Graphic Design **Teaching and Learning**

Learning is not an automatic **consequence** of teaching

Many problems assigned by design teachers provide little learning for students other than the experience of doing. The focus must be on factors that influence learning rather than on what is presumed to be an interesting problem. Teachers are obliged to define and present problems in a manner conducive to student development. Learning is not an automatic consequence of teaching. Effective teaching entails identifying what students gain by doing problems, and using content, process and criteria directed toward learning.

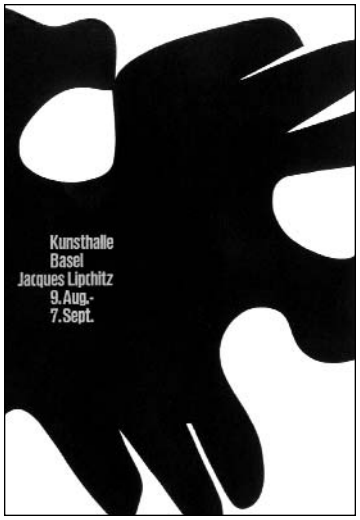
Teachers deal with percentages more than they care to admit. They should strive to provide programs in which the best students excel, the group in the middle is elevated and enlarged, and only a small percentage of students fail. Weak or strong students will proceed at their own pace, while the main block of students in the middle benefit most from sound pedagogy. An appropriate definition of pedagogy is systematized instruction or principles that promote student learning. Students who exhibit a lack of interest in learning should be dropped from the program during the first year. This action should be taken without exception or regret, because these students seriously detract from the program for committed students.

All students do not learn in the same way nor at the same rate. Some learn from success, others from failure. Learning may be erratic. For many students, learning is the cumulative effect of all course work; while for others, the learning is centered in one or two problems.

For some students, understanding might not come until much later. There are students who actually learn more from classmates than from teachers. It is more effective for some students to move from the general to the specific; while others learn by progressing from the specific to the general. Most students learn through doing, but others learn from exposure; a few learn from hearing or reading about design. There are even students who learn by imitating work of other designers. All students learn by a combination of methods. No wonder teaching is such a challenge!

I am as guilty as any other teacher of giving sequences of one shot problems; a series of unconnected assignments based on graphic design applications. For example, posters, album covers, annual reports, corporate marks, packaging, advertisements or similar projects, that students can accumulate as portfolio pieces.

It was not until later in my teaching career that I became aware that students who executed well on a particular assignment seldom carried over the experience of doing that problem to the next one. This suggested to me that students were being orchestrated through critique. They were influenced by other student work, or guided to such an extent by the teacher's helping hand, that they were not growing as students. At this point, I began paying more attention to problem definition and objectives.



The imagery connected with **Basel** pedagogy was more rigid and **abstract** than was customarily found in **American** programs

Armin Hofmann
Kunsthalle Basel/Lipchitz
1958
Linocut printed
Two colors

Basel School of Design and Its Philosophy: The Armin Hofmann Years

My approach to problem definition evolved through contact with Inge Druckrey and Hans Allemann who joined the faculty at The Kansas City Art Institute during the mid-sixties. They were graduates of Armin Hofmann's program at the Kunst Gewerbeschule in Basel.

Bringing teachers from Basel grew out of a situation that occurred at the Kansas City Art Institute. I realized our upper-class students were undisciplined; they could not handle formal values as well as students from previous classes. I had been dependent on hiring graduates from Yale University as teachers. I favored those who advocated Josef Alber's educational philosophy and teaching methods, and they usually taught at the introductory level. In 1957, Albers retired, and my well for teachers went dry.

My faculty and I were too busy doing community projects and professional work to stay in the studio for an entire period. We came into class, gave a critique or presented a new assignment, answered questions and then turned students loose. This was workable with Seniors, but it was unproductive for Juniors and Sophomores.

