

NO LIMITS

EDUCATION FOR SUCCESS IN THE 21ST CENTURY



PAULA AND STEVE KENNING ARE CO-FOUNDERS AND MANAGING DIRECTORS OF THE ASPIRATIONS ACADEMIES TRUST IN ENGLAND. THEY OPERATE FIFTEEN SCHOOLS ACROSS THE AGE RANGE 2 -19. OVER RECENT YEARS THEY HAVE DEVELOPED AN EXCITING APPROACH TO EDUCATION DETERMINED TO PROVIDE YOUNG PEOPLE WITH THE TOOLS TO SUCCEED IN THIS FAST CHANGING WORLD: 'NO LIMITS: EDUCATION FOR SUCCESS IN THE 21ST CENTURY'.

The curriculum they have developed is a unique combination of single discipline and transdiscipline learning. It is designed to achieve high levels of attainment and progress in examinations, whilst at the same time meeting the needs of employers, today and in the future, by developing essential future skills.

THE 'NO LIMITS CURRICULUM' INVOLVES:

- Computational thinking development approaches
- New ideas regarding the structure of the school day, week and year
- Planning tools for learning sessions
- Fully planned transdiscipline assignments
- Learning resources
- Teacher CPD (virtual and face-to-face)
- The Aspirations Employability Diploma

OUR VISION IS FOR AN AUTHENTIC EDUCATION FOR THE 21ST CENTURY FOR CHILDREN FROM THE AGE OF 4 TO 18. WE WANT ALL STUDENTS TO ACHIEVE HIGH LEVELS OF SUCCESS IN A BROAD RANGE OF EXAMINATIONS, WHILST AT THE SAME TIME EQUIPPING THEM WITH THE KNOWLEDGE AND SKILLS REQUIRED TO PLAY AN ACTIVE AND SUCCESSFUL ROLE IN TODAY'S HIGHLY COMPETITIVE, FAST-CHANGING WORLD'.

FUTURE SKILLS

THIS IS THE FUTURE OF WORKING AND LEARNING



THE CURRICULUM:

THE 'NO LIMITS CURRICULUM' IS DESIGNED TO DEVELOP THE KNOWLEDGE AND SKILLS, THAT STUDENTS NEED IN ORDER TO TAKE ADVANTAGE OF OPPORTUNITIES, RESPONSIBILITIES AND EXPERIENCES OF LATER LIFE. WE WANT YOUNG PEOPLE TO BE 'WORLD-READY' AND 'WORK-READY.'

The aim is for young people to experience a very different type of education, centred on the development of knowledge and skills, delivered through a partnership between each school and local industries. We adopt a creative and innovative approach to teaching and learning in order to develop the range of skills that many employers consider are currently lacking in school leavers. These include the range of 'future skills' developed by Aspirations Academies over recent years. These are highlighted in this document.

The key features of the 'No Limits Curriculum' are:

- A relevant, engaging and applied curriculum with a strong focus on literacy, numeracy, science, computing and creativity
- The teaching of computational skills is delivered throughout the curriculum
- The teaching of art is viewed as an important skill for future employment and all pupils will maintain a portfolio of artwork
- Programming skills, the use of development software and Digital Literacy are also delivered through the broad and balanced curriculum
- An entrepreneurial mindset
- Creativity

- Problem solving and Project Based Learning utilising contacts with the real world of creative and digital technologies
- High quality teaching and learning all teachers are expected to work towards being outstanding practitioners. Every teacher needs to be trained in computational thinking
- Planning in teacher teams is essential
- High standards, high expectations, high aspirations
- Achievement work towards high levels of achievement and go beyond expectations
- Aspirations culture the Aspirations three Guiding Principles and eight conditions are embedded in the curriculum
- A range of teaching and learning styles used in school
- On-line learning blended with in school learning
- Presentation and performance skills are highly valued

The diagram on the next page visually describes the outline of the curriculum. Students develop and apply knowledge to solve problems and to deal with issues.

