progress while at work is recorded.

Common requirements

All inspectors share the responsibility for determining whether a school or college is effective for all its students, whatever their educational needs or personal circumstances. As an inspector, ensure that you have a good understanding of the key characteristics of the institution and its students. Evaluate the achievement of different groups of students and judge how effectively their needs and aspirations are met by any initiatives or courses aimed specifically at these groups of students. Take account of recruitment patterns, retention rates and attendance patterns for programmes and courses for different groups of students. Consider the individual goals and targets set for students within different groups and the progress they make towards meeting them.

You should be aware of the responsibilities and duties of schools and colleges regarding equal opportunities, in particular those defined in the Sex Discrimination Act 1975, the Race Relations Act 1976 and the Race Relations (Amendment) Act 2000, and the Special Educational Needs and Disability Act 2001. These Acts and related codes of practice underpin national policies on inclusion, on raising achievement and on the important role schools and colleges have in fostering better personal, community and race relations, and in addressing and preventing racism.

As well as being thoroughly familiar with subject-specific requirements, be alert to the unique contribution that each subject makes to the wider educational development of students. Assess how well the curriculum and teaching in agriculture and associated subjects enable all students to develop key skills, and how successfully the subject contributes to the students' personal, social, health and citizenship education, and to their spiritual, moral, social and cultural development. Judge how effectively the subject helps prepare students aged 16–19 for adult life in a culturally and ethnically diverse society.

1 Standards and achievement

1.1 Evaluating standards and achievement

From the previous inspection report, find out what you can about standards and achievement at that time. This will give you a point of comparison with the latest position, but do not forget that there is a trail of performance data, year by year. Analyse and interpret the performance data available for students who have recently completed the course(s). These data will give you important pointers both to the attainment of the students (how their results compare with the expectations of the course) and to their achievement (how much progress they made since starting the course). Draw on the school's *Performance and Assessment (PANDA)* report or, in the case of a college, the *College Performance Report*. Also analyse the most recent results provided by the school or college and any value-added information available. When numbers are small, exercise caution in making comparisons with national data or, for example, evaluating trends. For further guidance on interpreting performance data and analysing value added, refer to *Inspecting School Sixth Forms*, the *Handbook for Inspecting Colleges* and the *National Summary Data Report for Secondary Schools*.

Where you can, form a view about the standards achieved by different groups of students. For example, there may be data that enable you to compare how male and female students or different ethnic groups are doing, or how well 16–19-year-old students achieve in relation to older students.

Make full use of other information that has a bearing on standards and achievement, including success in completing courses, targets and their achievement, and other measures of success.

You should interpret, in particular:

- | trends in results;
- | comparisons with other subjects and courses;
- | distributions of grades, particularly the occurrence of high grades;
- | value-added information;
- | the relative performance of male and female students;
- | the performance of minorities and different ethnic groups;
- | trends in the popularity of courses;
- | drop-out or retention rates;
- | students' destinations, where data are available.

On the basis of the performance data and other pre-inspection evidence, form hypotheses about the standards achieved, whether they are as high as they should be, and possible explanations. Follow up your hypotheses through observation and analysis of students' work and talking with them.

Direct inspection evidence tells you about the standards at which the current students are working and whether they are being sufficiently stretched to achieve as well as they should. If the current standards are at odds with what the performance data suggest, you must find out why and explain the differences carefully. In your observations, be alert to any differences in the standards of work of different groups of students.

Your judgements about the standards of work that you see during an inspection must be made in light of the expectations of each course. As you observe students in lessons, look at their written work and talk to them, keep in mind the extent to which students in agriculture and associated education:

- | confidently and accurately use a wide range of agricultural and associated terminology;
- | demonstrate clear understanding of key concepts;
- | apply what they have learnt from case studies, industry and practical experience;
- | have a knowledge of topical issues;
- | make use of real vocational contexts in their assignment work;
- | maintain a good balance between primary and secondary sources in their research work;
- | work to a progressively higher standard when they repeat activities, such as practical skills;

- | analyse the information they collect, drawing conclusions and making predictions rather than just accumulating and presenting it without doing so;
- | are able to view agriculture and associated industries through the alternative perspectives of different stakeholders (such as employers, employees, managers and consumers);
- | at advanced level, demonstrate a greater depth of understanding, employing critical analysis, synthesis and evaluation and demonstrating supervisory knowledge and skills.

1.2 Analysis of students' work

At the beginning of the inspection, it is important to make it clear to the school or college what work you need to see. Students' portfolios are an essential source of evidence for the standards they are achieving, and students and teachers will need time to gather them together. Ask to see work from the full range of attainment of the students following the course(s). Students' assessment records will confirm whether the portfolios selected are a representative sample. If you doubt that the sample is representative, specify other students whose portfolios you want to see.

Looking through the portfolios of individual students will give evidence of the progress they have made and the demands of teaching. It will inform your evaluation of achievement. Look for evidence of increased sophistication of thought in linking causal factors to outcomes in agriculture and associated situations. Students should show an increasingly clear and detailed understanding of theory and practical aspects of husbandry and management issues, as their knowledge and practical abilities mature over time.

Example 1: portfolio evidence from first diploma in horticulture at a general college of further education (FE). The students have mostly achieved 2 D grades in GCSE

Work on unit about investigating the horticultural industry

Higher-attaining student

The student has identified the main jobs in horticulture and explained very clearly how they relate to plant production and use. She is able to distinguish between the different types of horticulture such as amenity, landscape and sports turf, and provides detailed information on amateur gardening. She makes very good use of material she gathered when on placement at a garden centre, with photographs to show plant propagation and display.

