DRAFT GUIDELINES FOR INTRODUCTORY INSTRUCTION IN BOTANICAL ART

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INTRODUCTION

These guidelines should by no means be regarded as a botanical art teaching manual but rather as an additional resource for botanical art teachers involved in curriculum development and teaching in continuing education programs at private or public institutions such as botanic gardens and creative arts centers. They are published with the view to engendering acceptance by ASBA member teachers of what are generally regarded by the ASBA education committee as the vital criteria required for comprehensive instruction in botanical art, (Educators' Roundtable, Pittsburgh 2004). Whether used to facilitate either the designing or the review of an introductory program these guidelines should help to establish a general acceptance of what specific skills are recognized at the various designated levels of experience – referred to by educational programmers as "beginner", "intermediate" and "advanced" – thereby providing a degree of credibility for comprehensive adult programs. Such programs are designed for those with busy schedules who appreciate knowing up front what is expected for successful completion of a course and what skills they can expect to acquire. However, it should be noted that above all, instructors realize the key to successful learning involves not only a certain degree of discipline exercised by the student in order to learn these skills but that the student comes to view instruction in this art as a pleasurable pursuit where their teacher's gentle guidance and enjoyment in the sharing of knowledge and skills sees students keen to continue this learning experience and also for those embarking on a certificate view it more than the pursuit of credit for a certificate.

Initially these guidelines will focus on the development of drawing and painting skills from beginner to intermediate levels. Attainment of the "intermediate level" should see students look forward to exhibiting botanical art regarded by their teacher as suitable for framing and exhibiting locally at public libraries and other such exhibition spaces. Teachers should find that using the three main criteria, now gaining acceptance by members of the ASBA, as those at the core of botanical art, promotes the development of a balanced approach in designing instructional programming and in the case of certificate registrants who require credit, an objective approach for assessment, according to the level of the course work. The criteria are –

(1) Botanical accuracy (exhibiting keen observation)
(2) Draftsmanship (exhibiting proficiency in the application of techniques)
(3) Aesthetics (exhibiting artistic sensitivity – effective design, that can create a sense of expression).

However, it is also vital that teachers present instruction in a manner that engenders a sense of wonder for both the functional and the aesthetic elements of the color and design found in plants thereby leading students to create inspiring works, as technical skills learned during this introductory instruction are honed. This can be nurtured at every level, creating a connection to the plant subject by encouraging a sense of enquiry, developing observation skills and the desire to accurately record observations through drawing and painting techniques and a basic appreciation for design.

DRAWING CURRICULUM: Beginner to Intermediate Level

A strong foundation in representational drawing followed by well-developed skills in botanical drawing is essential in order to create a successful botanical artwork. The biggest challenge presented to the drawing instructor is that most adult learners come in to a program expecting to apply color after just a few hours in drawing classes. Creative instructional programming for drawing that develops in each student an interest and a sense of satisfaction from drawing is vital for the development of skills required to create botanical art. The demands placed on adult programs often require that instruction is condensed to the bare minimum and hence it is vital that before entering a program students are made aware of the demands of the instruction and that regular time must be allowed at home to practice exercises from class. Busy people usually prefer a structured

approach to instruction and a useful part of this is the setting of homework. Motivation to complete homework can be strengthened when students know this material is used to provide a helpful critique session at the start of each class, thus enabling the teacher to review the previous lesson and to introduce the next. Instruction in how to draw introduces students to the processes and techniques of drawing using pencil line before embarking on shading. Creating the perception of three-dimensional form using shading may in some cases be introduced during a drawing curriculum or may be dealt with under more intensive study once observation and application of line to accurately illustrate botanical structures, are first achieved.

Successful drawing classes develop confidence and enjoyment for drawing students by –

a) Progressive step-by-step instruction with accompanying exercises, enabling the teacher to more fully explain a new concept and its application
b) Individual guidance and practical demonstration during class
c) Awareness by the student of the importance of practicing the skills introduced in class
d) Discouraging excessive self-criticism in the early stages by focusing on the satisfaction that can be gained from engaging fully in the drawing process – rather than on initial results

At completion of basic drawing classes students should have a reasonable ability to create representational drawings of natural as well as relatively simple man-made objects or structures, such as might be found in a garden setting, where instruction in the basics of perspective drawing creates an awareness of eyelevel and presents a useful tool that students can use quite simply to double check the angles of receding edges.