In looking around for another source of teachers who could fill the gap in our faculty, I discovered the work of Armin Hofmann's students. I was greatly impressed with their design performance, especially the visual sophistication and intelligence reflected in their work. It was evident that there was a strong pedagogical basis for Hofmann's program. I wrote Hofmann a letter explaining my predicament and asking if he would be willing to send graduates from his program. In 1966, he sent Inge Druckrey to us. In 1967, Hans Allemann came from Basel, and John Baker joined us from the Royal College in London. After two years each, Inge and Hans returned to Europe, and in 1970, Ferdinand Steidle came to our faculty from Basel.

In our program, grading at all levels was done through individual student reviews with the entire design faculty participating. At student reviews, I focused on work done under the direction of the Basel graduates. The problems that they presented and the imagery interested me. I asked questions about criteria, objectives and process, and carefully listened to their remarks and criticism of student projects. Absorbing and interpreting the information seemed crucial to me, and I was attempting to translate their comments into my vocabulary. Not only was the idea of using the Basel problems uncomfortable, but it was impractical. My background was very different, and I was not at ease teaching processes and imagery which were unfamiliar to me, even though I understood the value of the objectives.

It was obvious that aspects of the Basel pedagogy could strengthen our program. However, it seemed to me it would be more effective for American students if I could devise content, criteria and processes achieving similar results that would be suitable to our educational conditions and student temperament. I admired the methods and content used by Inge and Hans. Their students demonstrated highly desirable qualities in terms of performance and attitudes. This was especially true as it pertained to their enthusiasm for the work. The students also acquired greater sensitivity for visual nuances, self-discipline and better work procedures. At the same time, I recognized that at the time there were significant differences between American and Basel Graphic Design programs and students.

My speculation was that teachers at Basel guided students through problems with little articulation of criteria. A major part of the learning process was through problem definition and student self-discovery. This requires more time for students to assimilate understanding than is generally allocated by most programs in this country. The imagery connected with Basel pedagogy was more rigid and abstract than was customarily found in American programs. Problems were limited in scope and greater emphasis was placed on visual relationships; professional attitudes were stressed over professional practices.

My impression was that Basel students were better educated before attending art school. They were more serious about education, and it was uncharacteristic for them to question assignments or instructional criticism. European students appeared to have greater respect for their teachers. They had better work discipline, could maintain focus and had more patience with the rigor of their studies.

The Kunst Gewerbeschule was a trade school offering a certificate for satisfactory completion of a five-year program. Graphic Design had a small enrollment compared to the large number of students in American programs. The Basel program revealed a strong pedagogical approach to design education reflecting its highly qualified faculty.

Students were carefully screened for admittance, and only selected students were permitted to advance after the first year. Students worked in classes from eight o'clock in the morning through the day and often into the evening. The Basel program consisted of five-years of concentration in art and design.

In contrast, the largest number of Graphic Design students in this country are enrolled at state universities. These institutions tend to have huge student enrollments, bureaucratic management with a myriad of policies governing educational requirements for a degree, scheduling, grading, admittance and retention of students. Because of broad institutional scope, the number of faculty, amount of studio space and technical facilities tend to be extremely limited. Within universities, art and design programs normally do not have high status in the eyes of administrators, and therefore have low priority in appropriations and resources. Because of university or departmental requirements, students usually have only 24 to 35 credits in their major when 45 to 60 is optimum. None of these conditions are favorable to educational quality in Graphic Design.

4 Painters Poster
Designed at The Kansas City Art Institute in 1967. Among the faculty were Rob Roy Kelly, Inge Druckrey, Hans Allemann and others.

Mini-Course in Design Principles, Rob Roy Kelly
Exercise 8a, Figure Ground as Tension with Shape

American students tend to **view** assignments as doing what the teacher **wants**

Other American Graphic Design programs are situated in private universities, independent schools of art or trade schools. Many of the problems for design education found in state universities are also manifest in private institutions. Exceptions are universities that absorbed professional art schools, or where technical and trade-oriented private institutions joined state systems. Independent schools of art and trade schools have greater concentration in the major than most universities allow, but this does not necessarily mean that they do a better job of educating. Time in the major is only one factor among many.

