Display Surfaces

Introduction

“What kinds of stimuli tend to lead to what kinds of responses, for example, attention, perception, learning, concept formation?”

Translation:

“What kinds of displays communicate?”

This is the question that will be addressed during this session. We will first deal with the general principles which, will be presented as guidelines to design. Then we will take a closer look at various display surfaces and their practical use in the classroom.

What is the point of display?

Displays should aim to:

- **Make the environment attractive** - Displays can add colour, texture, variety and order, to areas which would otherwise be drab.
- **Communicate ideas and information clearly** - By careful planning and selection of materials, thematic displays or special interest displays should help students to understand more about the subject.
- **Stimulate interest and questioning** - A display can sometimes act as a starting point for a particular area of investigation. Students are encouraged to ask questions and seek solutions.
- **Show appreciation of children’s work** - Good display acknowledges the value of work done. By displaying a child’s work you demonstrate your interest and approval.

Two-dimensional

Two-dimensional work can only be displayed effectively if it is carefully and attractively mounted. Well-mounted work immediately attracts attention and is
pleasing to the eye, whereas work which is untrimmed, unmounted or displayed without thought or care shows little respect for the time and effort spent on it.

Backing paper should be heavier in weight than the work to be mounted on it. Creasing occurs when papers of the wrong weight are used as mounting papers.

The most effective colours to use as mounts are neutral colours or those which are tonally contrasting: black, white, grey, pale blue, cream, fawn, sage, brown, terracotta.

**Proportion of Mount**

The proportion of a mount in relation to the size of the work it is to receive is important. As a general guide, the width of the mount appearing beneath a piece of work should be twice the size of that above and to each side of the piece of work.

**Double Mount**

Double mounting is one of the most effective ways of mounting two dimensional work. The work should first be mounted on a tonally contrasting background of an appropriate weight, leaving an equal border around the work. The work and mount should then be mounted on a second background paper of a slightly heavier quality, with the larger border below the work.

**Preparing the Surface**

Once work has been mounted, the next step is to prepare the surface on which it is to be displayed. Various materials can be used, depending on the nature of the display and the effect required.

**Positioning Work**

For best effects, the work must be well positioned on the display board. There is nothing more unsightly than work which is crooked, too close together, overlapping or generally carelessly displayed. There are no set rules for the way in which work should be arranged. It is largely a matter of personal preference and a feeling for an arrangement that simply looks right. With experience you develop an eye for a good arrangement. However, the following guidelines may help.

1. Display all work in an orderly manner. Whenever possible aim for a geometrical arrangement.
2. Aim for an overall balance between large and small work.
3. It is often best to arrange work on a grid system by using vertical and horizontal guidelines to form links between the various pieces of work being displayed.
4. Display at the level where students can easily see the work. Refer to figure 1.
5. Do not be tempted to put too much material in your display. This is a common mistake which almost always lessens the impact and effectiveness of a display.

6. Be selective. Always make sure that you are actually conveying what you intended.

7. Displays usually require some explanation. Labels and captions should be carefully prepared and positioned. Many thoughtful and otherwise attractive displays are spoilt by poorly formed lettering and labelling. MS Publisher can be a great help here.

8. Consider mounting one key piece of work differently from all the other work in the display to draw attention to it.

9. Finally, remember that even rather mediocre work will be greatly enhanced if it is carefully mounted and thoughtfully displayed and that this will provide much encouragement to its originator.

### General Principles

Without attention there can be no learning.

<table>
<thead>
<tr>
<th>Attention</th>
<th>We can give attention to only a small part of our surroundings.</th>
</tr>
</thead>
<tbody>
<tr>
<td>... is highly selective</td>
<td>For example in print, change the font or colour or introduce a different element such as an image or a sound effect (do not throw away musical birthday cards. You might use them in your displays).</td>
</tr>
<tr>
<td>... is drawn to what is different</td>
<td>If the display is too simple it will get very little attention. If too complex, the learner will avoid it.</td>
</tr>
<tr>
<td>... is drawn to moderate complexity</td>
<td>Include only the most relevant information.</td>
</tr>
<tr>
<td>Lean displays focus</td>
<td>Use arrows or shapes around items. Captions under pictures can effect the attention given to the image.</td>
</tr>
<tr>
<td>Learned cues direct</td>
<td></td>
</tr>
</tbody>
</table>

Learning is limited by what the learner perceives. This can be influenced by how the teacher designs certain displays. The learner who is presented with a display may select parts of it and compares it with some organised information (schema) in memory and immediately recognises it. Or, the learner may not get a match and continue to scan the display until a match is found or a new schema is constructed.
... is organised

Unorganised data is difficult to understand and remember. An organised display reduces the chance that the learner organises the material differently and perhaps incorrectly.