Middle-attaining student

This student has made direct reference to horticulture production. He identifies the main jobs of people working in horticulture and describes four examples, but does not relate these to the different aspects of production. He has written a good account of the work of a landscape gardener and described some difficulties in working with customers and meeting contract deadlines. The work meets the criteria for a merit grade.

Lower-attaining student

The student has made a list of the horticultural services available in the local area and plotted the locations of the main ones on a map. The student can describe how customers can make personal contact or be professionally referred to the services. She identifies the job roles of garden centre workers and florists. She has written up the notes she took from a group interview with a representative from each area, to give simple but very clear descriptions of their daily activities. The work meets the criteria for a pass grade.

[Attainment well above average (2)]

Commentary

In general, these students show good understanding of the unit. Their attainments are well above average. Even the weakest of them has produced work which shows that she has learnt and applied her knowledge of horticulture. Therefore, they have demonstrated very good achievement since GCSE.

Example 2: portfolio evidence from national certificate in the management of horses in an agricultural college. The more capable students achieved 2 grade Cs at GCSE, whereas the least capable student has progressed from the foundation course. Students are in their first term

Practical stable management: assignments to examine jobs in equine yards and other settings

Higher-attaining student

The work is detailed and demonstrates a thorough knowledge of the roles of grooms and show-jumpers, together with an appreciation of the organisations in which they work. The student has included case study information to demonstrate how the standards of horse care and management are implemented in day-to-day work. It indicates the significance of individual differences between businesses. The assignment identifies relationships between codes of practice and the horse care and management relevant to the selected settings. The work meets the success criteria for a distinction grade.

Middle-attaining student

The work is clearly presented and referenced. Correct terminology has been used throughout. The student has generated her own text for the assignment and has clearly demonstrated the relationship of job roles to the workplace. The jobs and standards of two workers have been identified, but the values have been listed and not appropriately contextualised. Codes of practice relevant to the workers have been included, but the account of their use is brief. The work meets the success criteria for a pass grade.

Lower-attaining student

This student has not presented the work well. There are shortcomings in the sequence of the sections and how they relate to each other. Much information is copied directly from textbooks and it is out of date. There is little attempt to identify how the two jobs fit into the industry framework. The roles of the two workers are adequately described, but there is no reference to the standards underlying their work. The student has not responded to the teacher's comments and the work remains unmodified. It does not meet the success criteria for a pass grade and shows insufficient progress from foundation level.

[Attainment average (4)]

Commentary

The students show significant differences in their level of understanding of the key points. The quality of research, analysis and presentation also varies considerably, as do effort and commitment. The weakest student's work indicates that she has not successfully bridged the gap between foundation and intermediate level. The other students have made good and satisfactory progress respectively. Overall, attainment and achievement seem to average out, but it will be necessary to look at further students' work to see how typical these three are.

Example 3: final year portfolio evidence from national diploma in agriculture in an agricultural college. Students' previous attainment was 3 GCSE passes at grade C and above or a credit in the national certificate in agriculture

Agricultural management: business case study

Higher-attaining student

The student has undertaken work experience on a large arable farm and understands the basic management of arable production. Links are identified between this experience and the coursework, although these links are not fully explored. Description of day-to-day management tasks on the farm clearly and sufficiently acknowledges high standards of management. However, the section on comparing and contrasting the impact of growing different crops contains no data and is rather rambling. The management plan identifies short- and longer-term objectives, but they are not sufficiently differentiated. The section describing crop protection largely consists of imported handouts and contains little original writing. The portfolio is well arranged, demonstrating that the student has built on the skills acquired earlier in the course in managing her portfolio. The student has clearly identified, in the portfolio, areas of the work which can be credited towards gaining the key skills qualification.

Middle-attaining student

This student has also had work experience on an arable farm but has not demonstrated application of subject knowledge to the farm situation. His description of job roles on the farm is extremely vivid but contains few references to the management and standards. The section on crop protection and yields contains numerous graphs which the student has generated on a computer. Potentially, these should have been valuable in illustrating points, but there is little written commentary to them. Although the teacher's comments praise the production of the graphs, the absence of meaningful commentary is not noted. The crop management plan has not been completed. The student has chosen crops with similar environments and husbandry, so reducing the opportunities to demonstrate breadth of knowledge. The section describing seed-head protection has been omitted. The student has presented the work well, particularly in the use of ICT skills, but the work contains significant gaps and shows no improvement from intermediate level work.

Lower-attaining student

The student has not attended work placement on a suitable farm. Primary source information has been introduced through an interview with an arable farmer, college farm records and a presentation given to the whole class by an arable consultant. The student clearly does not understand roles and responsibilities in arable farming. The student has selected one farm for the management plan and copied a sample plan from a textbook. The section on crop protection consists of information on products rather than protection. The portfolio is scrappy and contains few completed pieces of work. The teacher has indicated where there are gaps in the work but made few comments on the quality of the rest of it.

[Attainment well below average (6)]

Commentary

Attainment is poor, as is achievement. Only one of the students has improved knowledge and understanding since the first year of the intermediate course, and the teaching has apparent shortcomings in its demands. Practical concepts are more clearly grasped, with less understanding of theory. The gaps in the work, students' misunderstandings and unhelpful feedback seem to indicate that the students have been required to acquire more information independently than they have been able to do.

1.3 Talking with students

You may well find that there are lessons or parts of lessons devoted to independent working on assignments. This gives you the opportunity to talk with students to assess their attitudes, knowledge and understanding of work in progress. Listen to discussions between students and talk to them about their current and past work. This can provide a rich seam of evidence to establish high and low attainment and to determine how effective learning has been on vocational issues as well as the factual knowledge acquired. Ask the students to bring their portfolios with them to any discussions you may arrange and discuss the work they contain. It is important to explore how well students can apply their knowledge and understanding of the subject, and to record examples which illustrate the evidence.

