

SCHOOL DESIGN from A-Z

AMA Alexi Marmot Associates

AMA-ZED

This booklet is dedicated to pupils of all ages, and to the many committed teachers who help them to learn and flourish both academically and as rich human beings.

AMA-ZED of school design has been prepared by AMA Alexi Marmot Associates Limited, an architectural and space consultancy devoted to creating buildings that provide users and organisations with spaces that enhance their activities. Our research, briefing and design work for educational bodies – stretching from nursery level, through to primary and secondary schools, and to further and higher education – lies behind these ideas. We wish to share our learning with others.

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AMA-ZED

of SCHOOL DESIGN

A building project, refurbishing your existing school or creating a new one, is a golden opportunity to rethink education. Investment in school facilities can help to transform pupils' experience, implement a renewed curriculum and class structure, shift the balance between academic and life skills, and enhance the relationship between the school, parents and the local community.

This booklet has been prepared to generate ideas about school aspirations and the way in which school buildings and grounds can help deliver an educational vision. Pupils, teachers, governors, parents, local education officers, PFI teams and designers, can all use it to define their aspirations for the school and its community, and to debate how the physical infrastructure might help achieve these aspirations.

The booklet lends itself for use as a workshop tool. For example, you could use each of the 26 themes to stimulate your stakeholders in defining what *they* believe is needed for educational facilities in the whole community, in just one school, or even in a single room. Your designers can then suggest their response. The booklet also works as a creative teaching tool to elicit pupils' desires and creative solutions for their ideal learning environments.

A-Z

An alphabet of SCHOOL DESIGN

- A ASPIRATIONS
- B BUILDING PROJECT
- C CHILDRENS' NEEDS
- D DESIGN
- E EDUCATIONAL TRANSFORMATION
- F FRIENDS
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- H HEALTH
- I INTEGRATED IT
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- N NURTURE
- O OUTDOORS
- P PERSONALISED LEARNING
- Q QUALITY
- R RESPECT
- S SUSTAINABILITY
- T TEAMWORK
- U USER-FRIENDLY
- V VERSATILITY
- W WELCOMING
- X EXPERIMENT
- Y WHY?
- Z ZEST

A

is for ASPIRATIONS

Debate and write down your school's aspirations, your vision. These are the foundations for your building, interiors, outdoors, appearance and facility management.

Your aspirations may include: creating confident individuals and a safe haven; academic or vocational achievements; learning life skills; educating world citizens; instilling ethical values, respect, tolerance, integrity and compassion; inspiring creativity; respecting the local and global environment.

Your school's aspirations, to be embraced in the design of the school grounds and facilities, are...



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B

is for BUILDING PROJECT

Make sure that you have justified why you need a building project and seek approval from key parties. Write a clear brief for the buildings and grounds in view of your aspirations. Visit other schools to help formulate your brief.

Facts and figures are important – how many pupils and other school users? How is the day likely to be structured? Into what size groups will pupils be divided? What pedagogical methods will predominate? What is the budget and programme for the works? Who will be consulted and who will make decisions? Take time to capture important information to pass to the project and design team.



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C

is for CHILDRENS' NEEDS

Clarify the children's needs by consulting all users. Who is your school community? Pupils, staff, parents, and governors are obvious. The immediate neighbourhood and representatives of the local education authority should also be included.

Encourage consultation through open events, blogs and web 2.0 networking, questionnaires, door-to-door surveys, public meetings and workshops. Let pupils suggest their own ideas for improvement and change. Inform the stakeholders about the range of views. Decide the agreed direction having considered what the stakeholders want.



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D

is for DESIGN

Wherever change takes place, design happens. Good design outcomes, by skilled designers can deliver more than you expect, so aim to appoint a skilled, well recommended and highly experienced team.

Appropriateness, delight, timelessness and fulfilling user intentions are key attributes of good design (from CABA schools design panel).