... is relative

For example the size of an unknown object cannot be determined without reference to some standard like a hand, ruler or any other familiar object.

Elements that appear together tend to be grouped in ...

This is the law of proximity in perception. Two side-by-side elements invite comparison, while overlapping elements facilitate associative memory.

Concreteness in displays facilitates...

Pictures are better remembered than words. However, images generally need words so as to focus the attention of the learner. Selective simplification of an image helps.

The amount of information processed at one time is limited.

Ration the information.

Information is divided by the learner into chunks.

Designing in blocks helps learning. For example, a process of 10 steps can be divided into 2 blocks of 5 steps.

A general limit of 7± 2 can be perceived at one time.

Displays which make the important facts stand out make learning more efficient.

For example, eliminating a non essential picture background or emphasising an essential part by colouring or enlarging it.

... is dependent on the prior knowledge of the learner.

So should the display aim for novelty (2nd point at the top) or familiarity? The difference is in the teacher’s intent. To attract attention, use novelty; to facilitate memory, use familiarity.

Learning involves more than a well thought-out display. Displays are only one of many tools to facilitate learning. Other criteria involve repetition, discovery, praise, feedback...

Display Surfaces - Chalkboards, flannel boards, whiteboards, newsprint, flipcharts, magnetic boards, multipurpose boards (marker board) and bulletin boards form a
group of media materials which we refer to as display surfaces. Display surfaces are the most commonly available medium in schools.

### Chalkboards

Until recently the chalkboard was the most important teaching medium in the classroom. Teachers used to deliver most of their explanations via writing on the classroom blackboard. Nowadays chalkboards have been replaced by multipurpose boards (whiteboards). However, chalkboards have not been removed completely from schools. In some classes, chalkboards are being used for displaying charts and pictures.

Chalkboards can be used as a surface upon which you can

1. Draw visuals - sketches, diagrams, graphs etc.
2. Display visuals – pictures, charts

### Multipurpose Boards

Nowadays almost all classes are equipped with a multipurpose board commonly referred to as whiteboards. As their name implies multipurpose boards can be used for more than one purpose. The surface can be used for:

1. Writing text and drawing sketches, diagrams etc.
2. Projection of films, slides and overhead transparencies.
3. For displaying visuals via magnets provided that the surface is made of steel.

Unlike chalkboards, multipurpose boards are dustless. Accordingly they are the most suitable display surfaces for classes equipped with computers. Also a variety of colours are available for use on multipurpose boards.

It is important to:

1. Use the appropriate markers on multipurpose boards. Whiteboard markers should be used. Remove any permanent markers in the vicinity of multipurpose boards.

2. Erase the board after use. Do not let the marks remain on the board overnight. The longer the marks remain on the board, the more difficult they are to erase. Old marks may be erased using a damp cloth. However, one would have to allow some time for the surface to dry off before it can be used.

3. Cap the markers when not in use even during the delivery of your explanation. This is because the markers have a solvent base that dries quickly. Also markers should be stored in a horizontal position with the
cap tight when not in use to prevent them from drying out. If a marker dries out, cap it, turn it upside down, and shake it vigorously for 20 seconds.

You can also refer to the checklist for use of boards on the next page.

**Bulletin Boards**

A bulletin board is a display surface made of a material that holds pins, thumbtacks and other sharp fasteners without damage to the board. In practice bulletin board displays tend to serve three broad purposes:

1. **Decorative** – bulletin boards are used to lend visual stimulation to the educational environment.

2. **Motivational** – bulletin boards are used to display student work. This fosters pride in achievement reinforcing students’ efforts to do a good job. Creating a display of student work is also relatively effortless for the teacher to assemble.

3. **Instructional** – bulletin boards are used to complement the objectives of a lesson. Such displays can be designed to actively invite participation. For example, these displays can give the viewers some means of manipulating parts of the display to verify their answers, such as flaps, pockets, dials, or movable parts.

Wherever possible students should be involved in the design and construction of displays. For example, to introduce a unit on animals, a primary school teacher might ask each student to bring in a picture of a favourite animal. The students would then make a display incorporating all pictures.

The design and construction of bulletin boards requires some thought and planning. One should keep in mind the primary objective of the display in preparation. A display should be focused on one main topic or objective. One way to attract attention to your display and to prompt the student’s thinking about your topic is to lead off with a catchy headline, one that communicates the main theme, perhaps with a question, a challenge or a humorous phrase.