You should try to arrange a meeting with a group of students outside lessons. This is of most benefit when arranged after the analysis of coursework, when you may be able to interview students whose portfolios you have examined. By doing this, you can ascertain their progress and their current levels of understanding. You can determine to what extent they have planned the research, identified sources of information, based their study on actual industry situations and carried out the work themselves.

Some students may believe that the quantity of information presented as coursework in agriculture and associated subjects is significant. This may lead to wholesale copying from sources, with consequent poor learning. The interview with students will allow you to judge the depth of understanding and the scope of the knowledge they have gained through the work. Avoid general questions, other than for 'ice-breaking' purposes. The time is best used in asking specific questions related to the content of previous units or in following up issues identified in your analysis of the work of particular students.

Example 4: evidence from discussion with three students doing the national certificate in agriculture in a specialist college. They started the course with about 2 grade D passes at GCSE

Discussion on animal husbandry: dairy cow rations

From the group of seven students, the three whose portfolios have been scrutinised attend the 40-minute interview. Three questions have been identified from each student's work and one of these questions, concerning how the quality of silage affects concentrate feeding levels, is common to all three. Two of the students are judged to be achieving at distinction level according to the records provided by the course co-ordinator; and the remaining student is judged to be achieving a credit.

All the students talk fluently about silage making and how this can impact on quality and value in feeding. One student, asked about procedures for making high quality silage, gives a very good description of the time scales and targets involved, clarifying some details in the written account. A second student gives lucid descriptions of a range of additives available. These two have a pragmatic grasp of the difficulties that can arise between the drawing up of a silage-making regime and its implementation. The remaining student (merit) is less articulate when discussing the same problem. The student is, however, able to explain matters that were less intelligible in her written account, such as the evaluation of silage quality.

All are well able to point out shortcomings in some commercial products and to describe which would be most useful for making silage. In all cases, the students are able to give a very clear oral account of areas of work presented in the portfolios. All can explain how they would evaluate silage quality and how this would be used to provide balanced rations. All three students are imaginative in the way they have opted to present their dairy rations. They have used key skills very well in their calculation of rations.

[Attainment well above average (2)]

Commentary

The students' capacity to recall and explain what they have learnt shows that their abilities are being realistically assessed by their teachers. The two deemed to be achieving at distinction level demonstrate very good understanding of technical terminology. Their written work is fluent and shows synthesis of information. The least able of the three shows a good understanding of many of the ideas. Since even the lower-attaining student reaches merit level, this is attainment that is well above average. In view of their potential on entry to the course, their achievement is very good.

Example 5: evidence from discussion with four first year national diploma students in animal care in a specialist college (spring term)

Kennel and cattery management

All four students have progressed from an intermediate course in which they achieved pass levels. They are working together to compile evidence of group interaction. This provides an opportunity for focused discussion on the unit, without disrupting the lesson. They are asked what methods they are going to use to demonstrate their communication skills, what records they plan to produce and what the context of the session is to be.

The group is lethargic and inhibited, finding difficulty in explaining the above factors. They are not able to use effective language to describe non-verbal communication. They find it difficult to explain to each other perceived barriers to useful communication within the group. They have problems deciding how to record their findings and are poorly prepared, with no perceived context for discussion. This is despite written and oral guidance from the teacher at the start of the lesson and reference to recent assignments.

While they have adequate basic understanding of the subject, their lack of confidence on this topic prevents them from progressing. None of them can explain to a satisfactory level why effective communication between staff about animals is fundamental in kennels and catteries. They do not fully understand the concept of evaluating their own communication skills and those of their peers.

[Attainment below average (5)]

Commentary

It is clear that the students have found it difficult to work and learn independently as required in the national diploma. They have not yet been successful in making the leap from a small communication content at national certificate level to that of the national diploma. Their achievement is unsatisfactory.

1.4 Lesson observation

Lesson observation is a major source of information about standards and achievement. Lessons may consist of students working alone on research or on the production of a particular piece of coursework. Observing discussions between teachers and students will give evidence of their levels of understanding. Discussions with students during the lesson will also provide evidence of understanding and allow you to check their grasp of particular issues.

Lessons may be observed in a classroom, workshop, laboratory or outside. Lessons may be structured as a whole-group activity, individual work, tutorial, seminar, or open learning. It is important that the sample reflects the range of courses offered and that both practical and theory lessons are covered. There may well be differences, for example, in the attainment of students studying the same qualification but through different modes of attendance.

Example 6: evidence from a year 2 national diploma lesson in equine studies in a specialist college. Students are recruited to the course with 2/3 grades A-C in GCSE

Equitation: working on the flat

At the beginning of this topic, the standards of attainment relate well to criteria for grades A to C. Students have brought higher skills from other units to bear on this. There is clear evidence of the students' developing ability to relate knowledge and understanding from the course to their work placements and vice versa. For example, they understand the criteria for successful transition from walk to trot and how this is achieved.

When the students are asked questions relating to grade A assessment criteria they are able to provide well-considered responses showing well above average attainment. Oral skills are above average for the start of year 2. Progress is good in this lesson, with students covering the skill content and showing good understanding of it. They use specialised vocabulary accurately and with confidence. They interact well and in discussion sometimes build on what others have said. There is a warm rapport with the teacher and respect for each other. The students show interest and maintain concentration throughout the lesson. They are able to give a good account of what they have learnt and how it relates to their work placements.

[Attainment well above average (2)]

Commentary

Many students give satisfactory responses to questions corresponding to the assessment evidence criteria for grades up to A. Attainment is thus judged to be well above the average at this stage. Given the nature of their GCSE grades on entry to the course, their achievement would appear to be good rather than very good.