An introduction to botanical drawing is the next stage in learning to draw where observation and knowledge of basic plant morphology are emphasized and where the instruction covered in drawing basics can be applied to more complex plant forms. It should be designed in such a manner as to ensure serious students are relatively competent in botanical drawing before instruction in various color applications commences. Ideally, if drawing class time has been minimal, further opportunity for botanical drawing instruction could be offered through informal studio sessions or interestingly themed, half-day workshops once regular classes have been completed.

Drawing instruction at the "advanced" level would be designed for students who have attained the intermediate level in creating botanical studies in color. At the advanced level more emphasis is placed on observation and botanical accuracy in the recording of botanical details, refining drawing and tonal rendering techniques in graphite pencil and developing a deeper appreciation for creative concepts.

Classes in composition bring a greater awareness for design and should create further interest for the student. This instruction may be integrated throughout drawing and painting instruction (beginner to advanced levels) or delivered as a separate subject before embarking on the more advanced drawing classes. Either way this instruction is essential for introducing students to the traditional visual art concepts thereby adding this important area of learning to botanical art instruction.

Planning A Curriculum

The concept of offering an introductory course with various required subjects within designated levels of development reflects the reality of presenting a viable non-accredited program – those not accredited with a university – that strives to accommodate the type of adult learner as mentioned in the preceding text. The three designated levels of development can be successfully applied to facilitate the planning of a comprehensive introductory course in botanical art and to set reasonable goals for skill development so that the program is in a position to stipulate that if students participate fully in classes and successfully complete the intermediate level they can expect to attain skills that see their work (in color) suitable for exhibition locally at public libraries and other such spaces. Students who follow through in the same manner at the advanced level can expect to attain skills suitable for entry in regional botanical art exhibitions. (Providing such goals is useful when planning a curriculum suited to both certificate and non-certificate registrants.) A certificate project that may

involve a period of independent study would begin after the successful completion of advanced level course work.

While a program may endeavor to set the required skills expected at the completion of the intermediate and advanced levels the institution offering such a program may only wish to assure this degree of attainment for certificate registrants enrolled with a view to attaining a certificate of merit where formal assessment of progress is made.

A methodical approach in initiating planning for a curriculum is to create a table such as the example given below. This approach used by Margaret Saul to develop the introductory course for the "Brookside Gardens School of Botanical Art & Illustration" (BG-SBAI) in Maryland has at its core the three criteria the school views as essential for botanical art. (While this example is based on the school's approach it is not the curriculum plan used at the school.) The school facilitates an integrated approach across its curriculum, which also includes its advanced level with three core curriculum subjects - designed to hone observation skills while facilitating the development of a creative process with all its associated concepts and applications. Both the certificate registrants and non-certificate registrants participate in this introductory program.

Explanation of the table – A drawing curriculum plan:

- *Left-hand column* – Lists the three essential criteria and the project for each subject
- *Top line in the table* – for the purpose of these guidelines subject titles are deliberately non-specific and the number of subjects offered at a specific level can vary according to the preferred approach. For example, a program may not necessarily hold to the concept of one drawing subject per skills level, i.e., *Beginner* – DRAWING I; *Intermediate* – DRAWING II and *Advanced* – DRAWING III but rather may choose to offer botanical drawing (line only) at the beginner level.
- *Remaining vertical columns* – list areas of learning linked to each of the three essential criteria for each of the drawing curriculum syllabuses, ensuring an integrated approach across the curriculum.

