

Education Now

New Schools, New Building, New Providers, New Curriculum

The 21st Century has brought a number of significant challenges to the prosperity of nations, due to the changing world order and the emergence of new economic centres of commercial and industrial success.

Economic prosperity is dependent upon a number of factors, the most important of which is access to an educated, skilled and trained workforce; the nation's citizens. Schools educate the skilled and trained students that create a prosperous nation: schools therefore are the cradle of society.

Everywhere new schools are being built, but buildings alone will not transform the education landscape. The emergence of new technologies has opened learning frontiers and removed barriers to learning, such as time and place. Learners are no longer restricted to conventional school hours and access to teachers; the internet provides access to knowledge and teachers on a global 24/7 basis.

The speed of change during this century means we are educating students for jobs which do not currently exist. In the UK this has led the government to ask two questions:

1. How can the ability of schools and educators be improved to match the rapid pace of change demanded by the needs of a global economy?
2. Who should be the educators?



New School and Academies

The answers are provided by the 'New Schools and Academies' agenda which set out a radical solution to these questions. The agenda recognises that the 20th Century model, in which schools prepare students for university and future employment, no longer meets the needs of the nation. Teachers alone cannot be expected to understand the present and future needs of the wider community of employers and society; new partnerships are required and new ways of managing schools.

Academy schools are managed by Sponsor organisations which may include employers, skill sector organisations, community and faith groups, or universities. Academies are known as 'State Funded Independent Schools'. Independence allows curriculum innovation, freedom to employ sector skilled trainers and alter the school hours; freedom to develop education in keeping with the needs of employers and, ultimately the nation.

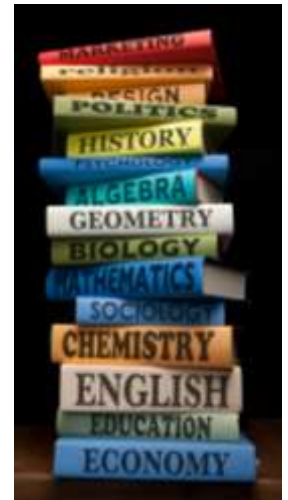
This paper describes a number of the UK's leading edge schools that Partnership Education has worked with which have recently opened or are currently in the process. The schools are innovative partnerships between educators and employers joined in the common purpose of transforming what, how and where students are taught. They have produced completely new and focused curriculum experiences, altering the perception of a school day and aligning the hours to those of the workplace. New schools have introduced trainers from employment sectors to work with the students and provide practical, applied learning in work based contexts.

The new school projects described here include University Technical Colleges (UTC), a Free School and a 16-19 6th Form Academy. Each has a unique curriculum offer and has had a major impact on learning and employment opportunities for its students. Each represents a new education partnership, offers new accredited awards and is regarded as a 'UK First' providing an exemplar to other groups of sponsors and educators wishing to join the vanguard of a new education movement.

University Technical Colleges require both a University and Industry sponsor. They are specifically designed to introduce students to a working environment in which academic learning is ‘applied’ in the workplace. Students enter the UTC aged 14 and leave at 18. The UTCs are open for 37.5 hours per week so students experience a normal working week which is 50% longer than normal school hours. The extended hours enable both a larger number of accredited awards to be taken and a dual academic and vocational curriculum to be delivered.

Free Schools are academy schools for any age group between 5 and 18, and may determine a particular curriculum focus or teaching style. Free Schools may also set their own terms and conditions for teacher or mentor employees, hours of opening and curriculum subjects. Free schools will typically have a range of core specialist subjects not normally available to students on a conventional study pathway.

16-19 6th Forms are academy schools which offer students an alternative pathway to university, internship or employment. The curriculum offer will typically include the International Baccalaureate and access to Level 4, Foundation Degree Courses. These radical new schools offer an accelerated learning pathway for the gifted and talented students through additional hours of specialist study and partnership with both employers and universities or other specialist training organisations or awarding body such as the Chartered Management Institute.