Bulletin boards need not always be attached permanently to the wall. Portable boards may be set on an easel for temporary display. Beware of too many bulletin boards, though. Too many competing visual displays in one place can lessen their individual impact. You can also refer to the checklist for preparing bulletin boards on the following page.
### Checklist for use of Chalkboards and Multipurpose Boards

- If you plan to write a lot of text or draw extensive drawings and sketches on the board do so before the lesson starts. Taking too much time to write or draw creates restlessness and may lead to discipline problems.
- Organise in advance what you plan to write on the board and where you plan to write it.
- Cover material such as a test or extensive lesson materials with wrapping brown paper or cardboard until you are ready to use it.
- Eye contact with students is important! Face the class when you are talking. Do not talk to the board. Do not turn your back to the class unless it is absolutely necessary.
- Vary your presentation techniques. Do not overuse or rely entirely on the board. Use handouts, the overhead projector, flip charts, and other media during teaching as appropriate.
- Print neatly rather than using script. For a 32-foot-long classroom, the letters should be 1½-2 inches high and the line forming the letters should be ¼ inch thick.
- Check the visibility of the board from several positions around the room to be sure there is no glare on the surface. In case of glare, move the board (if portable) or pull down the window shades.
- If your printing normally runs “uphill” or “downhill”, use water-soluble felt-tip pen markings as temporary guidelines for straighter printing. The guidelines will not be wiped off by a dry eraser but may be washed off by a damp cloth when no longer needed.
- Hold the chalk or marker at an angle so that it does not make scratching or squeaking noises.
- Use colour for emphasis, but don’t overuse it. Two or three different colours work best.
- Move around so you do not block what you have written on the board. Do not stand in front of what you have written.
- Use drawing aids such as rulers, stencils, and templates (patterns) to save time and improve the quality of your drawings.
- For frequently drawn shapes, use a template cut from heavy wood or heavy cardboard. A dresser knob or empty thread spool mounted on the template makes it easier to hold in position while tracing around it.
- Outline your drawings with barely visible lines before class and then fill them with bold lines in front of the class.


### Checklist for design and construction of Bulletin Boards

- Emphatic – display must convey message and clearly.
- Attractive – colour and arrangement should catch and hold interest.
- Balanced – formal or informal.
Checklist for design and construction of Bulletin Boards

- Unified – repeated shapes or colours or use of borders hold display together visually.
- Interactive – involves the viewer.
- Legible – lettering and visuals can be read across the room.
- Lettered properly – spelled correctly, plain typeface, use of lowercase except where capitals needed.
- Relative – correlated with lesson objectives.
- Durable – well constructed physically, items securely attached.
- Neat – a clean, neat appearance makes the display more attractive, shows that the teacher has regard for the students, and provides a proper role model for student work.

Adapted from Instructional Media and Technologies for Learning – Heinich, R., Molenda, M., Russell, J.D., and Smaldino, S.E. (1996)

Figure 1. The placement of a display should vary according to the average height of the intended viewers. A useful rule of thumb is to align the middle of the display with the viewer’s eye level.
## HOW TO . . . Design Bulletin Boards

### Assemble the Elements

- Elements that look large in your hands suddenly seem to shrink when you place them on a large wall or bulletin board. When you are making or choosing elements for a bulletin board, prop them up and walk across the room to judge how well they will show up.

### AIDS AWARENESS

Large cut-out letters are at least 1.5" high to be visible from across a room.

Illustrations are large enough to be seen within the bulletin board format; they are chosen with regard for the viewers’ interests and stylistic preference; they reinforce the theme of the display.

Text elements have large, compelling captions that encourage viewers to look closer and get engaged with the content being presented.

Actual products add 3-D texture to the display and promote engagement through manipulation of display elements.

### Choose Background and Underlying Pattern

- Use subdued color for large areas to avoid distraction.
- Small samples of paper tend to look lighter than large sheets of the same paper; if you’re working from samples, pick one lighter than you think you need.

Background color is pale pink, a subdued color that will allow other elements to stand out and harmonize with the bright red and purple of the large heart.

Underlying pattern chosen is a circle to lead the eye from one content element to another without pausing to any single element as the most or least important.

### Arrange the Elements

- Look for a large floorspace to test the layout of your bulletin board. Once you have fastened the whole display to the board you will be reluctant to pull it apart and revise it.

Photo of teenaged couple is super-imposed over the heart, a strong use of proximity. The underlying circle is made visible as a dark pink element, grouping the main elements together.

Additional content elements are aligned with the ends of the title text; they are out of the way of the main content and their placement allows 2 students to interact with the display simultaneously without crowding.

### Check and Revise

- Stand back from the display and unfocus your eyes slightly; if the underlying pattern remains discernible in this fuzzy view your design probably has unity.
- Observe student reactions to help gauge the instructional effectiveness of your display.

The additional content elements are placed on light purple rectangles to improve their alignment with other elements and to tie them into the circle pattern.

Text elements are more clearly linked by the addition of colored borders; the borders are a cool aqua blue, which offsets the overwhelming red effect of the initial design.

Captions on these elements have been made consistent.