A DRAWING CURRICULUM PLAN (Stimulus only)

CRITERIA ……SYLLABUSES ……

BOTANICAL ART CRITERIA USED FOR A DRAWING CURRICULUM	**DRAWING BASICS** (Beginner level)	**BOTANICAL DRAWING** (Part A.) (Beginner or intermediate level)	**LIGHT & SHADE** (Intermediate level)	**BOTANICAL DRAWING** (Part B) (Advanced level)
BOTANICAL ACCURACY - Observation skills	Develop observation skills – shapes & relationships. Drawing exercises include – Contour drawing; Blind drawing & Gesture drawing. Etc.	Basic botanical structures – observation and various exercises to further develop observation skills and interest in their plant subject	Value scale – observation of values Observation of shadows of geometric forms as they relate to botanical subjects and then subsequently to plant subjects	Prerequisite - Botany. Observational notes and sketching process - structures - form shadows Etc.
TECHNIQUES - Proficiency in various drawing applications	Materials & equipment, pencil control, etc. Perspective drawing concepts (picture plane etc) Foreshortening	Clarity of line with an emphasis on botanical accuracy Etc.	Rendering techniques	Accurate, finely applied graphite rendering
AESTHETICS – Developing artistic sensitivity and an appreciation for design	Basic design concepts & application processes – thumbnail sketches, overlay sheets. Class exercises: E.G. Balance, Point of view, Focal point or use terms based on whatever approach to elements and principles of design is preferred)	Basic design concepts & application processes – thumbnail sketches, overlay sheets. Class exercises: E.G. Balance, Point of view, Focal point or use terms based on whatever approach to elements and principles of design is preferred) Brief outline of the history of botanical art	Basic design concepts & application processes – thumbnail sketches, overlay sheets. Class exercises: E.G. Balance, Point of view, Focal point or use terms based on whatever approach to elements and principles of design is preferred)	Composition as a form of expression Continuing references made to historical and contemporary botanical art Discussion re non-botanical artworks relevant to instruction..
PROJECT - Projects are included with a program involving progressive assessment for credit but all students should be encouraged to complete the project viewed as homework at the completion of a subject	**Small study of natural and man-made objects** Requirements set see the application of all aspects of instruction	**Small botanical study** Requirements set see the application of all aspects of instruction	**Small light and shade study** Requirements set see the application of all aspects of instruction	**Botanical art in graphite** Requirements set see the application of all aspects of instruction and that work exhibits proficiency and an appreciation of all of the essential criteria

Program designers may choose to include additional drawing instruction during the beginner to intermediate level with additional syllabuses not noted in the table above such as “pen and ink”, while others may prefer to offer such as an elective or workshop once the intermediate level has been achieved. Whatever is offered, the focus should remain on designing and presenting a program that sees students, who have successfully completed the requirements of the intermediate level, able to create botanical artwork viewed as acceptable for framing and entry at exhibitions in the type of locations as noted. (Refer to page 1)

DRAWING BASICS

(Beginner Level)

Drawing is viewed in the initial sense as a linear application and not as tonal rendering to illustrate form or volume, which is often included in a drawing syllabus once students have gained proficiency working in line. At completion of the basic level of instruction the student should be capable of creating an accurate drawing of both natural and manmade objects or structures in pencil line. Composition fundamentals can also be successfully introduced to the drawing curriculum.

Skills attained at completion of drawing basics –

a) *Knowledge of drawing materials used and a developing proficiency in use of materials and equipment*
b) *An understanding of the drawing process*
c) *Appreciation of the basic drawing concepts & applications*
d) *Increased powers of observation* (positive & negative shapes, angles & relationship)
e) *Applies compositional considerations* (when composition is included in the program: with the aid of thumbnail sketches and overlays)

AREAS OF LEARNING

1. Drawing Materials & Equipment – qualities and correct use

There is plenty of useful information regarding art materials and relevant equipment in various publications available in art stores and online. (Useful books are included in the suggested reading section.)

- Pencil grades and uses (H & B grade pencils, qualities vary across brands etc)
- Plastic and kneaded erasers and their uses
- Sketch pads and drawing papers
- Lighting & desk setup

The last subject listed is often not fully appreciated by teachers and hence the more extensive notes below.