2 Teaching and learning

2.1 Evaluating teaching and learning

Interpret the *Handbook* criteria with specific reference to agriculture and associated subjects. Keep in mind the characteristics of effective teaching and learning in which:

- | through the teacher's knowledge and enthusiasm for the subject, students come to appreciate the significance of agriculture and associated topics both in familiar and in unfamiliar settings (*subject knowledge, planning, methodology*);
- | students gain experience and develop their skills in a variety of appropriate industry settings (*expectations, planning*);
- | the development of practical husbandry skills is integrated with the theoretical knowledge on which they are based (*methodology, subject knowledge, planning*);
- | the specialist input of current practitioners gives an insight into their work (*expectations, resources, subject knowledge*);
- | teachers provide positive reinforcement of the industry through their interactions with students (*expectations, methodology*);
- | stereotypes are discouraged and students learn that individuals are affected by differing factors which influence their needs (*planning, subject knowledge*);
- | students are encouraged to make judgements and predictions about the potential effects of, for example, genetically modified food production (*expectations, planning, assessment*);
- | students are encouraged to reflect on their own communication and behaviour in order to improve their performance in industry settings (*expectations, planning, assessment*);
- | students are enabled to learn to use technical terminology, for example, in relation to using and reporting measures of animal health and well-being (*methodology, assessment*).

Learning will be effective when students:

- | develop their ideas beyond simple responses and bland statements, showing that they are continuously being extended, for instance, moving from an accurate description of animal breeding to a critical examination of the range of issues and the reasons behind the genetic improvement of livestock (*developing ideas and increasing understanding*);
- | read independently about agriculture and associated subjects, bringing relevant material into lessons for discussion and using it in their coursework (*intellectual effort, interest*);
- | use appropriate terminology for the agriculture and associated sector, giving due care to the client group, the context, and whether it is written or spoken communication (*increasing understanding*);
- | appreciate the importance of accuracy in the use of agricultural and associated vocabulary, technical terms and non-discriminatory language (*increasing understanding*);
- | build on their work placement time to relate practice to theory, sharing their experiences in different industry settings to broaden one another's understanding (*thinking for themselves, understanding how well they have done*).

Be alert to teaching which may have superficially positive features but which lacks the rigour, depth, insights and command of good subject teaching. Examples might be lessons in which:

- | anecdotal evidence of activities witnessed on placement is discussed, but without examining the underlying concepts (*methodology, expectations*);
- | group work makes good use of presentational skills but involves little subsequent analysis (*methodology, subject knowledge*);
- | information and communication technology (ICT) is used, but in such a way that it does not contribute to increasing knowledge, skills and understanding of business planning (*methodology, resources, planning*);
- | work placement is organised, but students are poorly briefed about its purpose and where it links to coursework or examination requirements (*planning, expectations*);
- | large quantities of information are provided in the form of handouts, but students are not clear how to use

them and have little opportunity to think or reflect about what they are doing (*resources, planning, methodology*);

- there is a brisk pace of working, but the students are not given time to think sufficiently for themselves (*planning, methodology*).

2.2 Lesson observation

Lessons may consist of individual work on research or the production of a particular piece of coursework, and you should not encourage teachers to put on special events for your benefit. Take whatever opportunities you have to evaluate the quality of teaching and learning. Observe the students while they are working and question them on what they are doing and how they are going about it. Their use of resources and evidence of study skills will inform judgements about learning. You will make your judgements on the teaching from the appropriateness of the task(s) set and the way in which the teacher manages the classroom activity, monitors the students, and engages with them as necessary.

Example 7: evidence from a first year foundation level rural skills lesson in an agricultural college **Machinery: tractor driving**

This is an introduction to tractor driving for a group of students, many of whom have some learning difficulty or disability and require additional learning support in lessons. The objectives of the lesson are clearly explained and all students are set realistic targets. The students are invited to design a simple yet challenging course for first time drivers, using tyres. Students agree that each time they touch a tyre on the course they will have a point deducted from their score. This sets a challenge and helps develop key skills of recording and number. The teacher uses carefully directed questions to encourage students to make effective links to their own knowledge of car racing circuits (which they had seen on a video during a previous lesson) and to their earlier work with tractors.

The students split into three groups, each group working with the teacher or one of the learning support tutors. Through effective questioning, the teacher explores issues of health and safety linked to tractor driving. He is effective throughout in supporting individual students with their driving. Good planning ensures that all the students have an opportunity to drive. Good use is made of constructive discussion to review each other's performance. In groups, the students share their observations and discuss solutions to the problems seen in the driving. A positive approach is adopted with much use of praise for progress and achievement.

Students then collaborate well in using ICT to write up thorough and lucid accounts of their experiences, with the purpose of sharing learning with other groups. The learning support tutors use tractor instruction books to check students' understanding of associated knowledge. Their questioning is effective and they make use of a gapped handout for the students to complete.

The activity is well planned. The teacher sets out the purposes of the lesson clearly to the students and introduces various activities in the context of the whole lesson. Good links are made with knowledge and understanding of previous work. Teachers and tutors challenge ideas, and this is effective in provoking further discussion among students. On several occasions, they bring new information to discussions – for example, from their own experience of driving safely – and they transfer ideas and experiences from one group to the other.

The teacher and tutors handle sensitive issues with care and give no negative messages. At no time do the students appear embarrassed or out of their depth. Skilful use of questions shows that the teacher and tutors are aware of different students' capabilities, and ensure that all are able to participate.

The students clearly enjoy the intense activity. They concentrate throughout the lesson, listening actively to others' views and readily joining in group and class discussions. They show realistic judgements based on their previous understanding, demonstrate good levels of learning, respond positively to the driving and achieve a good standard.

