



Personal, Soft and Functional Skills development through BSKC projects

The learning vehicles identified below refer to the full curriculum projects.

Key Stage 3

Functional Skills:

English

Writing - Developed through the "Reporting Module" where students analyse and evaluate writing and reporting styles before developing their own writing through the production of articles for newspapers and school newsletters

Speaking – Developed in the Enterprise Session "The Pitch"

Maths

Developed through the Maths module where students develop statistical skills in analysing lap and sector data, identify patterns in data and produce hypotheses

ICT

Developed through the ICT module, where students develop software specific skills for CAD programming, utilise and develop spreadsheets and databases, use mapping software to identify routes and distances to travel to regional and national competitions and develop a web site for their team

CAD skills are further developed in Design Technology, if students utilise CAD programming in order to develop their final designs

CAM skills are developed if CAM techniques are used for the production of components

Personal and Soft Skills:

Personal and soft skills are best developed through the project if an investigative approach to learning is used throughout. Whilst some modules can be class taught (Geography, History, and Music) the emphasis in all other modules should be "how can we....in order to improve our competitiveness?"

Students should be encouraged to look for opportunities to extend their abilities or competitive edge through the work. There should be no limit to the level of learning sought or achieved.

Organisation

Organisation of learning, through the organisation of what has been learned in order to produce a clear understanding of what can be done to improve competitiveness is developed through regular learning reviews with learning mentors or tutors (as explained in the management guidelines). Whilst there is no requirement for sessions to be taught or learned in the teams that will be competing in the BSKC championship, regular team reviews generate a shared organisation of learning, reinforcing the classroom sessions and ensuring students analyse the learning to generate long term memory.

Organisation skills can be further developed through practical investigations in Science.

Problem Solving

Readily identifiable through the use of problem solving in Design Technology, Science and Mathematics modules through the standard use of the Design Process, Scientific and Mathematical method. The entire curriculum project is also designed as a vehicle to focus students on producing a solution to the problem "How can I find the competitive edge to



win?" This is best achieved by focusing the plenaries of sessions onto "What does this tell us about improving our competitiveness?" as opposed to simple assessment for learning that generates information for the teacher on whether objectives have been achieved. In order to achieve this, the approach of "There is no such thing as an incorrect answer – but there might be a better one" is essential. The application of knowledge requires students to develop the ability to think in abstract terms rather than concrete facts. Open ended questioning is required to develop such a response. For each answer, encourage students to explain their reasoning of why the learning in that lesson has improved their ability to be competitive. Introducing each lesson through "Today we are going to try to find out/ solve the problem....." provides a regular reinforcement of the need to evaluate knowledge and develop solutions both as a group and individually. In order to do this, the generation of learning objectives for sessions needs to be developed from the normal knowledge and understanding base.

Whilst sharing learning objectives as knowledge and understanding has become the norm in lessons throughout the secondary curriculum through the National Strategies, problem solving skills can be best developed in students by translating objectives into "by the end of this session you will be able to explain/ identify how you could improve....." and then requiring students to evaluate what they have learned in terms of their ability to answer the question on how to improve.

Enterprise Skills

Developed through the Enterprise module. The module concentrates on building a business plan for the development of leisure karting in the local area. This module concentrates on the core of research, planning and communication. The content of the module corresponds to the level of input and experience that students would gain in an "Enterprise Day" using standard Education Business Partnership activities. By extending the project through the School Council, the project can be used to develop management, organisation and planning skills.

Independent learning

The project focuses on the ability of an individual to develop a personal understanding of the content in order to develop the competitive edge. Students should be encouraged to identify what they already know about the problem and then list what other aspects/ content they would need to research/ investigate in order to develop their personal understanding and knowledge. By phrasing the objectives as "by the end of this session you will be able to explain/ identify how you can..." focuses the student on their personal starting points and thus develop a personal learning plan for the session. The use of learning mentors/ tutors to review learning on an individual basis further reinforces the personal aspect of the learning. Using the competition as a personal motivator "have you got the level of understanding/ knowledge to make you the best?" makes an excellent starter to discussing student learning.

Analysis and Evaluation of performance

Designed to operate over and above the standard self assessment and achievement review, the BSKC curriculum project requires students to analyse their ability to apply their learning to developing their competitiveness. At each stage, students are encouraged to evaluate what their learning starting point is at the start of the session and then review the level of improvement they have achieved. As the learning is measured through the ability of the student to evaluate improvements in their competitiveness through applying their learning, students need to look further than the level of "have I learnt it?" to the understanding of being able to apply and abstract concepts that will help them improve. The project then takes the analysis further by taking students through the process of analysing lap performance in the British University Karting Championship in order to develop their own performance requirements for the BSKC championship. Performance is then measured and evaluated in terms of both learning and performance on the circuit. As in Formula 1, the project requires students to analyse the physical and technological as well as their own driving performance. As the machine, track and driver all have effects on performance, the evaluation is taken to a higher level to look at the effect of



the application of knowledge, skills and understanding to predict the combined performance and how improvements can be obtained. The evaluation of performance is not limited purely to attainment but also encompasses the ability to influence and develop using the attained knowledge and understanding.

The extra level of performance evaluation is supported with the regular learning review using learning mentors.

