Castle Tower School

Technology & Design Policy

Date Ratified by Board of Governors	
Review Date	

Castle Tower welcomes pupils aged 3-19 who face a wide range of barriers to learning. Educational opportunities are provided within our Nursery, Primary, Secondary and Post 16 departments.

Our Vision

Vision:
To be a leading light in special education through educating, nurturing and inspiring all our school community.

Mission:
Castle Tower School is committed to creating a community which:

- Ensures everyone is safe and included
- Always learns
- Promotes independence and resilience
- Celebrates achievements
- Looks forward with hope to the future

Everything we do is driven by our core values:

- Child-centred
- Nurturing
- Fun
- Team work
- Inclusive
- Independence

Our Ethos
Castle Tower strives to create a caring community in which every member feels valued, supported and happy. All staff work to maintain an ethos in which fairness, tolerance, compassion and forgiveness permeate all relationships within the school community. High standards of respect, self-discipline, commitment and sensitivity are sought and everyone is encouraged to set and achieve the highest personal, academic and social goals. The safety, welfare and development of everyone in our school community is of paramount importance to all staff and Governors.
At Castle Tower, there is continued development of the quality of the teaching and learning environment. Resources are used efficiently. Opportunities are created for learning in co-operative and interactive settings. Pupils are presented with challenging as well as stimulating teaching and learning opportunities. Staff at Castle Tower seek close working relationships with other providers and services throughout each stage of our pupil's education and through the transition stage to further education and life after school.

Introduction

The Northern Ireland Curriculum seeks to empower pupils to achieve their potential and to make informed and responsible decisions throughout their lives. It is about helping pupils prepare for life and work:

- As individuals;
- As contributors to society;
- As contributors to the economy and environment.

Technology and Design has a significant role to play in this.

Many pupils have a keen interest in trying to understand major issues they encounter within their own culture, and through the media. Coming to a more informed understanding of the personal, social and environmental issues which will have an impact on them during their lives, pupils need to explore:

- their sense of identity and belonging;
- their curiosity about the world around them;
- their value system and how we interact with our world and with each other.

The study and practices of Technology and Design help us in making sense of the world, both in terms of the practical issues of design and their close relationship with the values of society and in the consideration of how the products of culture enrich experience.

Meeting Curriculum Objectives
Technology and Design **develops pupils as individuals** by:

- promoting creativity and problem solving skills in response to design challenges in the individual's life;
- helping individuals appreciate their own and other's achievements through research, investigation and evaluation of products;
- promoting safe working practice.

Technology and Design **develops pupils as contributors** to society by:

- investigating the design and manufacture of products which aid particular groups within our society;
- evaluating cultural trends to identify needs and opportunities;
- exploring how technology contributes to communication within society;
- investigating the various impacts which changes in technology have on ethical issues in our lives.

Technology and Design **develops pupils as contributors to the economy and environment** by:

- enabling pupils to develop skills relating specifically to design, manufacture and testing within an engineering environment;
- developing skills valued by employers such as: analysis of problems, research from various sources, analysis of information, problem solving, practical skills including use of new technology, communication and ICT skills;
- analysing a wide variety of products from local and global companies;
- investigating environmental issues in the world today and seeking design solutions which are most suited to taking account of those issues.

Context

At Castle Tower we celebrate the talents of each individual and strive to improve the quality of each person's life by developing confidence, tolerance, honesty, happiness and curiosity. We aim to develop within each individual the skills they require for a full and happy life and help them to be independent, ambitious and look forward with hope to the future.

The school is aware of and committed to the core D.E policy 'Every School A Good School (DE, April 2009). As such, it seeks to ensure a child centred approach with high quality teaching and learning taking place whilst effective leadership drives the school forward. Castle Tower also seeks to maintain close links to the local community.

At Castle Tower pupils are given the opportunity to learn in a safe, positive and caring environment. There will be an emphasis on meeting individual needs through the use of IPPs. Pupils will be encouraged to develop a range of skills by following an educational pathway appropriate for them. The school provides a broad and relevant curriculum with a thematic approach to make learning more meaningful. Teaching involves adaptable, flexible teaching strategies that respond to the range of needs within the classroom.

The nurturing ethos of the school contributes to a safe, caring and happy environment where children are supported to help them overcome any barriers to learning.

At Castle Tower we encourage our young people to become involved in discussions and decisions on school life that affect them. We want our pupils to be self-motivated and take responsibility for their own learning and we use a range of strategies to promote this.

The school recognises the overarching aims and objectives of the N.I curriculum. Technology & Design can contribute substantively to these in the following contexts.