[Teaching and learning very good (2)]

Commentary

The lesson succeeds partly because the students know what is expected of them and are building on previously acquired knowledge. They are aware of the principles behind the topic and, from the recently studied units, they know something of the different factors affecting safe driving. They show commitment, having respect for one another's and the teacher's opinions. The lesson has been constructed in a rigorous and creative manner, geared to the ability of the students and with regard for their group dynamics. The format of the lesson is appropriate for the group. They are able to learn effectively because they feel secure and are thus able to take part with confidence.

Example 8: evidence from a national certificate course in agriculture at an agricultural college; spring term

Animal husbandry: dairy cattle breeding

This lively lesson is the introductory session for this element of animal husbandry. It begins with a brief introduction to set the objectives and the links with other aspects of the syllabus. The teacher asks the students about their practical experience of cattle breeding. During the lesson, the teacher uses this information effectively by checking understanding and using the more experienced students to help those without practical knowledge of dairy cow improvement. The effective use of the students' own experiences in this way drives the lesson. The teacher's questioning is effective, with use of a good range of detailed learning materials. The students find the lesson stimulating and enjoy it enormously. The teacher uses his own wide experience of dairy husbandry well to link genetic theory to the improvement of productive traits in dairy cows.

The students then form small groups in which they identify as many productive factors as possible and consider how these may be transmitted to improve milk production and longevity. Students interpret data on bulls and successfully select appropriate bulls to use on the college herd. The teacher allows a suitably short period of discussion in the groups before bringing the class together to share their points. He skilfully directs students to less obvious issues, for example, the impact on cattle of nutrition, health and their environment. Students show good understanding of the topics. The teacher gives individual students good support and checks learning. He develops good group discussion around topics raised by students. Most students contribute very well and in doing so show how far they have understood the main ideas. By the end of the lesson, each group has identified the major factors and is very well prepared to undertake linear assessment of dairy cows on the college farm during the second part of the lesson.

[Teaching and learning very good (2)]

Commentary

This very well-planned lesson succeeds because it captures the imagination of the students, moves at a brisk pace and provides a very good basis for the lessons to follow. The teacher is confident and skilful and has very clear expectations of the students. They readily demonstrate their ability to observe and to draw conclusions from data and their own experience.

Example 9: evidence from a first diploma lesson in animal care at a general FE college; spring term

Animal science: identifying signs of good health

The class starts with a review of previous learning on animal health, with reference to the students' work on the animal unit. This is effective in focusing them on the topic. The lesson is introduced as an essential element of animal husbandry and moves on to develop knowledge and understanding of the importance of quick and accurate identification of unhealthy animals. The teacher takes particular care to introduce and check the understanding of vocabulary relating to the topic. The teacher makes good use of overhead transparency (OHT) photographs and the students' own experience to illustrate signs of health across a wide range of species. All information is given as a handout, apart from an exercise to develop a health record for use on the unit.

The teacher makes very effective use of questions and answers with the whole group, engaging them in discussion and using individual and small-group work to elicit ideas for use with the whole group. The students respond well,

showing keen interest and making good contributions. Rapid gains in understanding are evident. All members of the group are involved, with the teacher having a one-to-one talk with the quieter members of the group. There is a summarising session at the end of the lesson before an assignment is set. This involves the preparation of a health record and the requirement for each student to keep health records for certain animals over a one-month period – a good activity, well chosen to advance their learning. Time is given to making sure that all students fully understand what is expected of them.

The teacher's knowledge and experience of the subject are very good. Examples used for discussion are drawn from actual events on the animal unit. The written materials and photographs are realistic and students are involved in genuine decision making in their discussion with others. Their learning progresses very well. Several students relate topics to their work experience. They discuss this with due regard to animal health and welfare, demonstrating that they are familiar with the importance of the recognition of good health in animals.

[Teaching and learning very good (2)]

Commentary

The lesson is well planned. It follows on well from previous work and the importance of animal health and welfare in a range of animal environments is made very clear. Throughout the lesson, the teacher makes good reference to the animal unit, and students are encouraged to give their own views related to their work experience. They are closely involved and interested in the cases being considered. There is variation in methodology. Much of the lesson is based on questions and answers, but there is group work to elicit ideas on the levels of health and welfare appropriate to different situations. This is effective in producing very good learning, because it continues to hold the students' interest. The teacher clearly summarises the lesson and sets an assignment to develop the learning in the lesson. This is in preparation for a subsequent practical lesson to consider health of stock in the range of environments in the animal house. Students learn new concepts quickly and effectively as a result of this teaching.

Example 10: evidence from a spring term year 1 national diploma lesson in horticulture

Plant and soil science: soil management and cultivation

The teacher's knowledge of soil management and cultivation is of a very good standard, with clear understanding of complex soil conditions, including erosion. However, the very brief introduction does not set the lesson in context with previous topics. The teacher asks no questions at the start of the lesson and launches straight into an accurate account of soil structure and management, using OHTs of which the students have typed copies.

Students are quiet throughout the lesson and few raise questions. Those raised are to ask for an explanation or for links to practical horticulture, but this only results in a repetition of the information from the teacher. Students are clearly determined to record what is being said in as full a way as possible, but the order, completeness and usefulness in the notes they make vary widely. The teacher reads from the OHTs during the entire lesson and offers few practical applications from previous industry experience. There is no variation in teaching and learning styles to break up what is a long lesson.

After the lesson, students were unable to respond well to questions on the range of topics covered previously by the same teacher. They had asked for explanations outside the lessons, but had simply been given book references from the library. Students' notes on the previous topics were accurate but not understood by many of them. One student described how they had complained to another tutor about the lessons, but 'nothing was done'.

