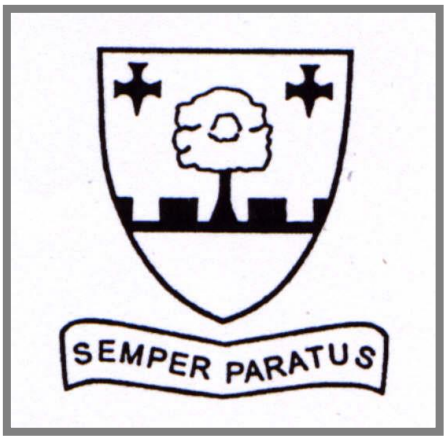
Elmwood Junior School



Computing

Issue 3

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Aims and objectives

There are three aspects of the Computing curriculum:

Computer Science (CS)

All pupils can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.

All pupils can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.

Information Technology (IT)

All pupils can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.

Digital Literacy (DL)

All pupils are responsible, competent, confident and creative users of information and communication technology.

Computing is changing the lives of everyone. Through teaching Computing we equip children to participate in a rapidly-changing world where work and leisure activities are increasingly transformed by technology. We enable them to find, explore, analyse, exchange and present information safely *(for further information regarding safety, see the E-Safety policies).* We also focus on developing the skills necessary for children to be able to use information in a discriminating and effective way. Computing skills are a major factor in enabling children to be confident, creative and independent learners. In achieving this vision young people, staff and volunteers also have a right to safer internet access at all times.

The aims of Computing are to enable children:

- to develop IT capability in finding, selecting and using information;
- to use IT for effective and appropriate communication;
- to monitor and control events both real and imaginary;
- to apply hardware and software to creative and appropriate uses of information;
- to apply their Computing skills and knowledge to their learning in other areas;
- to use their Computing skills to develop their language and communication skills;
- to explore their attitudes towards all aspects of the Computing curriculum and their values to them and society in general (for example, to learn about issues of E-Safety, security, confidentiality and accuracy).

The Computing curriculum is delivered through a blend of discrete and cross curricular teaching.

Computing teaching also needs to consider e-safety at the heart of all lessons.

We have carefully considered the impact of this policy on all particular characteristics as part of our ongoing process to ensure it is fair and does not prioritise or disadvantage any pupil. This is in line with the Equality Act 2010. At Elmwood, we recognise that all classes have children with widely differing Computing abilities. This is especially true when some children have access to technology at home, while others do not. We provide suitable learning opportunities for all children to enjoy and achieve in Computing by matching the challenge of the task to the ability and experience of the child.

Elmwood Junior School is a Rights Respecting School. Children are aware of their rights as defined in the United Nations Convention on the Rights of the Child, specifically:

- Article 28 (right to education) - Every child has the right to an education. Primary education must be free and different forms of secondary education must be available to every child. Discipline in schools must respect children's dignity and their rights. Richer countries must help poorer countries achieve this.

- Article 29 (goals of education) - Education must develop every child's personality, talents and abilities to the full. It must encourage the child's respect for human rights, as well as respect for their parents, their own and other cultures, and the environment.

Computing curriculum planning

Elmwood Junior School uses the Rising Stars - 'switched on to Computing' scheme of work and online units from Education City as the basis for its curriculum planning. We adapt this scheme to suit Elmwood's children, topics and resources. This scheme of work can be continually adapted to be relevant to today's technology and changes to medium term plans and lesson plans are made annually to keep in line with changes in technology as well as our resources, ensuring up to date teaching and learning.

E-Safety is covered explicitly on a termly basis with each year group as well as being embedded into any lesson that uses technology. A variety of resources are used in order to keep e-safety messages relevant including Childnet, Cyberpass, Interland, Azoomee, Dotcom Books and Safer Internet Day.

Our long-term Computing plan, reviewed annually by the Computing Co-ordinator, shows the different areas of Computing study and the objectives to be covered for each in each year group. Teachers carry out the curriculum planning in Computing in two phases (medium-term plans and individual lesson plans).

Each year group then has responsibility for looking at the long-term plan and skills progression document, as well as the scheme of work, to use as a basis for their medium-term plan. A medium-term plan ensures that all areas of Computing study are covered and allows appropriate and relevant links to be planned to other areas of the curriculum.

Our medium-term plans (adopted from the scheme of work) give details of each unit of work for each term. They identify the key learning objectives and outcomes for every unit of work, recommend the appropriate resources needed to teach the unit effectively and highlight the cross-curricular links. Staff are responsible for submitting these plans onto the shared server ('TeacherShare') and the Computing Co-ordinator is responsible for reviewing these plans.

Class teachers are responsible for writing the lesson plans with the Computing component of each lesson (if applicable). These plans list the specific learning objectives of each lesson, resource provision and differentiation. The class teacher keeps these individual plans and s/he and the Computing Co-ordinator often discuss them on an informal basis.