LIGHTING

Natural, reasonably bright daylight (not direct sunlight) is the optimum lighting condition for drawing and painting. If possible, position drawing tables with the length at right angles to a window so the student has daylight illuminating both their subject and their work surface. Avoid unnecessary eye fatigue by ensuring bright light does not shine into eyes by not facing a window and by checking that desk lights do not shine directly into the eyes of students from their own light or that of fellow students. Obviously without adequate daylight it is necessary to have a desk light directed onto your work surface and a second light directed specifically across your subject. The substitute for daylight is a "daylight" bulb (non- fluorescent).

The lighting convention for illuminating a subject is to have the main light source directed at an angle of approximately 45E from the top left of the subject. Positioning the light at such an angle is done to enhance surface form and texture. Also, one main light source used when drawing a subject or part thereof ensures there is a consistent angle in lighting across all elements within a composite illustrative page or art piece thereby maintaining certain clarity for the viewer. However left-handed students who apply this convention may find themselves working in the cast shadow of their drawing hand unless additional lighting is set up to minimize this problem. A cast shadow interrupting the lighting of a working surface increases eyestrain, made worse if detailed work is pursued under a moving cast shadow. To ensure the working hand does not cast a shadow – a "right-hander" needs lighting to come from the left and a "left-hander" additional lighting from the right. Avoid strong overhead lighting as this may cast the shadow of the student's head across their working page.

DESK SET-UP

As drawing skills develop many hours can be spent sitting at a desk and so students should be made aware of the importance of sensible posture and gentle stretching exercises during regular breaks.

Though not always available in the typical classroom students may appreciate the following information if they are planning to set up an art corner or studio at home. An ideal workstation is a bench about hip height; high enough to stand with an extended arm during composing stages or while working larger drawings, and with a bar for foot support that can be positioned to suit leg length to accommodate a comfortable sitting position. An art chair that has adjustable height with back support and swivels is ideal. Chair height should promote good back as well as shoulder and arm posture, allowing elbows to extend at right angles for most work involving detailed applications. Constantly cramped elbows lead to severe arm fatigue.

A drawing board should be regarded as an essential piece of equipment for artists and it can be as simple as a piece of hard board propped up on the desk with a wooden block. Students should become accustomed to working on a drawing board, sloped sufficiently to alleviate perspective distortion on the drawing page and to promote good back and shoulder posture. Drafting tables are specifically equipped to slope and some drawing boards have fixed supports to allow a slope of approximately 30E. A sloped board makes drawing easier than drawing on a horizontal surface where the further one works up the page the more distortion occurs due to perspective. Ideally you would work on a surface that is parallel to the viewing plane but this almost vertical position is not comfortable when working in fine detail. If necessary, demonstrate the influence of perspective while working horizontally by having students read a fine line of type at the top of a page of notes while sitting with their back firmly supported by the back of their chair. Read it flat on the desk then read the same line when the paper is tilted upwards – in the latter position there is minimal distortion in the shape of each letter. To prevent sheets of paper slipping down a smooth drawing board simply stretch a finely textured cotton fabric across it and secure around the edges of the board with clips. The cloth can be easily removed for shaking off dust or eraser crumbs and can be easily washed. Otherwise secure drawing paper with a small piece of removable tape

2. Appreciation of the drawing process

Through class exercises it is useful for students to become aware of the two quite different types of thinking used for representational drawing. One is the thinking process that facilitates observation of shape, texture, contrast etc and the other is the more logical thinking associated with language and used in drawing when for example likening a familiar symbol with a shape in order to facilitate the drawing of that shape or when estimating proportion such as a half or a third. Students also come to realize the degree of concentration required in order to develop keen observation, where little can be assumed, as well as the fine motor skills that must be developed in order to initiate the correct drawing hand response to these detailed observations.

The following points are useful for reiterating the importance of observation –

- Keen observation is at the core of successful representational drawing
- If a particular feature is not noticed it will not be represented and the drawing will not look right
- Drawing "works" when the "art of seeing" is thoroughly practiced away from class
- Observation promotes botanical accuracy, an essential criterion for botanical art
- Observation provides inspiration for artists and can lead to the creation of great botanical art
- Observation is one of the most enjoyable activities of representational drawing and painting.