The majority of American students are not carefully screened; performance standards are seldom high or consistently applied. American design education places emphasis on concept and professional practice; the Basel program stresses perceptual development. American students tend to view assignments as doing what the teacher wants. Consequently, their goal is to please instructors and be rewarded by receiving a high grade. This notion is a more serious inhibitor to student learning than most teachers realize. I think European students know they can do what they want as long as it is within the parameters of the problem, and they recognize studio work is for their learning benefit. American students frequently demand to know the purpose of problems, and they want them defined to a point where they are less likely to fail. They prefer to do an exercise, have a critique, complete the problem, receive a grade and move on to the next one. They are impatient and experience difficulty concentrating. They are often resentful of having to work in class or do projects over and over again. There are many uncommitted students in American programs, and they rarely are weeded out.

American students do not hesitate to question the teacher's judgment, either in terms of criticism or in grading. Having less time in the studio than students in Swiss schools, our students are expected to do a great deal of work outside of class time. Many students, especially those in state university programs, are financially dependent on outside jobs. A serious conflict occurs between job and education as it pertains to class work done outside of school. The results are less productivity and inadequate preparation for a professional career. In our program, we asked applicants to declare the hours they expected to work outside of school. We declined to accept students that indicated they would need to work more than twenty hours a week at a job.

In some respects, present student attitudes reflect changes in American education that came about during the period of student activism. Before the sixties, curriculum was largely determined by faculty, and only a small part of it was elective. Student protest led to a reduction in required courses and increased elective curriculum options. Students now want to pick and choose their courses, and they often resent having to take required classes. Compared to Fine Arts, there still is more structure in Graphic Design because of its professional objectives. I strongly advocate that teachers rather than students determine educational requirements.

Another extremely important factor has to do with the quality of instruction. Unfortunately, American educational administrators are prone to accept inept teachers with the notion that as long as the position is filled, that is all that is required. In this country, educational management makes little effort to find and hire highly qualified faculty for art and design. A notable exception to this administrative lapse is those educational fields that attract large grants from government and industry.

Performance of students is directly tied to the standards and values of the instructor. An instructor with high standards will demand more from students, and therefore, they perform at a higher level and learn more. Conversely, weak teachers tend to graduate a higher percentage of weak students.

American schools, that offer sound design programs with qualified faculty and high standards, drop unmotivated students from the program, and the remaining ones perform well. There have always been isolated instances of individual teachers or programs that have been commendable. Unfortunately, there have been few, and programs have dissolved when the people responsible for them left the institution.

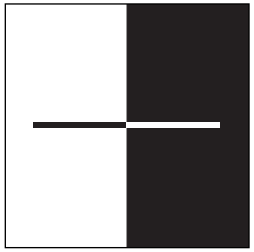
I believe problems with design education in this country are more attributable to mediocre instruction, institutional limitations and administrative policies or practices, rather than to student capabilities. American students seem to respond well in a credible educational environment.

While there are many talented and dedicated design teachers in our schools, the quality of instruction in this country is shaped by the educational experiences of the teachers themselves. In most cases, American teachers are products of weak programs with questionable pedagogy that provide poor models for individuals who become teachers. With few exceptions, I have found the most effective teachers are graduates from programs with strong leadership, structured curriculum and a definite pedagogical approach to design education.

While it might be helpful, it is not necessary for every Graphic Design teacher to be a great designer, only a good teacher. To have a sound program in Graphic Design, teachers must have high standards, understand them, and be able to communicate them to students and demand that students meet the standards. When the majority of students do poorly, it is more of a reflection of teachers than it is of students. Standards for faculty determine the level of student performance.

Evaluating differences between programs and students, I saw my goal as retaining Basel standards and objectives, but tailoring problems and evaluation of work for conditions in American programs. Students here are more responsive to verbal instruction. It seemed to me that Basel instructors made limited use of terminology, and it would be necessary to establish terms and criteria appropriate for American students. Articulating criteria helps students critically analyze their work, relying less on intuition and more on rational evaluation. If critical examination can be verbalized and incorporated into the thinking process, it is more consistently applied and students work at a higher level. If students learn how to evaluate their own work, it becomes possible for them to learn more within the shorter period of time allotted to their major. Most importantly, students have the tools to continue professional growth after leaving school, and especially that pertaining to theoretical or basic design. A glossary of relevant terms for each exercise should be handed out at the time the exercise is presented. Students should be encouraged to use the terms when discussing their work.