Teaching and learning

To ensure highly effective teaching of Computing at Elmwood Junior School the following will apply:

- teachers have excellent subject knowledge and teaching assistants are well informed and briefed
- planning is thorough and detailed, with particular attention to meeting the different requirements of individual pupils
- clear and explicit learning objectives are proposed and discussed with pupils
- formative assessment is an integral part of lessons and self- and peer-assessment are actively promoted

- questioning is used to deepen understanding, rather than just to check knowledge
- key Computing terminology is introduced and reinforced
- a range of equipment and resources is available wherever pupils are learning; safe working is emphasised at all times
- opportunities are available for pupils to experience 'real-world' Computing use outside school
- explicit links are made with key learning points in other subjects and particularly in English and Maths.

Assessment

To ensure highly effective assessment of Computing at Elmwood Junior School the following will apply:

- thorough, clear and accurate strategies for baseline assessment
- pupils being made aware of their current attainment and what they need to do to improve
- opportunities for peer- and self-review embedded in lessons through use of Pupil Self-Assessment Logs and Topic Evaluation Sheets.
- regular standardisation and moderation between teachers and between schools
- a progress tracking system accessible to staff and pupils and embracing Computing across all subjects
- pupils being given detailed feedback on their work
- parents and carers being kept regularly updated on their child's progress in Computing.

To ensure highly effective and consistent recording of Computing progress at Elmwood Junior School evidence of pupil progress will be stored electronically Computing shaded sheets, which track progress as well as the percentage of children working at, above or below expected levels.

The contribution of Computing to teaching in other curriculum areas

The curriculum is enhanced and enriched through effective use of Computing. For example:

English

Computing enhances the teaching of English;

- speaking and listening
    - podcasting
    - use of video/ audio
    - video conferencing
- reading
    - audiobooks / talking books
    - e-books
    - internet research
    - shared reading between the whole class
- writing
    - audience and purpose (i.e. website creation)
    - e-mail
    - blogging
    - multimedia enhancement of the creative process
    - motivation for reluctant writers
    - Airserver allows teachers to edit pupils writing on the board
    - iPads can be used to support vocabulary choices

Mathematics

Computing enhances the teaching of mathematics:

- data handling
- present and interpret data
- using and applying mathematical skills and concepts in real life situations
- support the understanding and presentation of abstract and complex theories
- increase opportunities for learning outside of the classroom through the use of online resources such as.
    - Mathletics
    - Education City
    - Mirodo and SATs Companion

Broader curriculum

- Computing is threaded through the whole curriculum by teachers using cross-curricular medium term plans to embed Computing opportunities in all aspects of curriculum planning
- Teachers seek opportunities for Computing to bring new learning opportunities to other subjects

Personal, Social and Health Education (PSHE) and Citizenship

Computing makes a contribution to the teaching of PSHE and citizenship as children learn to work together in a collaborative manner. They develop a sense of global citizenship by using the Internet and e-mail. Through the discussion of moral issues related to E-Safety and electronic communication, children develop a view about the use and misuse of Computing, and they also gain a knowledge and understanding of the interdependence of people around the world.

Teaching Computing to children with Special Educational Needs (SEN)

At Elmwood, we teach Computing to all children, whatever their ability. Computing forms part of our school curriculum policy to provide a broad and balanced education for all children. We provide learning opportunities that are matched to the needs of children with learning difficulties. In some instances the use of IT has a considerable impact on the quality of work that children produce; it increases their confidence and motivation. When planning work in Computing, we can take into account the targets in the children's SEND Support Plans. The use of IT can help children in achieving their targets and progressing in their learning. Particular software programs are also purchased and used to target groups of children requiring specific support.

Computing Provision

The Education Funding Agency in 2012 issued guidance on the direction of travel for Computing provision in schools and identified a four layer model which our policy is based on.

1**. Internet Connectivity** – The broadband is provided by the London Grid for Learning (LGfL). We have a 200 Meg connection which can be-1Gbps. The LGfL provides a managed service which includes; content, filtering, email and Unified Sign On Service (USO) which offers good value for money. The contract is reviewed on a 5 yearly cycle.

2. **Local Connectivity** – School management works closely with the Computing technician to ensure the cabling, switching and wireless infrastructure are maintained and developed at a level that meets the needs of the school now but also moving forward.

3. **User Equipment** - There are a multitude of devices to support learning. The school chooses the right tool for the right job. The Computing Co-ordinator works closely with the Senior Leadership Team (SLT) and the Computing technician to implement a cycle of renewal and upgrading of equipment. The Computing coordinator and the SLT proactively keep

themselves up to date with the latest innovations in education that will inform the future shape of provision within the school.