[Teaching and learning poor (6)]

Commentary

In interview, the teacher described the view that the role was to provide correct soil science information. Clearly, knowledge of the content was good, but, beyond that, teaching was poor. The teacher did not respond appropriately to students' requests for help. Since they did not understand the textbook and

teacher's notes the first time, further reference to texts was not likely to overcome their problems.

The teacher does not ascertain the students' level of knowledge and understanding before starting to teach, or check their understanding along the way by asking suitable questions. Consequently, students' learning was restricted to lower levels of understanding. The students have tried to learn and change the teaching regime, but staff have not responded adequately. Students maintain good behaviour despite their problems and should receive credit for their positive attitudes.

Example 11: evidence from a portfolio-building session for NVQ level 2 horse care at an agricultural college; spring term

This lesson is devoted to the completion of portfolio evidence for NVQ units. The lesson is well planned and students have been well prepared. A few have not brought their portfolios with them. Students are encouraged to code all observations under 'tutor', 'workplace assessor' and 'witness testimony'. The teacher explains clearly the requirements for NVQ achievement. Some students listen closely, but a minority do not pay sufficient attention. The teacher spends time with individual students as they continue with their work. The quality of the teacher's advice and support is mostly good. However, some students are reluctant to co-operate and do not keep to task for the whole lesson. Those students who use the computers tend to use them productively but some students in the learning centre spend too much time copying material from books. At the end of the lesson, some students have improved their portfolios but several have made little progress.

[Teaching satisfactory (4); learning unsatisfactory (5)]

Commentary

The lesson has a clear purpose; the teacher has prepared the class in advance and has arranged for students to use the learning resource centre so as to give as much individual attention to them as possible. A range of learning resources is available. The teacher has made appropriate provision for an activity which is an important part of courses like this. However, students' attitudes are such that not all of them engage in productive work. Although some students clearly benefit from the session, others fail to produce satisfactory work.

2.3 Other evidence on teaching and learning

Lesson observation is usually the most important source of evidence on the quality of teaching and learning, but the analysis of work and discussions with students can also yield valuable information. This is particularly important when the work includes a coursework component undertaken over time. Under these circumstances, the observation of individual lessons may give a very partial picture of the students' learning experience and of the support provided by teachers.

The work analysis will give you a good feel for the overall rate of progress, and therefore the pace of the teaching and learning. It will show the range and depth of the work which the students are required to do. For example, it will indicate whether students use an adequate range of agricultural and associated contexts and whether they are challenged sufficiently to develop the higher order skills of analysis and evaluation.

Discussions with students will give you a sense of their motivation and the range of their experiences. You can ask questions to show whether they understand clearly how well they are doing and what they must do to improve.

3 Other factors affecting quality

Other factors are only significant if they have a noticeable impact on standards, teaching and learning. Note and evaluate any significant features of the curriculum, leadership, management, staffing, accommodation or resources. The following questions might usefully be asked.

3.1 Curriculum

- | How good are the schemes of work and how well are assignments designed? (Poorly designed assignments may be insufficiently challenging. For example, students may transcribe material from textbooks, computers or information leaflets, with little analysis of the contents.)
- | Do the schemes of work ensure students safely develop their practical skills alongside knowledge and understanding?
- | Does the teaching ensure that all students in the class make equally good progress where students from different courses are taught together in the same class? (Such classes may include foundation and intermediate students, or a combination of intermediate with advanced level or with NVQ programmes in colleges.)
- | Do teachers recognise mature students as a valuable resource, encouraging their interaction? (Mature students often have relevant personal practical experience of agriculture and associated subjects.) Are there opportunities for them to extend their knowledge and understanding? Are they permitted to monopolise discussions? (Often such students require individual slants to assignments in order to maximise their newly acquired knowledge and relate it to their past experience in a valid way.)
- | Do students benefit from regular advice on the development of their portfolios? (Portfolios of evidence of learning take time to build and need sound guidance, particularly at the start of a first diploma or national certificate programme. Consider the management of this aspect of the students' work and how their learning is affected by the guidance they receive.)
- | Does the allocation of different units to different teachers, or to different periods of time, result in students failing to understand the relationships between the topics covered by different units? Are teachers successful in bringing out these connections?
- | Are students suitably helped to find jobs or to progress to further study?

3.2 Staffing

- | Do teachers have a good knowledge of their subjects and do they keep up to date with developments in the industry? Is this demonstrated in their teaching?
- | Is learning affected by the way technicians and farm staff are deployed?
- | How well do teachers encourage students to use the library or other resource centres?
- | When part-time specialist teachers are deployed to teach parts of the course, how well do they understand the importance of the vocational context and has the course leader ensured that they are using effective methods of teaching?

3.3 Accommodation and resources

- | Are there sufficient stocks of consumable materials as currently used in the industry?
- | Is learning affected by storage arrangements for materials, equipment and students' work or by the relationship between group sizes and the available workspace?
- | What are the arrangements for practical and laboratory work? Are there sufficient animals and machines for students to work with? Do students have realistic specialist environments in which to learn? Are they able to undertake sufficient routine duties, such as milking, so that they may practise and develop their skills?

3.4 Leadership and management

- | How closely and accurately do managers monitor the quality of teaching and students' progress and attainments?

- | How well do managers keep the plant and equipment up to date? Are there arrangements to identify and replace older equipment?
- | Is health and safety well managed?
- | Is the work cost-effective overall? (Take into account whether the teaching is of high quality and whether students achieve high standards. Consider whether the level of performance is achieved with efficient use of good quality resources.)
- | How well does the range of provision meet the needs of local employers?