Performance of **students** is directly tied to



the values and standards of the **instructor**

Mini-Course in Design Principles
Rob Roy Kelly
Exercise 8a, Figure Ground as Tension with Shape

While there are advantages to using terminology and stating criteria, there are pitfalls to excessive reliance on them. It can lead to design formulas, rigidity, stagnation, narrowness or mediocrity. If abstract visual qualities could be verbalized, art and design education would be quite different. Understanding of visual properties cannot be verbally communicated to students. Students acquire understanding through experience, with the process being guided by teachers who understand process and criteria.

Mini-Course in Design Principles, Rob Roy Kelly
Exercise 8a, Figure Ground as Tension with Shape

I think it is extremely important that **teachers** also be constantly **learning**

Success with students depends on telling them enough to progress, but not so much that they only follow directions. If it was apparent that students were too dependent, I would tell them to work on it some more, and then come back. I might circle an area of the work and say, "A problem exists within these boundaries," and send them back to their desk to see if they could identify it and make adjustments. Also it worked quite well to ask students to tell me where they thought the weaknesses were before giving them my input. Many times, students could recognize shortcomings in their work, and they merely needed encouragement to proceed on their own. Occasionally, there was merit if I demonstrated changes; while explaining and showing students how it improved the work. The use of terminology, establishing criteria and giving meaningful criticism of student work requires teachers to develop good judgment and considerable communication skill. Teachers have to find their own personal teaching style, which includes learning how to successfully communicate criticism of abstract imagery.

Albers frequently used analogies to comment on visual properties, and he was very good at it. He had an uncanny knack for critiquing visual problems by addressing totally different subjects, yet, his point was clearly communicated to students through relevant metaphors.

I think it is extremely important that teachers also be constantly learning. Problems given to students should be equally as challenging to teachers. The worst possible situation is when teachers repeat the same problems so often that all their responses and evaluations become automatic. Albers noted that when students can anticipate an instructor, the effectiveness of the teacher is lost. To keep students attentive, teachers must avoid routine, and consciously do and say the unexpected.

To achieve my goals, it was essential for me to formulate problems around learning objectives. It was necessary to devise terms and criteria that would lead to the desired level of student performance. I found the approach was practical at all levels of study. However, it was crucial to the introductory courses. Each problem presented to students incorporated objectives, process, terminology, limitations, and criteria; these were the basis for instructional criticism and evaluation of student work.

Each **problem** presented to students incorporated objectives, process, terminology, limitations, and criteria; these were the **basis** for instructional criticism and **evaluation** of student work

Objectives are defined by the learning goals set for students.
However, objectives can be set at more than one level. Some are specific and others are implied. For example, student objectives are specifically stated within the problem. Students should always be told at the beginning of each problem exactly what the educational goals are, and what criteria will be applied to grading their work. The teacher can have general objectives related to formal values, process or craft. Student learning should be the first concern of teachers, and all other objectives are aimed at achieving that end.

Another level of objectives is individual student career objectives. Teachers tend to underestimate the importance of student objectives and it might surprise them to find student objectives as mundane as "to get a degree," "to make a lot of money," "to make good grades," "to get a job downtown," etc. Rarely are students goals related to excellence or learning. Students' objectives are frequently determined by teachers, and this is why it is so important for educational programs to be aimed at the highest levels of the profession.

Role models are an important part of student commitment. Role models might be historical or contemporary, but either provides direction, standards and career choices. Teachers should know that students without career goals or role models are seldom committed, and therefore are usually less productive and seldom achieve their potential within the profession.

Process consists of the sequential steps between receiving the problem and its completion.
Depending on the problem, it entails analysis or research, exploration, roughs, testing, criticism, refinements, completion and presentation. Criteria are connected to each step of the process.