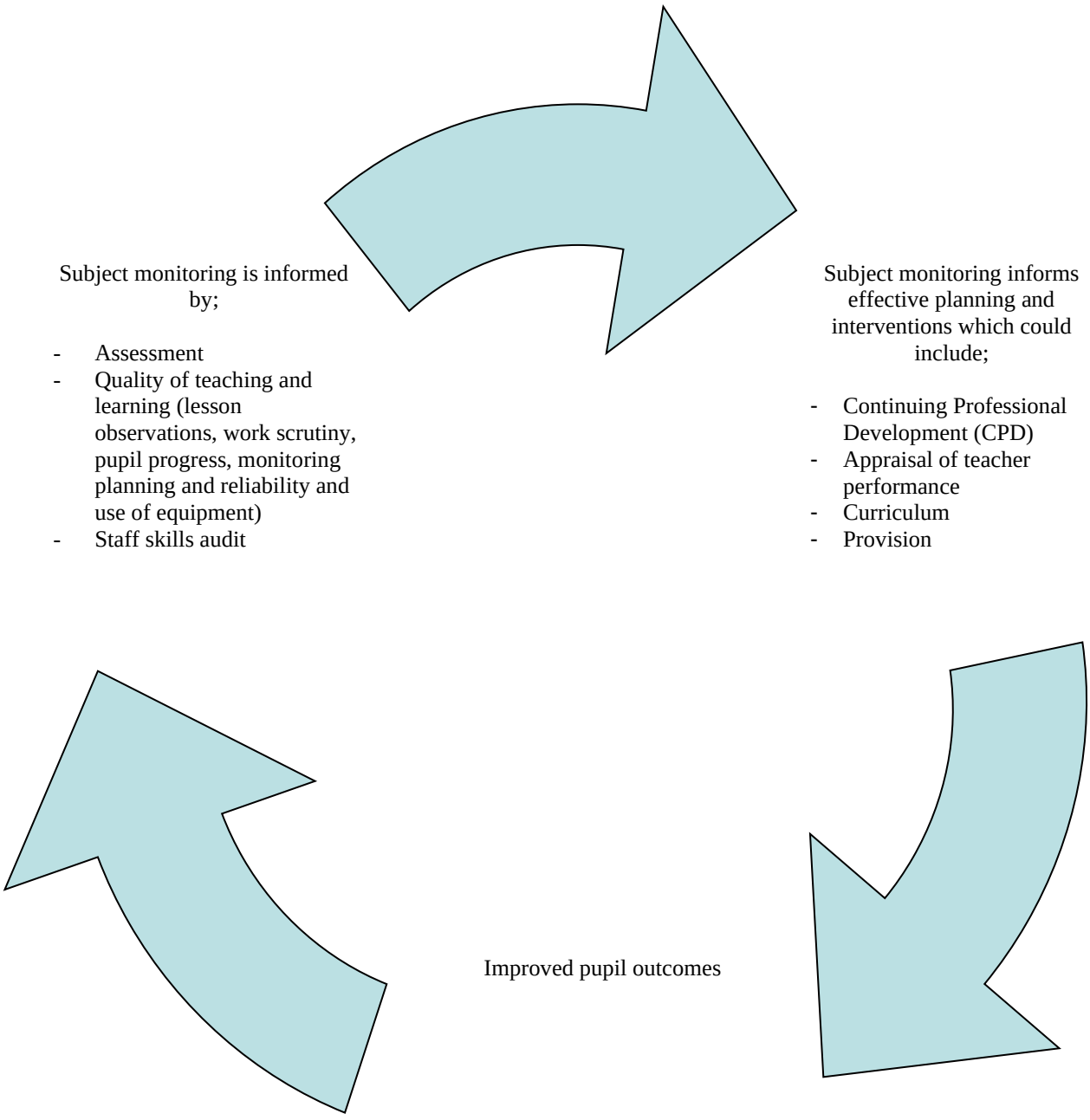
4. **Cloud based services** – "anywhere, access to learning resources", remotely hosted services and resources are becoming the norm and provide the children with extended learning opportunities. The Computing Co-ordinator, other subject co-ordinators and the Leadership team constantly review and update services to meet the needs of the children and provide better value for the school. The school uses G Suite for Education to support pupils learning both in school and beyond.

Subject Management

Monitoring and Review

The role of the Computing Co-ordinator is to ensure that children are making at least expected progress in the subject and that Computing is embedded in the life and culture of the school.

We achieve this by:



The monitoring of the standards of the children's work and of the quality of teaching in Computing is the responsibility of the Computing Co-ordinator and the SLT.

The Computing Co-ordinator is also responsible for supporting colleagues in the teaching of Computing, for keeping them informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school.

The Computing Co-ordinator regularly discusses the Computing situation with the Head Teacher and provides an annual post-evaluation holder report in which s/he evaluates the strengths and weaknesses in the subject and indicates areas for further improvement in their development plan. During the year, the Computing Co-ordinator has specially-allocated time for carrying out the vital task of reviewing samples of the children's work, updating software and for visiting classes to observe the teaching of Computing.

In line with the school assessment policy the Computing Co-ordinator keeps the samples of the children's levelled portfolios and uses this information and the shaded sheets to track Computing progression across the school. This also demonstrates the expected level of achievement in Computing for each age group in the school.

Consultation and Dissemination

The policy has been written after consultation with staff and will be disseminated to staff, governors, parents (via the School website), and children (through the Digital Leaders).

Data Protection

Elmwood Junior School will collect and process all personal data and sensitive personal data in accordance with the legal obligations as set out in the General Data Protection Regulations 2018. Please see the school's GDPR Data Protection Policy for further information.

Issue No: 3 Date Approved: July 2019 Review Date: July 2022