THE OUTLINE:



CRITICAL THINKING

Employers today require young people to be skilled critical thinkers. We believe there are two core elements to this:

- Logical technical thinking: Logical thinking is the process in which one uses reasoning consistently to come to a conclusion. Problems or situations that involve logical thinking call for structure, for relationships between facts, and for chains of reasoning that "make sense."
- 2. Creative thinking: Creative thinking is the ability to look at things differently, and find new ways of solving problems. Creative thinking skills are definitely not just for 'creative types' like artists and musicians. Everyone can benefit from creative thinking from time to time

To develop both logical technical thinking as well as creative thinking, the No Limits curriculum emphasises:

- Computational thinking
- Art

THE IMPORTANCE OF COMPUTATIONAL THINKING

Computational thinking allows us to take a complex problem, understand what the problem is and develop possible solutions. We can then present these solutions in a way that a computer, a human, or both, can understand. Computational thinking incorporates:

- Breaking a complex problem into smaller, more comprehensible steps
- Creative problem-solving
- Debugging
- Logical thinking
- Conditionals (if this, then that)
- Recognising patterns

Computational thinking is important. Through it students learn which sequence of steps is most efficient to solve a certain problem, how specific their instructions must be to reach a desired goal, and how to solve unexpected errors by efficient debugging and creative problem solving.

The mastering of the skill of computational thinking allows people to tackle more difficult problems, offering many opportunities for future technologies. Furthermore, computational thinking is not only useful for writing code, but also in many other aspects of life. Once people master the skill of breaking complex problems into smaller, more comprehensible steps, they can apply this in a range of contexts.

THE IMPORTANCE OF ART

Art education teaches students to observe the world more closely. This process of observation and study helps students to analyse the world around them, developing skills that make up the bedrock of critical thinking. In all our year groups artistic skills will be taught through workshops, ATL assignments will involve the study of art, and all students will keep an annual portfolio of their art work from Year 1. At GCSE and A level all students, if they have the aptitude, will be encouraged to combine a maths GCSE and A level course with art GCSE and A level.

THE 'NO LIMITS CURRICULUM' PROBLEM SOLVING PROCESS

Computational thinking is integral to our problem solving process and, as a result, is built into all styles of learning in the 'No Limits Curriculum'. The problem solving process is:

- Clarify the Driving Question (DQ). In relation to the DQ: What do students know? What do they need to know? Where or how can this new knowledge be found or learnt?
- 2. Define the problem: Students need to investigate the question:
 - Ask 'why?' in order to get to the heart of the problem
 - Do research to fill gaps
 - Differentiate fact from opinion
 - Specify underlying causes
 - Consult each faction involved for information
 - State the problem specifically
- **3.** Complete the Abstraction process:

Once we have recognised patterns in our problem, we use abstraction to gather the general characteristics and to filter out the details we do not need in order to solve our problem. This allows us to create a general idea of what the problem is and how to solve it. The process instructs us to remove all specific detail and any patterns that will not help us solve our problem.

- 4. Generate alternatives: Generate alternative solutions. Postpone the selection of one solution until several problem-solving alternatives have been proposed. The skills that help in discovering alternatives include logical thinking to comprehend the situation, as well as creative thining to generate the options which fit the situation. Knowledge of what is feasibly possible in the particular environment and the subject matter pertinent to the problem are important.
- 5. Compute (evaluating and selecting alternatives): Solving problems is the core of computer science. Either:
 - a. If you have the relevant skills, use computers to help students solve the problem, by evaluating and selecting the best alternative. Programmers must first understand how a human solves a problem, then understand how to translate this "algorithm" into something a computer can do, and finally how to "write" the specific syntax (required by a computer) to get the job done. It is sometimes the case that a machine will solve a problem in a completely different way than a human.

- b. Evaluate and select an alternative without using computers. Evaluate both proven and possible outcomes. State the selected alternative explicitly.
- 6. Implementing the solution: Plan and implement the solution:
 - Commit to the chosen solution
 - Accept responsibility for the decision
 - Identify who will implement the solution
 - Resolve to carry out the chosen solution
 - Explore the best possible means of implementing the solution

THE 'NO LIMITS CURRICULUM' STYLES OF LEARNING

School leaders have a duty to prepare our young people for success in this world both today and tomorrow. In order to ensure the development of a curriculum that ensures a depth of knowledge, the application of knowledge and the development of future skills, the central feature of the 'No Limits' model is the development of a curriculum that fully embraces both single-discipline learning and Applied Trans-discipline Learning (ATL). Both have a place in the curriculum. We believe that students cannot successfully progress to inquiry-based methods without a strong foundation of knowledge, gained through teacher-directed learning.