Terminology is descriptive language used to communicate with students.
Understanding design semantics is essential to criticism as it is necessary to verbalizing criteria. It is also an introduction for students to professional language.

Limitations are specified in the problem definition.
These relate to size, materials, media, tools, color, elements or other restrictions. Adhering to limitations is basic to all design solutions in or out of school.

Criteria are defined as standards for judging; they are the basis for critical comment and evaluating student work.
Within the context of graphic design, criteria are determined by problem objectives. At the introductory level, criteria are based on formal values and craft. At upper levels, criteria encompass concepts as well as formal values and craft. Inappropriate criteria normally result in weak student performance. Asking students to make a design that *sells* or *looks professional* are examples of poor criteria. Teachers should use criteria they can explain to students. Criticism is based on factors such as limitations, mistakes, inconsistencies or weaknesses that can be pointed out in the work. Options or corrective measures can be demonstrated by the teacher. Rational criticism is always superior to imprecise or intuitive judgments when dealing with students.

Design standards are grounded in relevant, appropriate and consistently applied criteria that students absorb as they progress through the program.

Graphic design programs should include three general categories of problems; perceptual, transitional and professional, and in that order. Time allocation for each is likely to vary between programs. In the core design program, I have allowed three semesters for perceptual studies, one semester for transition and two for professional problems.

My inclination is to concentrate on abstract perceptual exercises in Sophomore level classes. The largest block of time is set aside for basic design. Letterform design, color and drawing are quite compatible with theoretical exercises. The establishment of work habits begins with the first day of class.

I begin with a **line** problem

At the Junior level, transitional problems are presented which might be practical in content, but hypothetical; they are conceived as theoretical exercises with strong perceptual reinforcement. The curriculum becomes more diverse in the Junior year with different specializations and technical studies in supporting classes and core design in the second semester. This might include some combination of photography, printing production, typography, computer graphics or courses in specific design practices such as systems, publishing, packaging and typography or letterform. Design problems and criteria gradually become more complex as the year progresses.

Senior classes are professional in both content and working procedures. At this level, greater emphasis is put on concept, problem-solving and independent work, with continued reinforcement of craft and formal values. In upper division classes, objectives are often complex and criteria tend to be more varied.

Albers compared learning to the process of crystallization – an additive process. The student learns one thing and all other learning is incrementally added until there is a body of cumulative knowledge and experience. This premise strongly suggests the learning value connected to sequential education. I found myself designing problems in phases, with each exercise building on preceding ones. Articulation of bridging as part of the problem definition is important. Students cannot be relied upon to make connections between assignments. Perceptual problems might begin with one principle and its variations, or transmute from one principle into others. The complexity of work progressively increases, and students are accountable for everything learned to the current stage. Phasing and overlapping exercises are pedagogical decisions that aid student learning.

I begin with a line problem. Students are asked to use a pencil to design lines, to learn line quality and how to use a pencil. The lines move into composition and figure ground. Brushes are substituted for pencils and lines become contours. By connecting the ends of lines, shapes are created. Some shapes are flat, others appear dimensional. The exercises are further explored through using content from nature or simple objects. The course ends with one large project that requires students to integrate everything they learned in preceding exercises.

My experience is that to teach basic design principles and professional practice in the same problem divides the objectives, and confuses students trying to grasp principles. If content is introduced, I generally elect imagery derived from nature rather than professional applications. The so-called professional problems should be in the sequence of learning that comes near the end of the cumulative educational experience.

At advanced levels, phasing multi-faceted problems introduces students to methodology. This provides them with a format for dealing with complex or multi-faceted problems in other situations. An example would be an identity problem where the first phase would focus on a symbol, then perhaps a logotype. Simple office applications might be a second step. This could be followed by architectural or vehicular identification and signage. Promotional materials or packaging could constitute a final stage.

At Sophomore and Junior levels, the more successful learning experiences were extended over one or two semesters, consisting of a series of exercises leading to a body of related work at the end. Senior problems are different. They might incorporate staging, but it is not as structured. At the Senior level, students are required to structure their own design work.