Aims of Area of Learning

As already stated the Northern Ireland Curriculum aims to empower young people to achieve their full potential and to make informed and responsible decisions through their lives. It aims to provide learning opportunities for each young person to develop as:

1. An individual
2. A contributor to society
3. A contributor to the economy and the environment

The Technology and Design Curriculum aims to:

- promote creativity and problem solving skills in response to design challenges in the individual's life;
- help individuals appreciate their own and other's achievements through research, investigation and evaluation of products;
- promote safe working practice.
- promoting an understanding all elements of Health and Safety in the workshop.
- encourage investigating the design and manufacture of products which aid particular groups within our society;
- evaluate cultural trends to identify needs and opportunities;
- explore how technology contributes to communication within society;

- investigate the various impacts which changes in technology have on ethical issues in our lives.
- enable pupils to develop skills relating specifically to design, manufacture and testing within an engineering environment;
- develop skills valued by employers such as: analysis of problems, research from various sources, analysis of information, problem solving, practical skills including use of new technology, communication and ICT skills;
- analyse a wide variety of products from local and global companies;
- investigate environmental issues in the world today and seeking design solutions which are most suited to taking account of those issues.

Learning and Teaching

Child centred approach

- Technology and Design classes will adopt a child centred approach in which the learning and teaching will be adapted to have the best interests of the pupils at heart and will have high realistic expectations for all. In practical terms this means that Topics will be selected which involve as much practical work as possible and are relevant and fun to our pupils

- Lessons will include visual, auditory and kinaesthetic elements to ensure access for children with different learning styles

- All lessons have clear learning objectives, to be shared and reviewed with the pupils.

- Lessons will make effective links with other curriculum areas and subjects, especially literacy, numeracy and ICT.

- Activities should inspire the pupils to promote creativity and problem solving skills. They should challenge, motivate and extend pupils learning.

- All practical activities undertaken will be in line with the Health and Safety Policy.

Learning Environment

In Technology and Design we use a variety of teaching and learning styles in the lessons. We encourage students to be creative and take risks with design problems. We offer students the opportunity to develop essential practical workshop skills in a safe environment. We enable them to use ICT in lessons where this serves to enhance their learning.

We recognise that there is a variety of needs and abilities within the classroom and we provide suitable learning opportunities for all children through:

- Setting suitable learning challenges
- Referring to Individual progress plans when planning lessons

- Adopting a multi- sensory approach to cater for a range of learning styles – auditory. kinaesthetic and visual
- Providing resources of different complexity according to ability
- Using learning assistants to support individual and group work

Links with the Community

- We use the Northern Ireland curriculum as the basis for planning in Technology and Design but we have adapted this to the local context and circumstances. We make use of the local environment for inspiration and visit places of significance to the pupils learning. Trips are arranged to enhance the curriculum where possible and appropriate.
- Students who we feel are capable to doing Occupational Studies are entered for this in year 11 and 12.
- We also recognise the invaluable support of parents and communicate with them on a regular basis

Links with other subjects

- Technology and Design contributes to the teaching of English by actively promoting the skills of reading, writing, speaking and listening. Pupils complete a variety of writing tasks, engage with a range of texts and develop oral skills through discussions and presentations.
- Technology and Design contributes to the teaching of Maths through the use of measuring tools and simple calculations when completing practical activities.
- Technology and Design contributes to ICT as pupils often use ICT to enhance skills in research, CAD design and presentation of ideas. Pupils research information using the Internet. (see ICT section of this policy)
- Technology and Design supports Education for sustainable development. Castle Tower has been designated as an Eco school and pupils are encouraged to actively participate through using environmentally friendly products, recycling paper, plastic bottles and clothing. Pupils develop knowledge and understanding of sustainable practices during all topics, researching and understanding sustainable materials and the 3Rs.
- Technology and Design supports careers education by highlighting the jobs that need relevant qualifications
- Links are made with Science in the teaching of various topics. (KS3/4)

Planning

We carry out curriculum planning for Technology and Design in three phases (long-term, medium-term and short-term). The long-term plan maps the topics to be studied in each term during each key stage. The medium-term plans use the Northern Ireland Curriculum and detail the learning intentions and activities for each unit of work for each term. The short-term plans involve the class teacher outlining the learning intentions and activities for each lesson. Self- evaluation and sharing of good practice is encouraged to ensure high standards of teaching and learning.

Planners are completed every 8 weeks (half-term) for all year groups. These planners are very comprehensive and are placed on Teams for all to view. Planners are evaluated during each unit and this informs planning in the following year. Planners are in accordance with the school planning policy

and the appropriate format is used for each key stage. The Technology and Design coordinator monitors and evaluates all the planning of the teachers who teach Technology and Design and holds the information in the evaluating and monitoring file. There will be feedback given to teachers in accordance with the policy.