Revolutionary Education: From Vision to Reality

The process of designing and opening a new school is complex, but rewarding. Translating the proposer’s vision into an open school requires a systematic progression along a defined route. This requires the development of the curriculum, leadership, staffing and school organisation model which is subject to financial review this then informs the building design process and is known as the ‘Education Plan’ The building design provides an unique learning environment suited to the delivery of the specialist curriculum in a holistic manner; curriculum and building complimenting each other.

Shown below are the Stages of School and Curriculum Design and examples of leading edge UK academy schools developed in partnerships including the Department for Education, school sponsors, universities, employers and Partnership Education.



University of Birmingham Specialist Teaching School

11-18

'Delivering Academic Excellence' (opening September 2014)

The Proposer's Vision:

The University seeks to create a centre for pedagogical innovation and world-class research in teaching and school improvement working with national and international partners. The University of Birmingham School and Sixth Form will transform lives by raising its students' aspirations and maximising their potential by accessing the widest possible range of educational opportunities.

The Education Plan: Key Deliverables Curriculum and Staff Structure to Drive Design

The University wished to create an innovative school curriculum that allows each student to work at an accelerated pace in all subjects. Academic excellence and student attainment is supported by the additional teaching resource delivered by 50 student teachers trained by university faculty heads and subject specialists. The school curriculum has core specialist subjects of Mathematics and Science with all students expected to progress to a Russell Group university, internship or employment on graduation from the School.

To accommodate the additional teacher trainers and student teachers the learning environment required flexible spaces, breakout areas, auditoriums, social spaces to encourage student teachers and post-16 students to share learning research and mentoring to take place.

Accelerated learning, in which students would work to individual learning programmes and not be restricted by timetables or award schedules, required extensive utilisation of learning technologies to offer learning opportunities without the restrictions of teacher access and group paced learning. Access to a learning platform, additional mentoring and teachers providing opportunities for student led learning were designed to enable students to aspire to early attainment of awards and achievement beyond GCE A Level and International Baccalaureate to Foundation Degrees and other Level 4 awards before graduation from the School. Students attaining Level 4 awards and Foundation Degrees reduce the required time to achieve an honours degree at university and therefore carry their accelerated learning over into tertiary education.

Teacher Education is delivered in a learning environment in which best practise and student excellence is continually reviewed and researched. The university will provide Best Practice and Action Based Research outcomes to the wider education community via the online university campus. This is as global understanding of post graduate teacher training comes in line with the new pedagogy and learning advances arising from student autonomy and emergent roles for teachers and mentors.



The Building Design:

Located on the University's campus the School is part of the lifelong learning journey progressing from school through to post graduate studies. The school and its students become a faculty of the University and the students and teachers share a learning experience at differing points on the learning continuum.

Black Country University Technical College

'Engineering Excellence in an International Context' (opened September 2011)

The Proposer's Vision:

To create an innovative learning environment that combines academic and vocational learning with work based learning experiences delivered by employers in the field of technology and engineering. The UTC will provide academic and vocational training for students aged 14-19 and equip them for entry to University in the fields of science and engineering.

The Education Plan: **Key Deliverables Curriculum Innovation and IT Infrastructure**

The plan for the UTC is to develop as an internationally renowned centre of excellence for Engineering focusing on Process Engineering, Product Design and Science with Environmental Sustainability. Sponsors, Wolverhampton University and Walsall College joined with Industry partners EON, Balfour Beatty, Caterpillar, National Grid and Siemens to develop an innovative curriculum to produce engineers for the 21st century, equipped to enter employment or university on leaving the UTC.

An international dimension was required to reflect the global importance of engineering to the UK's trading position – multinational partner approaches to large scale environmental projects and the universal application of science and mathematics to engineering and project solutions. The UTC developed a business and technical languages GCSE teaching German and Mandarin. Siemens provided work experience opportunities in its German factories and their engineers provide weekly training and project support to students in German via the UTC's IPVC conferencing facilities. Some of the students' work is also assessed in German to provide an authentic language learning experience embedded within the engineering discipline.