Drawing involves the observation of positive and negative shapes, angles of lines and relationships of these various elements to each other. In light and shade study observation plays an essential roll in understanding the fall of light across different surfaces and in seeing the shapes and relative values of form shadows or cast shadows. In painting keen observation of color is honed to enhance the student's perception of color in order to create the correct color mixes.

3. Drawing Concepts & Applications (Beginner to Advanced)
The purpose of using the various drawing modes described in this section should be fully explained so students can appreciate the purpose of such exercises and how these varied approaches apply the following drawing concepts that when used proficiently create a sense of character, shape, and depth.

- Gesture – linear expression of the perceived character or attitude of a subject
- Picture plane – facilitates perception of a three-dimensional (3-D) subject as two-dimensional (2-D)
- Outline – a predominantly abstract element applied through drawing in order to create an image
- Perspective – overlapping and distortion of natural shapes as they recede from the picture plane
- Value contrast – lightness or darkness of line manipulated to influence the perception of depth

(i) *Gesture Drawing* – quick first impressions encourage the student to first look for the main character of an object (or growth habit of a plant). It develops a keen sense of expression while encouraging the student to see the main underlying relationships that various points around and within the subject have to each other.

(ii) *Contour Drawing* – a drawing mode that establishes the outline is based on the concept of the "Picture Plane". Have students use the following teaching aid – a Plexiglas display panel (approximately letter size) and a black dry erase pen allows students to draw the subject directly onto the plastic as it appears on the Plexiglas. Here students are first made aware that a 3-D subject can first be viewed as a series of related lines and flat shapes and that the picture plane is equivalent to the flat drawing page. Contour drawing onto a drawing page is a deliberately slow application and can be most useful when applied to refine the initial gesture drawing.

(iii) *Drawing Blind or Blind Contour Drawing* – the drawing starts at one point and continues very slowly without lifting the pencil. Looking at the drawing page is not advised as this interrupts the mindset required for this degree of concentration. It provides students with some idea of the type of concentration needed and degree of observation required for successful observational drawing. It works best practiced at home where more time should be given to this mode of drawing.

(iv) *Memory Drawing* – After studying their subject by working through the various approaches to drawing mentioned above students are usually surprised by what they recall in drawing the same subject from memory. (It is best if students are not aware they will be asked to draw their subject from memory.) Drawing from memory helps students judge how well they are observing and how observational drawing helps store observations to memory and in so doing allows them to thoroughly appreciate the character of their subject.

(v) *"Drawing In Depth"*
Although not widely known or recognized by many botanical art teachers this drawing mode initiates the development of a student's ability to think three-dimensionally, which apart from being very satisfying for the student, ultimately results in botanicals that can seemingly be "lifted off the page". The enhancement of a sense of depth in a drawing is facilitated with an appreciation of perspective and value contrast. Perspective results in: *overlapping* that enhances the relative position of an element in a spatial context; *distortion of the natural shape* resulting in foreshortening, diminished size and *diminished value contrast* – as objects recede from the picture plane.

To appreciate the affects of value contrast in line work is to understand the general concept that while prominence is enhanced by maximum contrast, recession is enhanced by minimal contrast – in the case of drawing the degree of darkness in line against the value of the drawing surface. Value contrast can be created once the initial drawing is completed. It is achieved by manipulating the contrast between the relative values of pencil line as viewed against the value of the drawing surface. The concept of value contrast in drawing can be further explained using varied values of graphite line on white paper and then similarly, white pastel line on black paper. This instruction introduces students to an awareness of the spatial properties of their artwork and how the creative manipulation of value contrast, initially in pencil line, enhances a sense of depth.