Exercises at the Sophomore and Junior levels that proved to be effective in terms of student learning, were repeated from year to year. I experimented with redefining problems, changing content, refining criteria, or adding or subtracting from basic concepts. The advantage was that over a period of time, problems became stronger. The criteria and objectives were better understood by me, and I was much sharper in knowing what to say to students, and how to make critical observations more meaningful to them. This was especially true with visual exercises leading to perceptual learning for students.

In addition to phasing student work, teachers should concentrate on denominators that are basic to Graphic Design practice. This is the primary justification for placing such importance on visual relationships and process, because they apply to any type or level of design. Far too many instructors refuse to acknowledge that perceptual education precedes and underlies concept. Formal values are the means for visually expressing concepts and delineating content. At advanced levels, programs might rely heavily on a conceptual approach to problem-solving, but student performance will be no better than the educational foundation grounded in visual theory.

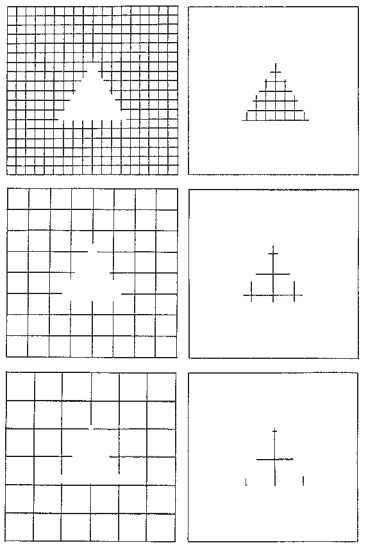
During the 1960s and 1970s, Yale, Basel and Philadelphia College of Art (Now the University of the Arts) placed emphasis on visual theory and process. Graduates of these institutions were employed in a variety of design fields, and their success is overwhelming testimony to the value of this educational approach. Students from our program that spent two years doing theoretical and hypothetical problems, with only one year of professional work, did not suffer when it came to finding employment or achieving future success.

Problems at the Sophomore level and first-semester Junior year are more effective when the work is self-paced without deadlines other than the semester's end. Particularly with perceptual studies and formal values, if students advance before they demonstrate understanding or have acquired the necessary skills, it becomes a meaningless experience. Also, self-pacing permits more experienced or talented students to move forward without waiting for slower students to catch up. It allows both quick and methodical students to work without undue pressure. The problem for students with deadlines is the deadline becomes the objective, rather than the understanding. It is far better to wait until the second semester of the Junior year and throughout the Senior year to enforce the discipline of deadlines.

Mini-Course in Design Principles
Rob Roy Kelly
Exercise 8a
Figure Ground as Tension with Shape

Formal **values** are the means for visually expressing **concepts** and delineating content

A procedure borrowed from the Basel program was having students keep progress books. Students were required to retain explorations or references, sketches, refinements, roughs or notes and bind them into a book at completion of the project. At the introductory level, these books were very revealing to students regarding improvement in handskills, growth in understanding and their general advancement in the program. Learning became tangible, and students reacted with a sense of accomplishment, greater commitment and increased productivity. We had equal success with progress books at advanced levels. Students could review the design process from beginning to end. Also, the books were an asset to the portfolio if an interviewer wanted to know how a project evolved.



Armin Hofmann Teaching Exercise
Exploration of the Isosceles Triangle from the aspect of step by step decomposition of the basic screen.

Armin Hofmann:
His Work, Quest and Philosophy

I quickly learned that students were more successful reaching objectives if the focus of problems was uncluttered. Teachers often try to accomplish too much within a single problem. Difficulties with materials and media can distract students from educational objectives. For instance, Albers taught introductory color classes with color packs because he wanted students to concentrate on color, and not have to struggle with techniques of mixing paint and applying it to paper at the same time. Objectives are kept clear by establishing limitations. At the early stages of design education, limitations by the teacher are the most restrictive in terms of scope, tools and materials. As students move ahead in the program, limitations become increasingly flexible and there are less of them. Setting objectives, combined with limitations, which are conducive to student focus, usually results in substantial educational dividends.

