

QinetiQ Limited MOD Boscombe Down

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Contents

Background information	3
Inspection judgements	3
Scope of the inspection.....	3
Description of the provider.....	4
Summary of grades awarded	5
Overall judgement.....	6
Effectiveness of provision	6
Capacity to improve	6
Key strengths	7
Key areas for improvement.....	7
Main findings	8
Achievement and standards	8
Quality of provision.....	8
Leadership and management	10
Equality of opportunity	10
What learners like	12
What learners think could improve.....	12
Learners' achievements	13

Background information

Inspection judgements

Inspectors use a four-point scale to summarise their judgements about achievement and standards, the quality of provision, and leadership and management, which includes a grade for equality of opportunity.

Key for inspection grades

Grade 1	Outstanding
Grade 2	Good
Grade 3	Satisfactory
Grade 4	Inadequate

Further information can be found on how inspection judgements are made on www.ofsted.gov.uk.

Scope of the inspection

In deciding the scope of the inspection, inspectors take account of the provider's most recent self-assessment report and development plans, and comments from the local Learning and Skills Council (LSC) or other funding body. Where appropriate, inspectors also consider the previous inspection report (www.ofsted.gov.uk), reports from the inspectorates' quality monitoring or annual assessment visits, and data on learners and their achievements over the period since the previous inspection.

In addition to reporting on overall effectiveness of the organisation, its capacity to improve further, achievement and standards, quality of provision and leadership and management, this inspection focused on specialist provision in:

- Engineering

Description of the provider

1. QinetiQ Limited (QinetiQ), Boscombe Down, supports the Ministry of Defence (MoD) by performing flight trials of new aircraft, airborne equipment and weapons to assess safety and suitability. Approximately 2,000 members of staff are based at Boscombe Down. QinetiQ offers advanced apprenticeships funded through the Gloucester and Wiltshire Learning and Skills Council (LSC). The apprenticeship has two pathways; mechanical and avionics. The apprenticeship framework includes key skills, the performing engineering operations national vocational qualification (NVQ) at level 2 and the NVQ in aeronautical engineering plus a technical certificate at level 3. Learners start with QinetiQ each September for a three-year apprenticeship, spending the final year on work-placement in the squadron hangars. At the time of the inspection, 53 apprentices were in training.
2. Training takes place in the Flight Engineering Services (FES) training centre which is managed within the technical division of the aircraft test and evaluation sector. Operational management is the responsibility of the training centre manager who supports a team of three senior instructors and seven trade instructors.
3. According to the office of national statistics, in 2007, the proportion of Wiltshire's working age population who are economically active was higher than the national average with a lower than national average unemployment rate. In 2006, the proportion of employees working in the manufacturing sector was higher than the national average. The proportion of school leavers in 2007 with 5 or more GCSEs at A* to C in Wiltshire was 59.6%, just below the England average of 62%.

Summary of grades awarded

Effectiveness of provision	Satisfactory: Grade 3
Capacity to improve	Satisfactory: Grade 3
Achievement and standards	Good: Grade 2
Quality of provision	Good: Grade 2
Leadership and management	Satisfactory: Grade 3
Equality of opportunity	Contributory grade: Satisfactory: Grade 3

Sector subject area

Engineering	Good: Grade 2
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Overall judgement

Effectiveness of provision

Satisfactory: Grade 3

4. The overall effectiveness of the provision is satisfactory. Provision in engineering is good. Achievement and standards are good. Overall success rates have remained higher than the national average since the previous inspection. Learners acquire and apply good technical skills and progression to permanent employment within QinetiQ is very high.
5. The quality of provision is good. Teaching and learning are good. Practical teaching is very good. Assessment is satisfactory but relies too much on witness statements on the NVQ at level 3. The extent to which QinetiQ meets the needs and interests of learners is good. Work-placements are of a good quality and enable learners to work on a range of military aircraft. The enrichment programme is extensive and support is good. Information, advice and guidance are good. The monitoring of learners' progress is good.
6. Leadership and management are satisfactory. The matching of training to QinetiQ's overall business needs is good. The planning of some training is insufficient and quality improvement arrangements for the training programme are ineffective. The management of data is poor. Equality of opportunity is satisfactory. The promotion and reinforcement of equality of opportunity is insufficient. QinetiQ's procedures for safeguarding learners do not meet current government requirements.

Capacity to improve

Satisfactory: Grade 3

7. QinetiQ has demonstrated that it has satisfactory capacity to improve. QinetiQ has taken satisfactory action to make improvements since the previous inspection. It has been slow to improve some of the weaknesses but has maintained most of the strengths, especially the high success rates. It has improved the quality of progress reviews but overall quality assurance procedures remain insufficiently developed. The self-assessment process is satisfactory. Individual course reviews contain a useful evaluation of the strengths and areas for improvement for each unit that has been delivered and include the views of learners. However, the self-assessment report makes insufficient use of these evaluations. It relies heavily on the previous inspection report to form the basis of its judgements with insufficient involvement of staff and learners in its production. It identifies most of the key strengths and areas for improvement. It acknowledges that quality improvement remains an area for improvement since the previous inspection.