School estates are 'three-dimensional textbooks' of educational ideas. If they are well designed they will endure and become a cherished part of the locality.



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E

is for EDUCATIONAL TRANSFORMATION

You don't need a new building to deliver educational transformation. But the teacher-learner relationship is changing. Teachers are being conceived more as enablers than owners of knowledge, more helpers than controllers, not only professionals, but partners with parents in guiding pupil well-being.

So you may need to rethink and change some of the existing spaces in your school and how they are used. If 'cells and bells' begin to dissolve then corridors can be transformed and learning space extended everywhere.



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F

is for FRIENDS

Peer-to-peer learning matters as well as formal classes. Group and social learning spaces encourage shared discovery and consolidation of ideas.

Corridors, locker areas, canteens, common rooms, group spaces in classrooms and libraries, all enable learning through conversation, shared ideas and joint project work. They need the right furniture, lighting and finishes to make them effective.



Everest Community College, Basingstoke. Image courtesy CABE
Photographer: Dave Morris

G

is for GLOBAL

In an increasingly globalised world, schools draw together children from different languages and cultures. The best schools celebrate diversity of lifestyles, clothing and beliefs, spreading multi-cultural understanding. Displays, festivals plus inter-cultural friendships all need spaces to gather, to observe, to celebrate.



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H

is for HEALTH

Healthy bodies, healthy minds. Plan indoor and outdoor spaces to encourage movement: individual & team sports, gym workouts, dance & competitions and group play.

Security is needed to protect your children, but should be as unobtrusive as possible. Physical barriers, IT and supervisors all play a part. Parent alerts by text and email, RFID tags and access cards, firewalls and blocking of websites, need to be integrated.

Healthy catering can be provided in many ways. Options include fast & slow food, large & small canteens, pupils' own food from home and 'growing your own'.



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I

is for INTEGRATED IT

Our children are 'digital natives', taught by 'digital immigrants'. Imagine the future and build in space and opportunities for new technologies. Laptops, PDAs, voting systems, interactive smartboards, intelligent surfaces, video links all need to be accommodated.

Teaching and learning can be invigorated by games, social networking, virtual spaces, webinars, podcasts, TV, parent portals, e-portfolios, multimedia coursework. IT and connectivity must be accessible everywhere.

Schools can reduce the digital divide by sharing IT resources with the community. They can link learning between schools in far-flung places.



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J

is for JOURNEY

Schools take children on a grand developmental journey, in which they start as needy pre-schoolers and emerge through physical and emotional challenges to become independent young adults. Different pedagogical modes suit different stages – from self-directed learning, group learning, and classroom-based didactics. A voyage of discovery.



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K

is for KINDERGARTEN

"Share everything. Play fair. Don't hit people. Put things back where you found them. Clean up your own mess. Don't take things that aren't yours. Say you're sorry when you hurt somebody. Wash your hands before you eat. Flush. Warm cookies and cold milk are good for you. Live a balanced life... Take a nap every afternoon. When you go out into the world watch for traffic, hold hands and stick together... Everything you need to know is in there somewhere... love and basic sanitation. Ecology and politics and equality and sane living...."



www.sxc.hu. Text: Robert Fulghum (1986) 'All I Really Need to Know I Learned in Kindergarten'

L

is for LIBRARY

Information is becoming ubiquitous, available anytime and anywhere. Libraries provide both spaces and services. Their services reach out to pupils in the school and beyond. Physical libraries are still the learning hubs of schools, filled with books and multimedia resources. They are evolving into 'ideas stores', places for interaction and group work, alongside private study and reflection.

Recognise the central importance of the library and reflect it in the location, design and multimedia infrastructure when planning or re-planning your school building.



Djennolly city learning academy

M

is for the MUSES

Developing childrens' creativity is essential in preparing them for the future knowledge economy and to build their imagination. Art, music, design, drama and dance all help create well-rounded people and allow everyone to build on their individual strengths.