The Applied Transdiscipline Learning (ATL) assignments are all centred on a problem or issue and relate to several different but related subject areas. Students work in teams to develop their skills and the outcome is a high quality presentation. Each assignment lasts for several weeks and is accompanied by an informative poster, showcased on the next page to publicise the current assignment to other students and staff.



PRESENTS -

STAY ALERT CONTROL THE VIRUS

SAVELIVES

DESCRIPTION

THROUGHOUT THE COURSE OF HISTORY, DISEASE OUTBREAKS HAVE RAVAGED HUMANITY, SOMETIMES CHANGING THE COURSE OF HISTORY. SCIENTISTS HAVE WARNED THAT FUTURE PANDEMICS AND OTHER RISKS TO PUBLIC HEALTH ARE LIKELY TO BE MORE FREQUENT, SPREAD MORE RAPIDLY, KILL MORE PEOPLE AND INFLICT EVEN WORSE ECONOMIC DAMAGE IF HUMANITY FAILS TO FUNDAMENTALLY CHANGE. THROUGH THIS ASSIGNMENT, STUDENTS WILL BE ABLE TO STUDY THE HISTORY OF DISEASE AND MAKE A CLEAR CONNECTION WITH THE MODERN DAY PREDICAMENT AND CHANGES WE CAN MAKE. BY TAKING ON THE ROLE OF PUBLIC HEALTH DIRECTORS, STUDENTS WILL BE ABLE TO DEVELOP A RESPONSE PLAN TO AN OUTBREAK OF AN INFECTIOUS DISEASE OR PUBLIC HEALTH CONCERN.

START DATE

LENGTH

END DATE

PRODUCTS

Emergency Response Plan and/or Multimedia Public Health Campaign.

SUBJECTS COVEREI

HISTORY: Study of disease through time, improvements in public health and the creation of the NHS

SCIENCE: Spread and prevention of disease

PSHE: Immunisation and vaccination

PUBLIC AUDIENCE/PARTNERS Local Public Health Directors, Representatives of the NHS

FUTURE SKILLS

Collaboration, Creative and Adaptive Thinking, Sense making, Transdisciplinarity

THE DRIVING QUESTION: How can we, as local public health directors, prepare a response plan to the spread of the next infectious disease and/or public health concern?

THE TOOLKIT:

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HOW TEACHING AND LEARNING IS DELIVERED



The curriculum for older students - The Aspirations Employability Diploma:

At the ages of 16-18 all students will follow national qualifications plus the Aspirations Employability Diploma (AED).

What is the Aspirations Employability Diploma?

The Aspirations Employability Diploma is designed to help post-16 students prepare for employment and success in a fast changing world. The award aims to train students to be work-ready for the 21st century.

What is its purpose?

This is a totally unique programme as it involves students not only developing their individual future skills, but also working with employers on actual problems, enabling them to understand and experience the nature of work in the 21st century.

How does it work?

 The Aspirations Employability Diploma involves students working in teams of 4 or 5 alongside employees on live projects. In Year 12 students follow 4 projects (for 4 hours a week), each lasting six weeks.

- The projects mainly relate to employment in a wide range of industries including health and medicine, education and engineering/technology.
- Students then prepare an individual VIVA

 an oral presentation outlining their understanding of their skills and personal development - to present to a panel of employers.

What is the value of the Aspirations Employability Diploma?

- The diploma is validated by over 100 employers in the UK. These employers all regard it as an excellent measure of individual employability and personal skills development and employment readiness.
- Following the VIVA, students are awarded a bronze, silver, or gold diploma. In each academy one platinum award is made each year.
- Students use their diploma in employment or university applications.

WHAT'S NEXT:

FURTHER INFORMATION ON THE WORK OF ASPIRATIONS CAN BE FOUND ON OUR WEBSITE: HTTPS://WWW.ASPIRATIONSACADEMIES.ORG/

IF YOU WOULD LIKE TO DISCUSS THE PROVISION OF TRAINING, SUPPORT OR MATERIALS RELATING TO ANY ASPECT OF OUR CURRICULUM PLEASE CONTACT: STEVEKENNING@ASPIRATIONSACADEMIES.ORG



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