8. The quality improvement plan suggests solutions for each area of improvement but lacks specific actions, targets, timescales and accountability for those responsible for making the improvements. Managers have acknowledged very recently the need to implement more thorough procedures to secure quality improvements. The grades awarded by the inspection team matched closely those in the self-assessment report.

Key strengths

- High success rates on the advanced apprenticeship
- Good acquisition and application of technical skills
- Very good practical teaching
- Good quality work-placements
- Extensive enrichment programme
- Good monitoring of learners' progress
- Successful matching of training to QinetiQ's business needs

Key areas for improvement

- The over-reliance on witness statements on the NVQ at level 3
- The insufficient planning of some training
- The ineffective quality improvement arrangements for the training programme
- The poor management of data
- The further promotion and reinforcement of equality of opportunity
- Its arrangements for safeguarding learners

Main findings

Achievement and standards

Good: Grade 2

9. Achievement and standards are good. As recognised in the self-assessment report, the success rate on the advanced apprenticeship has remained high since the previous inspection with similar trends for both male and female learners. The overall success rate for learners leaving in September 2005 was 65%, almost 20% higher than the national average. The overall success rate for engineering was 12% higher than the national average. For those learners who left in September 2007, the success rate, according to QinetiQ's own data, was 90%. Most learners complete their apprenticeship within the agreed timescale. The proportion of learners who progress to permanent employment in QinetiQ has been almost 100% since the previous inspection.
10. The acquisition and application of technical skills is good. In training workshops, learners develop good manual dexterity, learn how to service aeroplanes, diagnose faults and replace components. They display high levels of technical competence when they are on work-placement in the hangars and, although fully supervised, take great pride in the successful completion of practical servicing tasks. Learners are confident, knowledgeable and work effectively with their more experienced colleagues. They quickly become valued team members. They demonstrate very good understanding and implementation of health and safety procedures. Attendance and punctuality are very good.

Quality of provision

Good: Grade 2

11. The quality of provision is good. Teaching and learning are good. Learners enjoy very good practical training and instructors plan and manage practical sessions well. They expect learners to complete practical tasks to a high standard. The practical training ensures that first year apprentices develop good skills in electronics and bench fitting under careful supervision by experienced instructors. They master basic techniques such as circuit construction and wire locking while observing the high standards set for health and safety.
12. The teaching of theory is satisfactory. In the best sessions, instructors use teaching resources particularly well. In one revision session on instrument landing systems, the instructor used a computer-based flight simulator to illustrate instrument use during aircraft approach and landing. Learners responded enthusiastically and knowledgeably to the instructor's well considered questioning. In another session, the instructor made good use of many aeronautical components to illustrate aspects of the theory of flight. Many learners were able to relate aspects of their practical training to classroom theory. In some sessions the teaching fails to stimulate learners sufficiently. Explanations of engineering concepts fail to bring theory to life. Well-illustrated handouts support learning but often the completion of these by copying from overhead transparencies provides insufficient challenge for learners.
13. Learning resources at the training centre are satisfactory. Two workshops provide examples of rotary and fixed-wing aircraft, aircraft instrumentation, electronic fault-

finding rigs as well as providing good opportunities for maintenance and manufacturing projects. The self-assessment report identifies the need for further equipment to support the core training programme.

14. Assessment is satisfactory. However, on the NVQ level 3, assessors rely too much on witness statements from the workplace as the only evidence of learners' practical competence.
15. The extent to which QinetiQ meets the needs and interests of learners is good. Learners benefit from good quality work-placements within QinetiQ that enable them to gain valuable experience of working on a range of modern military aircraft. Learners value the time they spend in each of the five specialist hangars where they learn how to service specific aircraft under the guidance of experienced workplace supervisors. Many participate in specialist training courses once they choose to work with a particular type of aircraft.
16. The enrichment programme is extensive and enables learners to make a positive contribution to their community and maintain healthy lifestyles. Learners benefit from and participate in a range of regular organised sporting activities. QinetiQ organises free educational visits to air shows and relevant museums to enhance learners' technical understanding. All new learners benefit from a residential course at the start of the programme which includes a good range of teambuilding activities. QinetiQ has formed productive links with a local cultural festival to produce themed sculptures over a three-year period that enable learners to gain valuable project management experience and extend their engineering skills as they design installations for a local business park. The monthly class leader system provides learners with good opportunities to take responsibility for their group and represent their views at weekly meetings. Some apprentices develop good mentoring skills as they work with "gifted and talented" pupils from local schools in years 10 and 11 to design science-related learning resources for their schools. QinetiQ has also established pilot projects with other local schools that enable pupils to achieve an NVQ in performing engineering operations at level 1.
17. Support for learners is good. Information, advice and guidance are good. Entry requirements for the advanced apprenticeship are clear and supported by thorough aptitude testing that ensures good matching of potential learners to the apprenticeship. Learners who are identified as requiring additional learning support receive individual help in literacy and numeracy as appropriate. Staff have received insufficient training in providing specific learning support. Induction arrangements are good and enable learners to settle into their studies quickly. Induction concentrates strongly on developing learners' understanding of health and safety and the content of their apprenticeship framework. Induction pays insufficient attention to the promotion and understanding of equality of opportunity.
18. The monitoring of learners' progress is good. Both learners and their tutors understand progress made and work that remains outstanding. QinetiQ makes good use of a performance management system to set targets for learners which are reviewed every three months. In addition, all learners receive monthly progress reviews which concentrate on setting short-term targets for the completion of specific units. QinetiQ has also designed further tools to monitor learners' progress such as a matrix that identifies individual progress and achievements and allows comparison against planned progress.

Leadership and management

Satisfactory: Grade 3

Equality of opportunity

Contributory grade: Satisfactory: Grade 3

19. Leadership and management are satisfactory. As identified in the self-assessment report and at the previous inspection, the training centre successfully matches training to QinetiQ's business needs. A very high proportion of learners enter full-time employment with the company once they complete their apprenticeship. Plans exist to increase the number of learners to meet QinetiQ's overall recruitment needs over the next three years. The training centre has plans to recruit learners from QinetiQ's other sites.
20. Communication is satisfactory. Much communication until very recently has been informal. The training manager has reinstated regular, formal recorded meetings. The self-assessment report has identified the need to improve communication between the training centre and the hangars. Weekly class leader meetings provide an effective forum for learner representatives to raise concerns with staff and to negotiate their resolution.
21. Equality of opportunity is satisfactory. QinetiQ demonstrates its commitment to a harmonious workplace that values diversity through its policies and procedures. QinetiQ works hard to recruit more female learners and each year recruits at least one. Currently three females are on the apprenticeship. Through its work with local schools, it has introduced more females to engineering. QinetiQ does not reinforce learners' understanding of equality of opportunity at progress reviews. Some staff lack the confidence to discuss equality and diversity openly. Most staff have attended equality and diversity training.
22. The procedures for safeguarding learners do not meet current government requirements. QinetiQ has conducted enhanced Criminal Record Bureau (CRB) disclosure checks on all staff in the training centre. It plans to extend this to workplace supervisors in the hangars. It does not have a single central record for recording the checks. Following an LSC audit in June 2007 where it sought assurances regarding safeguarding, QinetiQ has yet to appoint and train a designated child protection officer.
23. The planning of some training is insufficient. QinetiQ does not have a clearly defined plan that links the components of the apprenticeship framework to the training delivered. QinetiQ has given insufficient consideration to how the current three apprenticeship delivery models and the involvement of learners in community projects impact upon the programme. The unpredictable nature of work in some of the aircraft hangars means that some learners have long periods when they cannot develop their skills. QinetiQ does not have suitable arrangements in place to identify and relocate these learners.
24. Quality improvement arrangements are ineffective. QinetiQ recognises this as an area for improvement in its self-assessment report. Few formal procedures exist to evaluate the overall quality of provision and identify improvements through analysis, diagnosis and action planning. QinetiQ does not evaluate the quality of teaching and learning nor does it sample the quality of assessment practice. Instead, it relies heavily on the efforts of

individual staff to bring about quality improvement. Instructors work in isolation to evaluate the quality of the programme units they deliver and to instigate improvements.

25. The management of data is poor. QinetiQ has changed the duration of the apprenticeship several times since the previous inspection. Confusion has arisen over planned end dates. Managers have failed to analyse and reconcile sufficiently the discrepancies between locally and centrally held data.

What learners like:

- Social and sports activities such as sailing
- Adventure training week at Bude
- ‘The hands-on engineering in the training centre workshops’
- ‘Getting to do real work in the hangars’
- ‘Being given responsibility’

What learners think could improve:

- Number of team building activities and trips available
- ‘Better organisation of our time in the training centre; there is too much sitting around’
- ‘More time in the squadron, working on aircraft’
- ‘More challenging personal targets’
- ‘Better communication about our training, so we know what’s happening’
- Use of feedback from class leaders

Learners' achievements

Success rates on work-based learning 'apprenticeship' programmes managed by QinetiQ 2005 to 2007

Programme	End Year	Success rate	No. of learners*	Provider/college NVQ rate**	National NVQ rate**	Provider/college framework rate**	National framework rate**
Advanced Apprenticeships	04-05	overall	1	0	48	0	34
		timely	1	0	31	0	22
	05-06	overall	20	65	53	65	44
		timely	20	65	34	65	27
	06-07	overall	***				
		timely					

* Learners who leave later than originally planned are counted in the year they actually leave. This group of learners are then added to the learners who planned to complete in a given year and did so or left earlier than planned

** College/provider and national qualification success rates are calculated using LSC published data derived from the 'Individual Learning Record'

*** Learners leave in the September of their final year. Data for leavers who left in September 2007 will appear in the 07-08 success data. No learners were due to leave in September 2006.