New Diploma awards were required to reflect the level of advanced engineering learning and attainment. The awarding and accrediting body established by Oxford and Cambridge Universities and the Royal Society for Arts, OCR, worked with the sponsors to develop both a new teaching curriculum and schemes of work which led to the award of A Level and Extended Diplomas in Engineering, Applied Mathematics and Science bespoke to the UTC's Engineering curriculum and an innovative contribution to the wider group of education providers.

Siemens and specialist car manufacturer, Lotus, provided mechatronic and rapid prototype manufacturing equipment and design software to the UTC in order that the engineering work spaces and science and technology laboratories reflected those of a leading edge engineering company.



The Building Design:

Designed specifically for engineering, business and science in the 21st century, workshops are fully equipped for work on real life engineering projects. Science laboratories, specialist ICT facilities, Interactive technologies a 1:1 ratio of ICT machines, VLE (Virtual Learning Environment) and a wireless network extend across the entire campus.



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West Midlands Construction University Technical College (CITB)

*'ICT in the Built Environment and 21st Century Construction Engineering Design and Build Methodologies'
(opening September 2013)*

The Proposer's Vision:

CITB-ConstructionSkills, in partnership with the University of Wolverhampton and Walsall College, is establishing a regional, co-educational UTC in the West Midlands. The UTC will specialise in Construction and the application of Information Technology in the Built Environment. The curriculum will focus on modern construction design and build methods and building services, including Building Information Modelling, together with an introduction to traditional craft skills. There will be an underpinning curricular theme of sustainability and 'green' technologies.

The Education Plan: **Key Deliverables Curriculum Design, Bespoke Industry Teaching Model and Building Design**

The UTC will create a bold, highly innovative 14-19 learning environment, capable of developing technically skilled and highly employable young professionals ready to undertake higher education study or enter the construction industry. At age 14, UTC students will be offered entry onto a four year programme backed by a continuing link to an Employer mentor.

There will be a focus on modern construction methods and building services, together with an introduction to traditional craft skills. The Built Environment curriculum will include a focus on IT and environmental technology, with a particular consideration of energy generation, including nuclear and renewable technologies. Students will study for a range of vocational qualifications approved by CITB-ConstructionSkills and the Construction Industry Council. These will include BTEC First Diploma and Certificate programmes, together with The Principle Learning element of the Higher Diploma in Construction and the Built Environment at KS4 and the Advanced Diploma at KS5.

Students will take modules designed to introduce basic craft skills across a range of construction areas and provide good insight into the construction industry. Learning in English, Mathematics Science and Information Technology will be designed to reflect the industry context and be developed, as appropriate, through live assignment work. Students will have at least 40 days' work experience arranged by the UTC, in dialogue with the sponsors and employer partners.

Campus based projects will entail the students in the design and construction of conventional and research construction methods, including environmental and ecological considerations related to energy generation and storage, hydroponics and insulation using manufactured and natural materials. Construction sponsors will provide trainers, mentors and materials to support these projects.



The Building Design:

The construction UTC requires an innovative design to house the academic faculty for the teaching of GCE A Level and the Engineering Diploma Principle Learning, which underpins the engineering and sector skills applied in the project and work experience elements of the skill based curriculum. Wet trade skills will be taught at the Walsall College sponsor's campus to enable the UTC to house two large construction sites. Each



discipline utilising the latest polymer materials and technology innovations found in leading edge construction methods.

KnowList Professional Enterprise Academy

'Management and Enterprise Skills Developed in Small & Medium Sized Enterprises Operating in an International Context' (opening September 2014)

The Proposer's Vision:

The sponsors, TheKnowList and the Birmingham Chamber of Commerce, plan an innovative centre for business excellence that will provide a 6th form curriculum designed around the specialism of enterprise, authenticated by the business community for whom the graduates of the school will be destined as interns and employees. Learning will include academic and commercial subjects, and practice will involve working in a variety of business units located at the Academy. The units will be run by the students under the direct tutelage of local Chamber of Commerce Members, local SMEs and TheKnowList members from large corporate companies.