In this country, there has always been controversy regarding the value of theoretical studies in professional education. Whenever working designers visited our program to lecture or critique, they showed interest in student perceptual work. Invariably, they would ask, as tactfully as possible, why we did not consider adding type to the imagery, make a package design out of it, or in some way convert it into a professional application.

Too many regional Graphic Design programs are overly influenced by local professionals. Ties with the professional community are important for the program and for students, but there has to be selectivity in choosing professionals as educational advisors, and balancing their input with educational integrity. Designers might make a living as illustrators, art directors or graphic designers, but it is insufficient grounds for assuming they will be beneficial mentors for students, or that they can effectively teach.

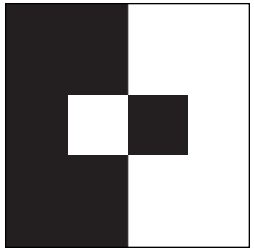
A procedure borrowed from the **Basel** program was having students keep **progress** books

Each designer tends to define the profession by what he or she does. Design practices vary from studio to studio or from one segment of the profession to another. It is impossible to teach professional practice by simply doing applied problems.

I am not proposing an Ivory Tower educational program for Graphic Designers. Students must have technical information and abilities, knowledge of professional practices and contact with working designers who are good role models. In school the goal is learning; professionalism is achieved on the job. It is important to aim the program at the highest levels of the profession rather than directing it toward employment opportunities within the immediate community.

Problem relevance affects student interest and productivity. This mainly applies to Junior and Senior level problems. During the years of student activism in the 1960s, we gave many projects dealing with zero population, environmental issues, drug abuse, social or political movements and contemporary music. By relating problems to student interests, we went through the period with few difficulties and were able to maintain a strong program and reasonable discipline. If teachers are sensitive to student interests and concerns, classroom productivity can be improved by selection of relevant problem content.

Problem **relevance** affects student interest and **productivity**

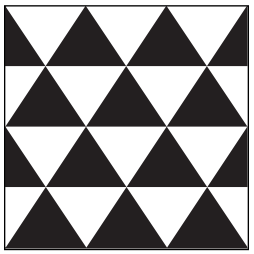


Mini-Course in Design Principles
Rob Roy Kelly
Exercise 8a
Figure Ground as Tension with Shape

In school, professionalism can be reinforced in student attitudes, punctuality, reliability, demeanor and work habits rather than by problem content. Contrary to professional practice, in school the process by which students move from beginning to conclusion of a problem is equally as germane as the end result; it is a learning situation. Devoting the last semester of the Senior year to putting together and polishing student portfolios is a waste of precious time. Teachers should advise students on their portfolios, but there is no need to create a class for this purpose.

Individual teachers often reflect personal values and educational priorities. Alvin Lustig taught that the solution to any design problem lies in an analysis of the problem. He also identified Graphic Design as visual communication. Therefore, there were criteria based on analysis, interpretation and communication. Lester Beall wrote a comprehensive statement which was handed out to students as part of the problem presentation. In addition to definitions and limitations, he included background information which contained irrelevant facts to mislead students. He expected students to sift the information, ignore the irrelevant, and identify pertinent facts as the basis for the design solution. Under Beall's direction, ability to analyze was a criterion in evaluating student work.

An approach to formulating problems which is particularly good at the Junior level is one used by Alvin Eisenman of Yale University. He called this approach prototype education. It gave students the experience of working with original processes as a means for better understanding more complex contemporary ones. When I was at Yale, Graphic Design students were required to take short courses in printmaking. Students did woodcuts (letterpress), lithography (offset) and intaglio (gravure), the three basic printing processes. Another example would be having students handset type, to learn spacing and leading, prior to typesetting by computer. At Minneapolis and Kansas City, we began our photography program by having students construct and use pin-hole cameras. By working with original processes, students could understand the function, and how current technology and equipment evolved.