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## Cloth Boards

Cloth boards are made up of cloth stretched over a hard material such as plywood or heavy cardboard. Sometimes the cloth is hanged to a multipurpose board or bulletin board. Different cloth materials may be used including flannel, felt or Velcro material.

Visuals cut from flannel can stick easily – by applying gentle pressure - to another cloth made of flannel. You can use felt-tip markers to draw any shape or letter on a flannel cloth piece. You can cut this out and press this on the flannel cloth board. You can also stick pieces of flannel to pictures and graphics and press these on the flannel cloth board. Coarse sandpaper can also be used on the back of visuals for attachment to a cloth board. If adhesion is less than desired, slant the board slightly to prevent materials from slipping.

You can also stick Velcro material to pictures and graphics and press these on the flannel cloth board. When pressed together, the two surfaces stick firmly. Velcro material can be purchased in rolls or strips. One great advantage of Velcro is its ability to support heavy visuals and also light three dimensional objects.

Cloth boards are particularly useful for lessons in the primary classroom. With a little bit of imagination cloth boards can be used for story telling. This is because any visual can be easily moved from one part of the cloth board to another. Children may be allowed to do such movements themselves.

Be sure you have proper storage space for your cloth board and cloth-board visuals when not in use. Proper storage will help keep them clean and prevent them from being bent or torn. If possible, store your materials on a flat surface rather than stacking them up against a wall. If you use sandpaper backing on your visuals, put paper between them during storage, as sandpaper can scratch the surface of visuals.

## Flip Charts

A flip chart is a pad of large paper fastened together at the top and mounted to an easel. Each individual sheet can hold a limited amount of text or visuals. However, one can use the individual sheets in a flip chart for sequential presentation to a small group. The text or drawings can be prepared before the lesson. Each sheet can be revealed one at a time during the lesson. Flip charts are particularly useful for small group tutoring or discussions.

The flip chart is very versatile, convenient and inexpensive teaching medium. It requires no electrical power, has no moving parts to wear out, can be used in a wide range of lighting conditions, is portable and requires only a marking pen as peripheral equipment.

As indicated above the flip chart is an ideal medium for small group tutoring or discussions. Students regard teaching sessions using flip charts as friendly, casual
and comfortable. The flip chart is an exceptionally valuable aid to any group discussion process. Ideas contributed by students can be recorded in a way visible to all participants. Comments and correction can be made and the results can be preserved. Finished sheets can be torn off the pad and taped to walls or windows for later reference. You can also refer to the checklist for use of flip charts during lessons.

Checklist for Use of Flip Charts

- Position the flip chart at an angle so everyone can see it. Place it in the left front corner if you are right-handed and in the right front corner if you are left-handed.
- Be sure the easel is properly assembled and the pages are securely fastened so the flipchart will not fall apart during your presentation.
- Prepare lettering and visuals in advance or outline their shape using a light-blue pencil; then trace them during your presentation.
- For group-generated responses, draw lettering guidelines with a blue pencil.
- Keep lettering and visuals simple but large enough for everyone to see.
- Use more than one colour, but not more than four.
- Use broad-tip marking pens that provide contrast but will not bleed through to the next sheet.
- Print rather than use cursive writing.
- Keep words short or use well-understood abbreviations.
- Include simple drawings, symbols and charts.
- Talk to the audience, not to the flip chart.
- Avoid blocking the audience’s view of the flip chart.
- Be sure your materials are in proper sequence.
- Have a blank sheet exposed when not referring to the flip chart.
- Reveal pages only when you are ready to discuss them not before.
- Put summary points on the last sheet rather than paging back as you make your summary.

Adapted from Instructional Media and Technologies for Learning – Heinich, R., Molenda, M., Russell, J.D., and Smaldino, S.E. (1996)
During this activity you will design and create a Bulletin Board or poster with a theme of your choice. Attention should be given to layout, printing and mounting, focus of attention, flow. Aim to get one point across to your audience and stimulate interest and questioning. Refer to the general principles in the design stages.

- A preliminary sketch of what you intend to set up is normally a very good starting point.

1. Select clipart or images from a magazine.
2. Enlarge to the required size and trace the outline to get a continuous line.
3. Colour in your drawing with poster paints, plastic crayons or oil pastels.
4. Mount your pictures for a professional look.
5. Print the caption for your drawing.

Fill the frame in the viewfinder with the subject of your picture.

Collect the other images, mount them, and print the captions.
Titles may be printed as hollow lettering and filled in with colour at a later stage.
Plastic crayons or oil pastels do not fade very quickly.
Use your preliminary sketch to layout the title, drawings and captions.
Refer to the example on the next page.
Taking good pictures

Scale 1:4

Projected; Non-Projected; Audio & Video Media

Notes Compiled by James Cilia & Emmanuel Zammit