The Education Plan: **Key Deliverables Curriculum Design, Innovative Learning Companies and ICT Infrastructures**

The curriculum is designed to provide a complementary academic and vocational experience. Students will work to acquire A Level accreditation for university entrance and in addition gain business qualifications and international diplomas in enterprise studies. In addition the business school will develop a new Foundation Degree award with the 'Accredited Skills for Industry' awarding body to create an outstanding award. This will be designed, endorsed and accepted by commerce and industry and will mark the graduates of the Academy as outstanding amongst their peers. The three core elements are:

1. **Academic courses of study** resulting in awards required to enter any of the Russell Group of universities
2. A course in **professional practice and enterprise** resulting in a range of commercially valued competencies and awards of Additional A Levels, BTEC or TheKnowList Diploma in International Business Studies
3. A Birmingham **Chamber of Commerce Certificate** in Commercial Competence.

The students will spend six months supporting each of the following 'Learning Companies' managed and directed by patrons of the Chamber of Commerce and for the benefit of local companies and SMEs:

- **Professional Services;** a virtual customer relationship management (CMR) database and invoicing/finance system this will be an international interface for the enterprise activities.
- **Data Management and Computer Science Services,** providing web, data base services, on-line market research and enterprise functions to support the local SMEs.
- **Specialist Digital Image Creation and Rapid Prototype Production,** providing specialist facilities to the local SME community creating design and make prototypes for specialist manufacturers of specialist equipment.
- **Export and International Communications;** this LC will research and market to potential clients for local companies seeking to expend overseas and provide an international dimension and the opportunity to practise foreign languages in a business context, both written and oral, for the students.



The Building Design:

The enterprise school will be housed across eight floors of the Birmingham Chamber of Commerce Headquarters and the 1983 PT5 Consulting Group PLC

the Chamber Patrons and local SMEs as they

operate the Learning Companies.

Company/Partner Profiles:

Three distinct sets of specialist Consultants work in association to support innovative education projects from concept and vision stages through to post opening and student induction.

PTS Consulting Group

PTS Consulting Group (PTS) is a world class IT Consulting and Project Management company, providing Consultancy, Managed Services and Resourcing solutions to the world's biggest names. Since 1983, PTS has successfully delivered high-value, vendor independent solutions to satisfy its clients' needs in over 80 countries and in some of the most demanding environments. We are not a body-shop but instead provide business solutions delivered by a technically proficient and highly motivated team. Our 'know how' and experience can make the difference between excellence and mediocrity. PTS has delivered over 10,000 engagements across the Americas, EMEA and Asia-Pacific.

PEL

Partnership Education is the specialist schools' company within PTS group. PEL consultants have delivered global projects working with overseas development agencies such as DFID and the British Council in addition to working directly with overseas Ministries. In the UK PEL has been at the forefront of the 'New Schools and Academies' school movement and has supported most of the innovative schools that have led the change programme, including the UK's first UTC, University Teaching School, Medical Specialist UTC, Multi Academy Faith School and 'All Through 3-18' Academy, Silverstone Formula 1 and Construction UTCs, Professional Football Club-sponsored Sports Free School and the First Chamber of Commerce sponsored 16-19 Business Academy.

BDO

Is a global audit and accountancy firm with project management experience of leading large scale education projects from proposal through to the implementation stage. BDO has project managed on most of the outstanding academy projects within the UK and have supported over 200 of the largest and most innovative school projects to date. Projects include sponsored Academies, Converter Schools, Free Schools; University Technical Colleges (UTCs); Special Schools; and Studio Schools.

Other Key Projects:

JCB UTC: Sponsored by JCB and Rolls Royce this is an UTC specialising in Engineering, opened in 2011

London Academy of Excellence: Sponsored by Eton School this is a 16-19 Free School focused on outstanding academic achievement and university entrance, opened in 2012

Eddie Davies School: Sponsored by Bolton Wanderers Football Club the 16-19 school offers an elite sport and professionalism course and award the new IBCC certificate developed by the Trust, opened in 2014