4 Writing the report

Not all subjects or courses will necessarily be inspected in detail but, where a subject is, there will be a separate section in the report on that subject post-16. The following are examples of post-16 subject sections from inspection reports. The examples illustrate provision within specialist agriculture colleges. (The examples do not necessarily reflect the judgements in any or all of the examples given elsewhere in this booklet.) The summative judgements in inspection reports use, for schools, the seven-point scale – *excellent; very good; good; satisfactory; unsatisfactory; poor; very poor* – and, for colleges, the five-point scale – *outstanding; good; satisfactory; unsatisfactory; very weak*. The summative judgements *excellent/very good* used in school reports correspond to *outstanding* in colleges; *poor/very poor* used in schools correspond to *very weak* in colleges.

Agriculture and countryside management

Overall, the quality of provision is outstanding.

Strengths

- | Standards of students' work are high on many courses: students' practical skills in agriculture are especially good.
- | Examination pass rates and retention rates are high on nearly all courses.
- | Achievement is good and many students perform better in their examinations and tests than predicted by their qualifications on entry.
- | Work-based learning is good.
- | Teaching is very good and makes effective use of the high quality college estate.
- | Students are well supported and guided through their courses and into higher education or employment.

Weaknesses

- | A few modern apprentices take too long to achieve their qualifications.
- | Some of the accommodation used for theory lessons is of poor quality.

Scope of provision

There is a wide range of full-time provision from foundation to advanced level in agriculture, farm mechanisation, game and fishery management and countryside management. Foundation qualifications are offered through the two-year rural skills course and lead to nationally recognised proficiency certificates or NVQ level 1 qualifications. Intermediate and advanced courses include a good range of first and national diploma courses and national certificates. Around 200 students study full time and nearly all of them are 16–18 years of age. Sixteen modern apprentices are studying for NVQ level 2 or 3 in agriculture. An extensive programme of short courses, mainly for people working in industry, recruits around 90 students each week.

Achievement and standards

Achievement is very good and standards are well above average. Retention and pass rates on most courses are high. In five out of the six full-time courses, they are consistently well above the national average and have improved in each of the last three years. Results have been at or just above the national average on the first diploma in agriculture, but retention rates sometimes dip just below the national average. Many modern apprentices complete their NVQ in a reasonable time and most gain their full qualification. However, a few take too long to achieve their full qualification, as they take too long to complete their key skills qualifications. Full-time students and modern apprentices can choose to study a good range of other qualifications, for example, in ICT. Many of them successfully complete these additional qualifications. Most part-time courses lead to a qualification, which the great majority of students achieve.

Students reach high standards in their practical work. This is especially true of students on agriculture courses, where students' machinery and livestock handling skills are often excellent. All students handle machinery competently and safely. They enjoy the practical elements of their course. They complete their work and talk about it with enthusiasm. Their written work is good and is generally at or above the standards required by their course. Students on the rural skills course plan their work carefully and complete it in a reasonable time. Their work around the estate makes a notable contribution to the good appearance of the college grounds.

Students' achievement is very good. The college has developed its own value-added system. The results show that 60% of students who completed their advanced level course in 2001 achieved higher grades than their entry qualifications would predict. Generally, students who started their course with the minimum entry qualifications did very well. Nearly all of them gained a higher grade than would have been expected when they started the course. Their portfolios of work show very good progress on tasks of a varied and demanding nature.

Most full-time students progress to further study when they complete their course. Approximately 75% of students completing an advanced level course enter higher education to study a related subject. Over 90% of students who completed their national diploma in rural studies, game and fisheries management went on to study in higher education. The overwhelming majority of students on foundation and intermediate courses progress to further study in the college.

In all aspects of provision, high standards have been maintained, or average standards have improved significantly, since the last inspection.

Quality of education and training

Teaching in both theory and practical lessons is of a high standard. Teachers are skilled at presenting all members of their teaching group with challenges and then helping them to meet the challenges. In lessons, they draw on their own extensive industrial experience. They provide good opportunities for students to share their own experiences of work with the rest of the group and students take these opportunities well. For example, in one lesson, a student who had recently undertaken work experience on a farm with a new rotary milking parlour was keen to describe this to the teacher. The teacher encouraged her to share the advantages and disadvantages of this system with the rest of the group and a lively discussion ensued, involving all the students. They all made thoughtful and often prolonged contributions. The teacher skilfully led them, carefully summarised their discussion, gave them a table of pros and cons of the system and referred them to appropriate books in the library, where they could follow up this work.

Teachers use questions well to keep students thinking and to check that they are learning. Students on the rural skills foundation course were asked to plan a series of practical activities on ditch maintenance. The teacher's skilful questions ensured that their plans were detailed and sensible. Later that afternoon, they put the first stages of these plans into action. First they had to requisition tools they needed from the central stores. Working in pairs, they successfully organised two hours of practical work on the section of ditch they had been allocated. The teacher closely supervised their work and used clear and practical questions to help the students to work efficiently and well.

Teachers on all courses make effective use of college resources and estates to stimulate learning. All teachers are based at the college farm, where there has been considerable investment recently in commercial and teaching facilities. These facilities are now overwhelmingly of a very high standard, although there is still a small number of classrooms in elderly huts which are often too hot or too cold and do not provide a good environment for learning. Teachers do well to achieve high standards in some of these classrooms. Practical facilities are modern and well maintained. The dairy unit provides an excellent example of a modern training unit. The classrooms are located close to the milking area. Computer recording systems enable students to gather data on diet and milk yield easily. Accessible computers in modern classrooms nearby help them to complete their analyses.

Teachers and tutors know their students well. Students' progress is closely monitored and clearly recorded. Students are set regular written and practical assignments and tests. These are of an appropriate standard for the course and are marked and corrected in detail. Internal verification systems are effective in ensuring that standards of written work, practical work and routine farm duties are maintained. Modern apprentices and students taking NVQ programmes benefit from clear assessments of their work in the workplace. Teachers and other staff who are qualified to assess make sure that students complete regular assessments and know how well they are doing.