Assessment and record keeping

Children's understanding of concepts is assessed at the beginning of and during a topic of work using informal judgements by teaching staff while observing them during lessons. Written work is marked in line with the school's marking policy, and children are given the time to read, make corrections to, and discuss misunderstandings in marked work.

At the beginning of each topic class targets are set and a record is kept of each pupil's success in achieving these targets. This is done by classwork evidence and questioning pupils' understanding. Children's Technology and Design notes are also kept as a record of progress throughout the year.

Pupils have the opportunity to engage in informal self and peer assessment. We encourage pupils to take responsibility for their own learning by evaluating their own achievements against shared success criteria and identifying their own strengths and areas for development. Pupils will also be assessed through practical projects, presentations and oral discussions. Technology and Design will contribute to the assessment of cross-curricular skills with topics identified for assessment in the curriculum overview. Pupils are encouraged to regularly share their successes and rewards are given for progress, effort and achievement.

Effective use of ICT

Teaching may be enhanced and learning considerably enriched through ICT. The Technology and Design department has a suite of desktop computers and set of Ipads that are used during the majority of lessons to help pupils research, design, evaluate and share information.

ICT can help pupils to:

- Access up-to-date statistics, images and factual sources using the Internet
- Collect data over a period of time
- Investigate real-life problems in an authentic context
- Access a range of online resources to promote and support independent research
- Plan, select, and present their work using text, graphs, pictures, sound or video
- Record all stages of a manufacturing process, from initial designs to a final product
- Evaluate processes and refine their work

Digital Recording

Digital still photography and video have an important role. Cameras and ipads may be used to record progress in real time, contributing to pupils' recording of their work.

Key Stage 3
Pupils have the opportunity to take part in Technology and Design elements through STEM opportunities via their topic-based learning.

Key Stage 4
Pupils follow the Revised Entry Level Certificate in Occupational Studies CCEA Course introduced in September 2016. They study two modules in total relating to Technology and Design. This course requires a portfolio of evidence to be kept for all the learning outcomes in each topic.

Resources
The learning resources are stored in the Technology and Design department in clearly labelled areas. The Technology and Design coordinator maintains oversight and purchase of new materials at regular intervals. Secondary sources used include video, IT software, the Internet.

Roles and Responsibilities

It is the role of the co-ordinator to support colleagues in the teaching of Technology and Design, to communicate current developments in the learning area and provide direction for the area of learning in the school. The co-ordinator will provide a yearly action plan that evaluates the strengths and weaknesses in the subject area and indicates areas for further improvement.

The Technology and Design coordinator monitors and evaluates all the planning of the teachers who teach within the department and holds the information in the Evaluating and Monitoring file.

The Technology and Design co-ordinator is responsible for the organisation of Technology and Design in the school. The following is a summary of how time is allocated to the subject within the timetable.

KEY STAGE 4

Year	Periods per week
11	**2**
12	**2**

Monitoring and Evaluating

Monitoring of the standards of children's work and of the quality of teaching in Technology and Design is the responsibility of the Technology and Design coordinator to ensure continuity and progression throughout the school. The role of Technology and Design coordinator also involves being informed about current developments in the subject, and providing a strategic lead and direction for the subject in school. An annual summary of Technology and Design is made in which strengths and weaknesses in the subject are evaluated, and an action plan to address any issues arising is formulated for the forthcoming year.
The learning and teaching process in Technology and Design is linked to the schools monitoring and evaluating policy. Planners are monitored once a term. Feedback is given to the teachers of Technology and Design but this is a small department. This allows good communication and sharing of good practice between the staff.

Health and Safety

Safety is of paramount importance in Technology and Design. There are many potential hazards and all of these are given consideration when lessons are planned.

- No member of staff = No Entry
- Dangerous Technology and Design equipment is locked in the store and pupils are never allowed access unless supervised by staff
- Chemicals are stored safely. The CLEAPSS School Service is referred to for the safe use, storage and disposal of chemicals used in science.
- The Technology and Design room is kept clean and tidy and surfaces kept as clear as possible. The teacher and LSA support are aware of the need to be vigilant during practical work and the pupils supervised very closely.
- Pupils are constantly reminded of potential hazards before and during practical work.
- Equipment checked regularly.
- All equipment is put away at the end of the lesson and the pupils are encouraged to accept responsibility themselves under supervision.
- Good discipline in the classroom ensures safety in the workshop. If, however a pupil becomes a danger to himself or others he/she will be removed by an LSA to the behaviour support team for a cooling off period.

Appendices

Appendix 1 - Overview

Appendix 2 - Statutory requirements