Art needs spaces and facilities for making: painting, drawing, sculpting, modelling, woodwork, films and ceramics... Music, dance and drama need spaces for solo and group practice, small and large performances in specialist or multi-purpose zones. Consider the supporting sound and lighting technologies. Share the facilities with the community.



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N

is for NURTURE

Pupils need nurturing – so do buildings. New buildings are likely to have a lifetime lasting many decades and will need to adapt to future educational changes. Care and attention are needed throughout the building's life to provide effective operations, updated IT and infrastructure, refreshing decorations and good housekeeping. Lifetime costs of equipment, furniture and infrastructure need to be considered.

However well designed, a building will perform below par unless the facility management is excellent. Make systems easy to manage, equipment and finishes easy to maintain, and parts that wear out easy to replace.



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O

is for OUTDOORS

The outside spaces around your buildings provide essential additional places for learning, socialising and linking the building to the community. 'Learning lawns', 'learning terraces', 'outdoor classrooms', 'learning gardens' all enrich education. Opportunities for fresh air, a change from the indoor environment and views outside refresh minds.

Generous grounds permit immediate access to wide open spaces for sports and recreation, but even the tightest urban sites can provide good outdoor opportunities in courtyards, balconies, roof space and covered terraces.



Everest Community College, Basingstoke. Image courtesy CABE
Photographer: Dave Morris

P

is for PERSONALISED LEARNING

People learn in different ways. Buildings can help people to learn in different modes and at different speeds by providing a range of spaces for large, small or one-on-one groups, and spaces for learning through reflection, doing and conversation.

Numerous approaches can be accommodated: art learning; building; community service; distance learning; independent study; internet research; lecture format; naturalist, one-on-one learning; peer tutoring; performance & music; project-based learning; seminar format; social and emotional; storytelling; pupil presentation; team collaboration; technology-based learning.



www.sxc.hu. Text: 18 modalities identified by Nair, P & Fielding, R. (2005) 'The Language of School Design: Design Patterns for 21st Century Schools'

Q

is for QUALITY

Investment of time and money in quality design and materials will not be wasted. It will help the school buildings to endure over decades - even centuries. Pay attention to detailing for durability, and try to find the capital for facilities that last. Use materials that weather and age well with detailing that does not look clumsy or stained when no longer new.

Brilliant teachers can deliver a high quality of education from poor quality buildings, but it is not a good place to start. Show pupils you care for them by providing buildings that command respect and affection by the way they have been made.



wikimedia commons: User Tagishsimon:
[http://commons.wikimedia.org/wiki/
File:Ilkley_Grammar_School_main_building.jpg](http://commons.wikimedia.org/wiki/File:Ilkley_Grammar_School_main_building.jpg)

R

is for RESPECT

Respect between pupils can be fostered by intelligent design. Opportunities for bullying may be diminished by avoiding secluded areas, allowing large groups of pupils to be sub-divided when eating, circulating or accessing lockers, and by the careful design of WCs and showers.

Older children can protect and instil confidence in younger pupils and those with special education needs, through shared spaces and joint activities. Accessibility for all children, no matter their level of physical, visual, oral or educational ability must be guaranteed.



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S

is for SUSTAINABILITY

Saving the planet must be part of building design and management. Social, environmental and economic sustainability can be integrated into the building, the curriculum and daily school life. Start with the journey to school – encourage walking, cycling and public transport.

Make the school a sustainable learning laboratory. On-site power generation and recycling may be possible. Use daylight, natural ventilation and energy saving controls on heating. Insulate all buildings and use sustainable, low maintenance materials. Design for long life.



CABE, Redhill C of E, Worcester

T

is for TEAMWORK

Teamwork between school representatives, design teams, builders and suppliers, is the key to a successful building project. Make time for team bonding and learning.

The school client group needs to be consulted and become informed by understanding the art of the possible, visiting exemplary schools and instructing the designers. Standard delivery processes established by the local education authority need to be tailored to the specific needs of your community, pupils, budget and site.