4. Drawing Techniques

Pencil hold for drawing:

Instruction should include the following –

- "Freehand hold" allows for freer movement of the drawing hand and is best used for gesture drawing
- "Illustration hold" for the stage when more detailed line is required.
- Examples of expressive line to create interest where varying pressure is applied to the pencil

Drawing 2-D shapes: Have students copy flat abstract shapes – both free form and geometric

Instruction should include the following –

- Present both positive & negative shapes for copying
- Find relationships in various points within a shape realized with the application of perpendicular or horizontal lines to establish the position of points
- Practice freehand drawing of circles
- Mid lines or central axes a drawing tool applied when drawing shapes exhibiting symmetry
- Ellipses and how to draw successfully applying the concept of the major axis and minor axis
- Practice freehand drawing of ellipses with their axes

Drawing 3-D forms: Illustrate geometric forms related to plants that will involve foreshortening – cylinder, sphere, cone etc. Where possible students should draw from actual models made from thick paper or white painted Styrofoam etc. A regular drawing subject should be no closer than arm's length to accommodate for our stereovision.

Instruction would include the following –

- Foreshortening – explain this as the perspective distortion of the natural shape and demonstrate using the plastic picture plane
- Drawing object as a contour drawing with the aid of the plastic picture plane
- Draw the same object free hand after first measuring the outer perimeter to establish general proportions using a clear plastic ruler
- Reiterate the importance of applying mid lines or central axes as an aid for checking symmetry
- Demonstrate how to draw circles at varying eye levels to form ellipses (circles affected by perspective)
- How to interpret hidden edges to achieve a convincing whole (e.g., draw the whole elliptical shape in the base of a cone when the circular base is sitting on a horizontal surface in order to achieve symmetry and the correct curve at the "corners" of the ellipse
- A sense of spatial position or depth is enhanced on the flat page by (i) overlapping (ii) decreased size of objects as they recede back in space; (iii) a higher vertical position of an object relative to that of a foreground object suggests it is set further back in space; (iv) linear convergence of receding lines; (iv) the concept of value contrast in a line

Perspective Drawing: This should be viewed as an integral part of learning to draw though it is not a popular subject for those in a botanical drawing program. However, it can gain appeal if students are made aware of its usefulness for checking the shapes of receding planes (eyelevel and angles of convergence to the horizon) as the teacher demonstrates its practical applications by applying it to drawing garden settings – formal garden edges, a garden pond with the added embellishment of floating lily pads, drawn of course at the same eye level as all other structures in the scene. (Most students would like to be able to draw various aspects of their own gardens.)

Perspective drawing terms –

(i) *Plane* – flat surface

(ii) *Picture Plane* – or viewing plane the plane from where all measurements are taken. In this case the point of the closest part of the object being draw. The flat drawing page represents the picture plane.

(iii) *Eyelevel* – or the horizon line where the greatest distortion occurs. Emphasize the importance of selecting the correct eyelevel when positioning a subject for drawing and avoid excessive foreshortening.

(iv) *Vanishing points* – demonstrate use of both central and split vanishing points (garden setting)

5. Project

An arrangement of natural and man-made objects

Project requirements should ensure all areas of learning be exhibited in the study. This may also include the basic considerations for composition, if the syllabus includes the gradual introduction of this subject throughout the curriculum.

BOTANICAL DRAWING (Part A)

Observation and drawing of leaves, flowers & small sprigs
(Beginner or Intermediate Level)

Before venturing into the teaching of botanical art the teacher should have an appreciation for what is *typically viewed* as botanical art and hence the statement and description offered below –

> *Botanical art exhibits the artist's interest in science (the pursuit of truth) and art and can be reasonably defined as art that exhibits the artist's interest in observing and accurately recording definitive botanical elements set in their natural environment or isolated on a page, while exhibiting the sensitivity of an artist inspired by botanical elements.*
>
> In order to create botanical art the artist endeavors to portray the true nature of the plant(s), developing a work of art that is unapologetically inspired by botanical elements. Clearly, when man-made materials or animals become a major component in the composition it looses this botanical focus and the perception formed would not be one of an artist solely inspired by botanical elements with the intention of portraying the true nature (science) of the plant or part thereof, but rather the art would more than likely be viewed in the context of another art form such as a "still-life", "landscape" or "wildlife art". Alternatively, without man-made compositional props but created as an impression of a plant(s) and exhibiting little interest in botanical accuracy it can hardly be viewed as focusing on the botanical (the science of the plant). It follows that without such definitive boundaries, which should by no means seek to impede the creative processes, botanical art in its many varied forms would lose its uniqueness.