Leadership and management

The department is very well led and managed. The provision is cost-effective. Technical and teaching staff work well together. There are regular meetings of course teams to discuss students' progress and to plan the next stage of the course. All teachers are involved in course reviews and self-assessment. Reviews pay close attention to students' achievements and the quality of teaching and learning. Employers regularly contribute to the course review process.

Equine studies and animal care

Overall, the quality of provision is unsatisfactory.

Strengths

- | Pass and retention rates are high on the first diploma in animal care.
- | There is effective teaching in most theory lessons.

Weaknesses

- | There are poor retention and achievement rates on most courses.
- | Many students have poor practical skills.
- | In spite of some strengths, teaching is unsatisfactory overall.
- | Many practical lessons are poorly planned.
- | Leadership and management are weak.
- | There is inadequate tutorial support and guidance.
- | Specialist resources are inadequate.

Scope of provision

There are full-time first and national certificate and diploma courses in equine studies and animal care. Twenty-two full-time students are studying on equine studies courses and 14 full-time students on animal care courses. British Horse Society awards are offered on a part-time basis at levels 1 and 2, with nine students enrolled on each level. Part-time animal care courses at NVQ level 1 and 2 have recruited only five students at each level. The introduction of veterinary nursing courses and work-based training, including modern apprenticeships, has been planned for the last two years. However, none of these programmes has started successfully.

Achievement and standards

Achievement is unsatisfactory and standards are below average. Retention and pass rates are poor on many courses and have been so for the last three years. There has been little sign of improvement in this time and since the last inspection, although the retention rate on the national certificate in the management of horses has improved to around the national average. On some courses, achievements have declined. For example, none of the students on the stage 2 horse knowledge and care course of the British Horse Society achieved an award last year. A significant exception to this overall pattern is the first diploma in animal care, where retention and achievement rates have been high for the last three years. However, few of these students progress to the national diploma at the college, although most of them progress to courses at other colleges.

Students are enthusiastic but often do not fulfil the potential they showed at the beginning of the courses. The reason for this unsatisfactory achievement is that too many of them fail to develop the skills they need to succeed on their course and progress into employment in their chosen industry. Students studying on equine courses often have poor equitation and stable management skills. For example, many of them had difficulty in ensuring that their horses' feet were properly cleaned before a ride. Their approach to grooming their animal was not systematic and several students did not pay sufficient attention when working close to their horse. Students on the national diploma in animal care were insufficiently skilled at handling small animals. They were careful not to injure the animal, but many of them found it difficult to manipulate the animal to examine it for signs of infestation or disease.

Some students' written work is of a high standard. Many written assignments are well above the minimum requirements of the course. However, too many students fail to complete all the work they have been set. Teachers' records show that the students who have left courses early in the current year had failed to complete significant elements of the work. These students also often had poor attendance records.

Quality of education and training

In spite of some strengths, teaching is unsatisfactory overall. Too much of the teaching, especially in practical lessons, is poorly planned and implemented. Schemes of work contain little detail about how teaching will be organised and what students will be expected to learn. Most schemes are lists of topics allocated to a date when they will be covered. On two courses, there are no schemes of work. Students are simply referred to the syllabus, which they are required to purchase themselves. Many students were not clear what stage they had reached in their course or what they would be covering next.

Practical lessons are often unsuccessful for most of the students. Teachers make insufficient reference to theory during practical lessons to ensure that students can connect their theory and practical work. For example, in a poor practical lesson on hygienic practices in the animal care unit, the students were keen to know why certain cleaning routines had to be carried out in a particular order. In his answers, the teacher made no reference either to aspects of safe working or to any examples showing how disease may be spread.

Specialist resources are often inadequate and impede students' progress in several practical lessons. The equine yard is well managed, but too small for students to undertake the full range of practical skills they need to develop. The animal care unit has recently been refurbished, but there are problems with the efficient functioning of the ventilation and drainage facilities. There are too few small animals to offer students enough opportunities to develop competent handling skills. In many lessons, the result of these restricted facilities is that students have to wait too long until it is their turn to undertake the activity. Teachers have not planned any activities for them to undertake while they wait, and students often become bored. There are insufficient texts and periodicals in the library to support teaching in animal care.

There is some good teaching in theory lessons, especially in animal care. Theory teaching is often supported by good visual aids. For example, students on the national diploma in animal care were learning how animals adapt to extremes of climate. The teacher used a range of examples and illustrated each one on the overhead projector with an annotated diagram of the animal's adaptations. A good quality video recording of a programme on adaptation to temperature generated a good discussion of the principles underlying the control of body heat in animals. All the students contributed well to this session. However several theory lessons were not brought to an effective conclusion that helped students to consolidate their learning. Too often the end of the lesson was rushed.

Teachers set sufficient work for students to complete. The assignments they set are clearly written and closely related to the course. They mark students' work in detail and provide constructive feedback. However, too few students regularly complete their work and some teachers do not keep sufficiently detailed or complete records to show how well students are progressing. Course tutors are not sufficiently active in following up students' attendance or poor work patterns. Tutorials are only held infrequently and do not have a sufficiently clear structure to enable course tutors to get a clear picture of their students' progress.

Work placements provide students with valuable work experience. Teachers have established good informal links with employers and visit each placement to check on its suitability. However, there is little assessment of students' progress or abilities during their work placement either by their teacher or by their employer.

Leadership and management

The provision is poorly led and managed. It offers poor value for money. A culture has been allowed to develop that accepts poor results as the norm. There is little sense of a strategic direction for this provision. The quality of teaching is monitored infrequently. Those assessments of teaching quality that have been made have been over-generous. The improvements to specialist resources have been slow. Effective support systems to ensure that students are working to their full potential have not been successfully developed.