Target Setting

Working alongside standard achievement target setting, the BSKC curriculum project encourages students to set application and development targets linked to their ability to learn. This is then developed further with performance targets set for the Championship rounds with a detailed evaluation of performance after the event. BSKC target setting is based around “What is the maximum I can achieve” rather than the normal Average and Upper quartile value added. The competition edge produced by BSKC – the need to be better than everyone else - and the removal of artificial ceilings to learning in year nine imposed by the National Curriculum levels motivates students to raise their aspirations and targets in order to help them achieve their aim – winning!

Key Stages 4/5

The project nature of the 14-19 BSKC curriculum projects enable teachers to incorporate a wide variety of learning and personal development modes.

Functional Skills: **Specific module matching for Foundation Skills Identified in the Examination Match document**

English

Writing Focused on the Reporting module that requires students to write to a target audience and with a purpose, it is augmented by the requirement to produce a written evaluation of every design and build project they undertake.

Maths

Developed primarily through the testing and evaluation module where students have to collect, analyse and evaluate real time data, looking for patterns through statistical analysis. Further foundation Maths can be developed through the financial management section.

ICT

Delivered primarily as a core vehicle for CAD, CAM, ideas research and data analysis in the testing and evaluation module.

Personal and Soft Skills:

Organisation

Team for the BSKC are made up of three students studying different subjects and options for their examinations. Coordination and organisation of the overall team learning is, therefore, crucial to team improvement. Regular team learning reviews carried out in tutor time or learning review time include planning for learning and identifying required learning and application outcomes to be considered. If design and build modules are delivered as student centred development/ coursework projects, students should plan their entire learning path from module introduction to completion of the evaluation report.

Problem Solving

The entire basis of the BSKC Key Stage 4/5 Curriculum projects! All projects should be undertaken as problem solving or development exercises. This is relatively easy for the design and build modules, but less obvious for others. In these cases, the “taught” sections of the modules should be introduced as the most efficient method of information gathering



prior to analysis and evaluation of how that knowledge can be used to improved competitiveness. In these cases, the 5 steps of Enterprise Education should be used as the basis for learning development. The five steps are:

- Step 1 – building knowledge and understanding of business and company structures and individual inputs to that structure
- Step 2 – tackling a problem or need. Students generate ideas through discussion to reach a common understanding of what is required to resolve the problem or meet the need
- Step 3 – planning the project or activity. Breaking down tasks, organising resources, deploying team members and allocating responsibilities
- Step 4 – implementing the plan. Solving problems, monitoring progress.
- Step 5 – evaluating the processes. Reviewing activities and final outcomes, reflecting on lessons learned and assessing the skills, attitudes, qualities and understanding acquired.

Each module should be introduced by “This module will enable you to find solutions to improve your competitiveness by.....”

Communication

Primarily tackled through the English foundation skills section above.

Teamwork

Teams will need to develop effective and efficient methods of communication and task allocation, group evaluation and target setting in order to compete effectively in the challenge. This team work development is supported by detailed study in the Personnel Management module of team networks and management structures.

Management/ Leadership skills

The development of the knowledge, understanding and application of management theory is undertaken in the Personnel, Logistics, Financial and Championship management modules. In each of these, students are required to research, analyse and implement management strategies and techniques in order to deliver improvements in outputs. The School Council programme that supports the challenge further enhances the leadership and management skills of students by providing a real life, management and leadership project.

Independent learning

All design and build modules are designed as independent learning modules where students produce a learning, design and manufacturing plan to provide a solution to the design brief. All other modules can also be used as research based investigative learning with students encouraged to develop and implement their own learning pathway for the module. The regular team performance review and target setting should be used to encourage discussion of learning needs required to “make the competitive difference” with teams discussing and producing individual learning programmes relating to their examination options and the modules they are working on.

Planning

A key part of all modules in the BSKC Key Stage 4/5 curriculum project! All design and build modules require students to produce an organisation and production plan. Other modules require students to plan how to take their learning and identify where and how it can be used to improve their competitiveness. The Team performance reviews produce team and individual learning plans.



Analysis

Statistical analysis and evaluation is undertaken in the testing and evaluation module. Analysis of research and information is undertaken in all modules.

Evaluation of performance

As the BSKC curriculum project is designed to develop and enhance championship performance in addition to developing and extending learning, performance evaluation is a core part of the project. The structure for overall performance evaluation in Key stages 4 and 5 is identical to that for Key Stage 3. Specific evaluation of performance – in terms of learning and quality of solution and product – is a core part of each design and build module. Regular team review is used as the vehicle for the evaluation of team performance against the targets the team set for themselves.

Target Setting

Value Added achievement targets should be used as the basis for setting the minimum requirements of learning for each student, with extension levels of achievement added in to provide the necessary “competitive edge”. As these targets relate to a tangible outcome – winning the BSKC – they can be extended and developed over and above the limitations of the examination syllabus or level of examination. Students should be encouraged to identify what learning and application is required in order to win – the same principle as F1, it doesn’t matter what level I am at, what matters is that I finish having achieved more than the competition. Clearly there will only be one winning team of the BSKC but the focus of the target setting on “How can we win?” should be used throughout.

Targets in the BSKC curriculum project should not be limited to value added achievement targets. Teams should be encouraged to set time and planning targets, teamwork targets and personal development targets in addition to lap time targets based on the development of predictions from the testing and evaluation module. British University Karting Championship lap timing information is available for teams to use to analyse and evaluate how to produce the best overall lap times.