It is vital that a botanical art teacher has a basic knowledge and genuine interest in plants and their basic morphology. An appreciation of plant structure is vital for honing observational skills, which are viewed as being at the core of botanical art. A botanical art teacher should provide instruction that emphasizes the importance of understanding the structure of a plant and that sees students inspired by the discovery of the less obvious elements of their plant subjects. As noted previously, students should be encouraged to take botany classes designed for botanical artists any time through the beginner to intermediate level program but prior to starting the advanced level subjects.

Skills attained at completion of botanical drawing (Part A, line only)

a) Awareness of leaf and flower structures

b) *Drawings are botanically accurate*
c) *Successful drawing of foreshortened views of leaves, flowers and interpreting hidden edges*
d) *Line work exhibits clarity and an appreciation for how to enhance the perception of 3-D*
e) *Successfully applies compositional considerations using thumbnail sketches and overlay sheets.* (When composition is included in this instruction)

Instruction for drawing would include the following –

- Drawing views of different flower types – draw side elevation, front and three-quarter views
- Drawing of geometric forms and midlines
- Recognizing common axes that create awareness of how some floral elements radiate from a common insertion point at the base of the flower. (Daffodils and lilies provide excellent examples in order to demonstrate this.)
- Ellipses to aid in the drawing of disc-shaped flowers and how the shape of radiating petals are distorted by the perspective within the "foreshortened circle" and how a common axis for central floral parts and supporting stem can usually be aligned with the minor axis of the ellipse etc.
- A variety of leaf and stem attachments Appreciation of main gesture of a sprig and the position of leaf angles and enclosed negative space

AREAS OF LEARNING

1. Observation of the more commonly seen botanical structures
Instruction for drawing would include the following –

- <u>*LEAVES*</u>

Arrangements **–** alternate, opposite, whorled, rosulate (basal) etc.
Type **–** simple, pinnate, bipinnate, palmate, trifoliolate etc.
Shape – linear, oblong, elliptic, ovate, orbicular, obovate etc.
Tips **–** acute, acuminatae, obtuse, retuse etc.
Bases **–** attenuate, obtuse, cordate, hastate, peltate, perfoliate, sheathing etc
Venation **–** parallel, reticulate, penniveined, palmate
Margins – entire, undulate, sinuate, crenate, dentate, serrate, ciliate, lobed etc.
Leaf parts – leaf axils, petiole, lamina or leaf blade, midrib

- <u>*FLOWERS*</u>

Inflorescences – spike, raceme, corymb, panicle, umbel, boragoid etc
Corolla type **–** rotate, campanulate, funnelform, bilabiate, salverform etc
Floral parts **–** stigma, style, ovary (superior or inferior), anther, filament, petal, sepal, calyx, bract

2. Draw commonly seen botanical structures (Use fresh material)
Instruction for drawing would include the following –

- *Leaves* (natural dimensions) and recognize their main structural character
- *Flower types* **–** while observing the arrangement and number of petals
- *Spiral patterns* **–** discuss Fibonacci spiral, why and how it occurs and how awareness of this pattern facilitates the drawing of spiraling found in some inflorescences. Exhibit obvious examples such as pine cones, pineapples, the seeds on a strawberry etc

3. Foreshortening
Instruction for drawing would include the following –

- Leaves (and petals) viewed along the midrib so natural length appears shortened
- Leaves (and petals) viewed across the width so the width is foreshortened
- Use Plexiglas teaching aid and design a useful exercise to more fully demonstrate this concept.