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U

is for USER-FRIENDLY

Schools too often are not user-friendly. Common failures of UK schools are: poor internal environment – stuffy, chilly or overheated, badly lit and uninspired views, bland, boring spaces, limited external landscape, inadequate storage, small inflexible halls, inadequate toilet cleanliness and poor building management*.

By sensitive design, failures can be reversed to become successes, providing control over the internal environment, ergonomic seating and desks, mobile furniture and trolleys.

www.sxc.hu *Text adapted from School Works (Nov 2004) Post Occupancy Evaluation for Secondary Schools



V

is for VERSATILITY

Buildings are long-term investments that need to flex with changing demands. Schools need to adapt from hour to hour, day to evening, season-to-season and over decades. Versatility can be increased by having a high quality built fabric, daylit, with a structure that allows change to take place, accessible cabling routes, zoned heating controls to allow parts of the building to be warmed or cooled when others are not, and enabling specialist spaces like labs to be multifunctional spaces. Provide generous storage spaces for varied furniture and equipment and provide for easy deliveries to all areas.



Advisory-based plan for Harbor City International School, Duluth, MN. Design Architect: Randall Fielding, Fielding Nair International with Scalzo Architects DesignShare ©2009. Image courtesy of DesignShare ©2009; Fielding Nair International and Scalzo

W

is for WELCOMING

Teachers and school administrators shape a welcoming, child-oriented environment. Buildings can help too. The main entrance and route into the building should create places that embrace pupils, parents and the local community. A welcoming place can encourage respect between pupils and the community. Barriers should be minimised. Openness can be balanced with security, so intrusions – such as noise, traffic, pollution and strangers – are minimised.

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X

is for EXPERIMENT

We are all learning how to shape new environments for learning in a new age. Try out new ideas specific to your community. Develop low cost pilot projects and monitor feedback before applying ideas widely. Share your good ideas with teaching colleagues, local newspapers and design journals so that others can avoid 'reinventing the wheel'.

Exploit the building project as it evolves by devising opportunities for pupils to observe and learn about the process. Make the most of temporary changes - hoarding can be temporary exhibition spaces. Involve pupils in celebrations at key stages.



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Y

is for WHY?

Professions always develop technical jargon; the design and construction industry is just like any other. Teachers, educators, pupils and the community need to ask the design team to explain their language and their design decisions and justify how those meet the original aspirations. Designers should ask for clarification on education processes. Clarification has to take place at every stage of the process.

Through enquiry and understanding, excellent, new and durable solutions can emerge.



Z

is for ZEST

Improving school facilities is part of a long-term vision that needs to be sustained over time. Maintained enthusiasm is crucial in driving a project from start to finish, from aspiration through to successful completion.



Information resources

A wealth of material is available through books, articles and websites on school design. A few of our favourites are listed below.

- AMA for SFC (2006) 'Spaces for learning: A review of learning spaces in further and higher education'. Available at www.sfc.ac.uk
- CABE (2008). 'Sure Start children's centres: A post-occupancy evaluation'. Available at www.cabe.org.uk
- CABE (2004). 'Creating Successful Masterplans: a guide for clients'. Available at www.cabe.org.uk
- CABE (2003). 'Creating Excellent Buildings: a guide for clients'. Available at www.cabe.org.uk
- CABE & DfES (2004). 'Building for Sure Start: A client guide'. Available at www.surestart.gov.uk
- CABE & Sport England (2003). 'Better Places for Sport: A client guide to achieving design quality'. www.sportengland.org
- JISC (2006). 'Designing Spaces for Effective Learning: A guide to 21st century learning space design'. Available at www.jisc.ac.uk

Web resources

- British Council School Environments www.bcse.uk.net
- Department for Children, Schools & Families www.dcsf.gov.uk
- Partnerships for Schools www.partnershipforschools.org.uk
- Teachernet www.teachernet.gov.uk
- www.teachers.tv

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