Mini-Course in Design Principles, Rob Roy Kelly
Exercise 8b, Figure Ground as Tension with Pattern

There is nothing wrong in borrowing a problem from someone else or formulating problems based on published or exhibited professional work. While attending graduate school and knowing that I was going into teaching, every problem given to me that seemed to have merit was recorded in a notebook. This included Graphic Design, Color, Drawing, Typography, Printmaking and Photography. Any critical observations or remarks by the instructors that impressed me were also noted. These notes were my manual when I began teaching. Over a period of time, the notes were expanded, modified, reinterpreted and combined with ideas of my own. Gradually they were transformed with my personal interests, objectives and teaching methodology. Borrowing problems only entails defining them in personal terms, identifying student learning goals and establishing pertinent criteria.

When borrowing a problem, it is imperative to avoid simple image imitations which are superficial and detrimental to student learning. The most obvious indication of a weak Graphic Design program is having students when presented with a problem, regularly turning to design publications to find solutions. My observation is that students who have a strong perceptual base, rarely look to publications for guidance to problem resolution.

Teachers must anticipate where problems will go before presenting them. No matter how thoroughly a problem is projected, it is guaranteed that one or more students will move in directions which were not expected. In such instances, if there is merit to the student interpretation, the teacher should encourage it. However, the teacher must have an idea of where the process is leading, and stay ahead of students in order to be able to assist them when they need it.

Teachers must **anticipate** where problems will go before presenting them

I have reservations about giving so-called professional problems because so often students have preconceived ideas about the solutions. It approximates teaching through clichés that encourage stereotypical thinking. I found it best to choose problems in which students are less likely to find precedents that influence their work. This challenges students to do more research or analysis and to design independent of professional examples. Sometimes, the same advantages can be gained by having unusual problem content. I frequently turned to non-profit public service organizations in the community that could benefit from graphic design. While approaching these assignments that had few if any parallels, students acquired the added experience of working with clients. Design standards for student work were set by teachers and never by the client. Many of our senior projects were community projects.

When working with a senior community project, I regularly divided the class into design teams. Students worked both individually and as a member of a team. Most students did not appreciate the group experience, but it was excellent preparation for professional practice in which the team approach to design is frequently used.

Beginning in the second semester of the Junior year, and throughout the Senior year, there is a substantial body of collateral information related to professional practice to be transmitted to students. Some is technical, but much of it is related to professional practice. Conveying this information must be as carefully considered as formulating and presenting design problems. Students are often overwhelmed by having to deal with both design and professional practice at the same time.

Additional information might involve establishing priorities, marketing strategies, interpreting research, managing time and prioritizing work, print or media production, design systems, technical writing, and client presentation.

Where it is appropriate, these factors should be defined as generically as possible. Then students can better apply what is learned to other design applications. Projects can involve students with unfamiliar technical processes and new materials or media that create another type of learning situation.

The teacher's role is to carefully plan large projects and organize the learning steps for both design and professional practice rather than expecting students to absorb everything at once. The various design components are used merely as avenues to reach broader objectives, and not as narrow ends in themselves.

There is insufficient time in most graphic design programs to teach everything that graduates should know for a professional career. Within a three-year period, American students usually do approximately sixty to eighty projects as preparation for professional practice. In state universities, because of reduced credits in the major, Graphic Design students may do as few as twenty to forty problems in preparation for a career.

Design faculty have collective responsibility for how the allotted time is used. Faculty should come together to plan entire programs rather than arbitrarily moving from problem to problem with each teacher doing their own thing. Individual teachers have responsibility for determining specific assignments, but the consensus decisions of design faculty, and those of individual teachers must mesh. Design faculty have to mutually establish priorities for what will be taught, and at what level specified course work will be given. Once priorities are set and sequenced, then it is a matter of teachers devising problems to fulfill the objectives.

Effective educational programs in Graphic Design result from knowledgeable leadership and faculty teamwork. Faculty members must agree on educational goals and share in the definition of standards, terminology and criteria. They should reinforce one another throughout the entire program to provide a cohesive educational experience for students. Student learning is the first priority, and this is best accomplished through theoretical or hypothetical problems where visual acuity is engendered, process is emphasized, curriculum is sequential, and problem objectives are based on how students learn.

Rob Roy Kelly with GDEA Board of Directors
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