4. Twisting or curling (Leaves and petals)
Instruction for drawing would include the following –

- Leaves or petals in ¾ views – positioned so part of the lower and upper surfaces are both visible
- Design a useful exercise to more fully demonstrate this occurrence and how to approach the drawing prior to drawing from fresh plant material
- First use the Plexiglas teaching aid then students draw without aid and include in their drawing their interpretation in the natural flow of the hidden line.
- Interpretation of the position of hidden parts of the midrib and the hidden edges of the leaf or petal margins is required. (Use live material: tulip leaves, curled dried leaves, large lily petals).
- Attention to any intersecting planes around the area of the most pronounced area of curve
- Students check for correctness by reversing the view of the petal on a tracing paper overlay simply by emphasizing what were the "hidden lines".

5. Drawing of different leaf/stem attachments
The manner in which a leaf connects to its stem can be fascinating and it is essential this is fully appreciated.

- Create awareness of these structures through drawing.
  (Beginners tend to overlook these once leaves and flower details are recorded.)
- Have plenty of different examples on hand and have students use their hand lens

6. Measuring
Teachers may prefer that students do not come to rely on this too early in the process of learning to draw or that students should feel bound to use this fine measuring technique in the initial stages of botanical drawing and hence its introduction here just prior to drawing of a sprig of leaves.

- Introduce fine measuring technique using free-arm dividers
- All measurements must be taken at the picture plane
- Demonstrate using the Plexiglas as an aid for taking measurements of foreshortened parts then explain why a measurement taken through an imaginary picture plane will not represent the true perspective dimensions.

7. Drawing of sprigs of leaves with one or two flowers or small fruit attached

- Revise approaches to drawing using gesture and contour drawing.
- Observe the characteristic angle of leaves – midrib to stem – for each plant
- Create awareness of shapes – positive and any enclosed negative shapes
- Awareness of points in relation to other components within the sprig
- Manipulation in value contrast of pencil lines to create interest, depth and clarity in a line drawing through expressive line – This activity develops the students awareness of depth by having them manipulate the value contrast between the pencil line and the white of the paper.

8. Project
A small study illustrating a sprig of no less than five leaves and with either flowers or fruit attached.
Project requirements should ensure all areas of learning be exhibited in the study. This may also include the basic considerations for composition, if the syllabus includes the gradual introduction of this subject throughout the curriculum.

STUDY OF LIGHT & SHADE

(Intermediate Level)

The study of "Light & Shade" traditionally covers the application of tonal rendering in graphite where edges are defined using value contrast without the aid of line, which as previously noted is in most instances is an abstract component used to establish the outline of a shape and not one actually visible on the subject. This subject should be viewed as preparatory instruction for working with color. Rendering techniques are refined in order to illustrate observations such as (i) the shapes of shadows and (ii) representative values of form shadows, cast shadows and reflected light in order to provide a strong sense of three-dimensional form.

Skills attained at completion of light and shade study –

a) *Knowledge of terms associated with Light & Shade study*
b) *Developing ability to predict the position of highlights and shadows with single source illumination*
c) *Ability to successfully illustrate in graphite the representative values observed in their subject*

Instruction would include the following –

- Using different grades of graphite pencil
- Tonal rendering technique using various grades of graphite pencils
- Creating a 10 value gray scale using fine rendering techniques in graphite pencil
- Review the lighting convention for illuminating a study piece
- Awareness of terms for depicting the various zones of light and shadow involving geometric forms *Highlight*; the different parts of *form shadow*; *reflected light* and *cast shadow*
- Light and shade studies of geometric shapes and relate to plants. Provide each student with models of geometric forms plus a shadow box if these can be accommodated.
- Observing representative values on (i) white surfaces as opposed to darker colored surfaces on the same shape (e.g., a cube) and (ii) across different color patterns in leaves and flowers. Illustrate using various teaching aids or fresh plant material
- Promoting awareness of surface contouring when rendering in graphite

Project

Small Light & Shade study(s) of plant material

Project requirements should ensure all areas of learning be exhibited in the study. This may also include the basic considerations for composition, if the syllabus includes the gradual introduction of this subject throughout the curriculum.

The intermediate level of instruction continues with color: color study, techniques and applications

NOTES: