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Teaching house design with photographic slides

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BOSTON UNIVERSITY
SCHOOL OF EDUCATION

Service Paper

TEACHING HOUSE DESIGN WITH PHOTOGRAPHIC SLIDES

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CHAPTER I

THE SCOPE OF THE STUDY

Statement of the Problem

The problem. The problem for this study is to supplement the existing teaching materials for the better teaching of exterior house design in high school architectural drafting classes.

Since the most common types of houses now being built in this area are the Ranch type and the Cape Cod Colonial, the study will be devoted chiefly to the comparison of these two styles.

The means of supplementing the present teaching materials will be a group of 35mm Kodacrome transparencies taken by the author.

Selection of the Problem. The desire to own one's own home is today stronger than ever. Fewer and fewer wage-earners are content to pay rent for a house or apartment which will never be theirs but seek instead a lot and house which they can call their own.

These same potential owners are turning from the large house to the smaller more compact one for reason of cost. To eliminate stairways, they are
turning from the two story design to the one story design. The more traditional types of design are giving way to the contemporary Ranch type because of the greater freedom of space and greater opportunity to utilize the outdoors.

To make one's home peculiarly a part of the personalities that are to live in it is that touchstone which makes each prospective home owner try to incorporate his own original ideas into the plan. Original ideas, however, do not always result in a house both salable and attractive to others. Since building a home is, for the average person, the most rewarding and most expensive single venture in his life, informed and competent guidance for the potential builder and owner is of the greatest importance.

This study of exterior house design is aimed to meet the need of the classroom drafting teacher.

By the use of these colored photographic slides, the high school student of architectural drawing will be helped in his study of house design. Not only does the small home make for good examples in class but the many variations of design depicted
will make the subject alive for the student.

Other teachers of architectural drawing will find this study useful as a means of more effective teaching in their own classes. Other possible subjects that might be considered for investigation by the drafting instructor are described under the title "Future Outlook" found elsewhere in this study.

The purpose. The purpose of this study is to present to pupils in high school mechanical drawing classes, by way of color transparencies, examples of various exterior design which should result in new ideas, better understanding of design, and greater appreciation for the work of the designer.

The Class

The classes in which the slide collection will be utilized will be those that have completed one year of basic mechanical drawing and one year of basic architectural drawing. This means that all students will be in the eleventh or twelfth grade and at least sixteen or seventeen years old. The subject is an elective which meets two periods per
week with forty-five minutes for each period. Although a minimum of two periods is required, the student is able and encouraged to spend additional periods in the drawing class. This means giving up some study periods but it is a common occurrence with many interested students, some of whom will spend six periods per week or more in the drawing room. Since the subject is not compulsory for any high school students, all are in the class because they are interested in the work. Nearly all students will be in the College course with the exception of a few in the General and Commercial course. Various reasons are evident for the student's choice of this particular phase of drafting, the most common of which are:

1. A tryout period to see if he has the originality and artistry required for this work before considering the study of it at the college level.

2. A means of learning more about the building field and the practical value of the course in the building field. This is common with students whose relatives are contractors, builders, or otherwise directly related to people in construction work.

3. A means of learning at least the fundamentals of house design. Realizing that nearly all will someday be at the point in their lives
where they will be either buying or building a home of their own, a knowledge of good architectural design will help bridge the gap between the dream home and the dream realized.

Space Provisions and Equipment

The classroom. The classroom measures twenty-four feet in width and thirty-eight feet in length, with exposure to the south and west. Arranged in six rows of four each are twenty-four drafting tables and stools. Fifteen feet of counter space is provided across the front of the room and an additional ten feet in the corner at the rear of the room. It is on this rear counter that a projector and screen will be kept for use at any time. At the beginning of this study only one double electrical outlet was provided and this was at the entrance to the room. Since it was not adjacent to any available counters, another double outlet at the rear counter was requested and has been installed. This addition allows for more flexibility in the use of all audio-visual materials.

Equipment. Ten windows in the room are effectively covered with portable blackout curtains when the entire room is to be used for projection. When
Using the slides before the entire class, a five hundred watt projector will be used with a wall or stand type screen. For viewing of slides by the individual, a one hundred-fifty watt Viewlex projector will be permanently kept on the counter at the rear of the room with a white sheet of cardboard as a screen. This arrangement for individual use has worked out very satisfactorily in the few instances it has been tried out since the beginning of the study. Since the projector is set on a counter top, it can be moved to and from the screen and at a distance of five feet four inches will give an image which measures fifteen and a half inches by ten and a half inches. At a distance of three feet, the five inch lens in the projector gives an image measuring five and a half inches by eight inches. This three foot distance will no doubt be the most common setting for the projector and is very satisfactory for the study of detail. Even with all ten shades in the windows completely raised to the top—the usual position during class time—with the sun shining and eight sets of fluorescent lamps lit, at this close distance of three feet, a clear bright
image is projected on the screen.

Since the projector and screen are set up in a corner of the room the student is able to use the slides at his own convenience and spend as much time as he feels necessary to study details of interest.

Previous Research

Teaching house design. Although many slides showing examples of architecture are available from institutions such as The Museum of Fine Arts, none have been concerned with the design of the present day middle-class type of house. These color transparencies open up a new and open field of research with unlimited possibilities.

Color transparencies as a teaching aid. Color transparencies in slide form have an advantage over slide film because of the ease with which rearrangements of illustrative teaching materials may be made. By the use of color the student receives the total affect of the exterior design from harmonizing of color as well as of materials. Daniels states that color usually adds to the interest,
gives a truer impression and aids in stressing important points.  

Since the slides are transparencies capable of being projected they have the obvious advantage of being viewed by the class as a whole when this is desired. Individual use would require only an image a few times larger than the slide itself, such as would be seen on a viewer or a screen mounted only a few feet from the projector. The slides are not meant to be an end in themselves, but only one means of teaching the requisites of good design.

Elwood suggests that by the use of slides supplementing other teaching materials, the coming generation may be brought to a better appreciation of good design, the lack of which is woefully evident in our typical domestic architecture of recent years.  


cause of failure in the design of buildings is faulty proportion.

Colored photographic slides seem to have the following advantages as a teaching aid:

1. They add interest to the study.
2. Two-inch slides are easily arranged and rearranged according to the needs of the class.
3. Projection of these slides is simple with a small, lightweight projector, which may easily be handled by teacher or pupils.
4. For the teacher who can take his own pictures on 35MM film, there are endless opportunities for illustrations pertinent to the subject.
5. Slides have the advantage over motion pictures in that the design may be seen and studied for any desired length of time and timing can be varied according to the needs of the class.
CHAPTER II

THE PRESENT LEARNING SITUATION

The classwork. Architectural drafting classes at Weymouth High School are initially involved in the learning of architectural symbols, floor plans, and elevations or exterior views. This work will be in the nature of reading textbooks and copying plans until such time as the student is sufficiently familiar with the fundamentals of architectural drawing. Very little work if any will be original and there will be little opportunity for the student to be creative or to develop his own technique. As much as a full school year may be spent in this kind of drawing.

In the advanced classes, the student may be told to work out a house design of his own. This would mean a design similar to a standard type house found in this area.

He is now on his own. Heretofore in his elementary work there was only one style of house to be drawn; one type of doorway, one type of window, and roof. Now he must become aware of the variations from the standard designs. For example, not all
door entrances are alike; in fact, it is most difficult to find two that are exactly alike. In the same manner the designs of the windows, exterior finishes, and roofs will vary. What are these variations that alter the designs and how is the student to learn them?

The present means of learning. At present, the student will learn them by the three following means:

1. Observation The student will know something about design from having seen the styles in his own neighborhood. Yet, it is surprising how unaware he is of how a house is designed until he actually starts to draw it completely and to scale.

2. Printed Materials The student will learn design from printed materials available in the classroom. Many different overall designs as well as details will be on hand. These will be in the form of textbooks for architectural drawing, various pamphlets and blueprint sets put out by lumber companies.

3. Instruction The student will learn design
by verbal and drawing help from the instructor.

Limitations of the three present means of learning. Let us look more closely at each of these three sources of information and see how they can be used to answer the student's questions.

Observation. Although all the possible variations in design may be found in the student's own town, he is not aware of them. If a question of design arises in the middle of a class, obviously he cannot be told to go out then and there to find a house which is similar in design to his own. Typical questions might be as follows: Would a break in the roof be appropriate for my style house and where should it be? Would vertical siding on a gable end be more interesting than horizontal?

If the question is to be answered by observation it will be in one of the two following ways:

1. He will remember having seen the point in question worked out on an existing house design and so know the answer; or,

2. He must wait till the end of the period in which the question has been raised and then go out and find a house design similar to
his own which will answer his problem. Before the next class period the question would have to be solved if he is to continue his work. This observation-type learning by the student would require extensive travelling in search of the particular point in question and as such would be more than could be expected of most students.

**Printed materials.** There is much printed material that the teacher can use in his classroom advantageously. This material will be in two main sections.

1. **Information from textbooks and book of standards**

   Such information will show mainly details as window and door styles and sizes, types of molding, dormer windows and the like. It is to be stressed that here the individual item is shown by itself and not in relation to the whole house.

2. **Material from lumber concerns and manufacturers.**

   This type of information is good and in
wide use by the class. Here in the form of pamphlets, folders, and periodicals, we find details as well as overall designs.

**Instruction.** With enough experience and knowledge the instructor can answer all questions on design. To do so by words alone is undesirable and inadequate as the answer may be lengthy and involved. The alternative is for the instructor to sketch out the answer carefully or actually draw it out for the student. This is time-consuming and means that the rest of the class may be held up in the meantime.

From the foregoing we see that for the purpose of overall design the best available information is to be found in printed materials put out by the lumber companies and manufacturers. Although the publications are not intended for school use, some have been obtained on the stipulation that they are not used for other than school purposes.
CHAPTER III
THE SLIDE COLLECTION

The slide set as an answer to the problem. From the description of the three sources of information available to the student as described in Chapter II we see that each has definite limitations and disadvantages. The observation-type learning is not sufficient because the student is simply not able to observe and study all the particular points in question when he needs to. Printed materials are good but in most cases show details rather than overall design. What overall designs are available are limited in scope. Help from the instructor may mean holding up the rest of the class for a longer period of time than is desirable.

To supplement the present material and as an answer to the student's questions, a set of sixty-eight 2 x 2 Kodachrome slides will be provided. The set is indexed and will show various points of exterior design as they are found in the most common types of houses in the South Shore area. Overall design as well as details will be shown.
Since most average sized houses being built today are either the Ranch or Cape Cod style, most of the slide collection will be devoted to these two types. However, in addition to these, some slides showing Colonial styles, out-of-date house styles, the very latest designs, and poor designs are included.

Extent of coverage. For comparison and grouping, the slide collection has been broken down according to the following divisions of design:

A. Basic type; Ranch, Cape, or Colonial
B. Roofs; Gable, Gambrel, Hip, or Flat
C. Windows; Mullion, Doublehung, Stationary or Single Sash, Picture, Casement, Bay or Corner
D. Front entrances; Recessed, Non-Recessed, or Roof over entrance
E. Gable ends, especially those at the front of a Ranch type house
F. Exterior finish; wood, brick, stone, granite, or combinations
How the slide set will be used. Referring to the tabulated list of slides, page sixty-three, we see that the slides are numbered from number one to sixty-eight. The particular points of interest for each slide are indicated by placing an x in the proper column. Let us suppose a student is designing a Ranch type house and the question arises as to the style of roof to use. By referring to the table, we see that slides number one, two, four, and five, among many others would show examples of Gable roofs. Numbers three, eleven, twenty, fifty-six and sixty-six would show Hip roofs. Examples of Flat roofs would be shown in slides number sixty-three, sixty-four, and sixty-five. After viewing these slides he will be better able to decide which design to use on his own drawing.

Should the question of whether or not to put Dormer windows at the front of a Cape Cod style house arise reference would be made to the table where it is shown that slides number thirty-seven, thirty-eight, thirty-nine, forty, forty-one, forty-two, and forty-four, among others would illustrate
examples with or without Dormers. Here again the student would have to arrive at his own decision after viewing the slides. In a similar manner, the slide collection will help other students with their many questions.

Various uses of the slide set. The slide set will have many uses among which are the following:

1. It can be used to introduce the subject to classes that are considering the study of architectural drawing. This group would be interested in a discussion centered about the slides while the specific points of interest are explained and analyzed by the instructor. This class would be shown a selection of slides tracing the development of the average house style from a period approximately seventy-five years ago (number sixty-seven and sixty-eight) up to the ultra modern house of today. In addition, slides would be selected showing the variations of the
of house, (number sixty-one), poor combination of material for exterior finish, (numbers sixty-two and fifty-five), poor basic designs, (numbers thirty-eight, forty-nine, and fifty-two).

4. Since exterior design affects interior layout, a design might be shown and a discussion held on possible room layouts for the particular exterior design. Those that perhaps lend themselves best for discussion are numbers one, forty-six, forty-five, fifty-eight, and twenty-two.

5. Students who have started on their own design will have questions concerning certain details of their house. Typical points in question might be roof lines especially at the valleys and at the eaves, chimney sizes and design, window sizes such as stationary windows flanking an outside chimney or in a kitchen or bathroom, and amount of foundation wall exposed. Since this was the main intent of the collection,
any one or more of the slides could be used. As each slide shows a different point of design for various style houses, reference would have to be made to the tabulated list of slides. Here we have listed the basic type houses with the five main divisions of study: roofs, windows, entrances, gable ends, and exterior finish.

**Definition of terms.** Students will be expected to be familiar with the following terms used in the slide descriptions.

**House types:**

- **Colonial**—A style of house originated in this country during colonial times and of such attractive and practical design that it has been carried down to our present day.

- **Cape Cod Colonial**—A type of colonial house originated on Cape Cod and consisting of one and one half stories.

- **Ranch**—A contemporary style consisting usually of only one story and low pitched roof.

**Roofs:**

- **Gable**—A roof that has two sloping surfaces, one on each side of the center line of the building.
Gambrel- A variation from the Gable roof which has its surface broken near the middle on both sides of the building. The portion just below the break at a steeper pitch, and the portion just above the break flatter than that of a Gable roof.

Hip- A roof that slopes from all four sides up to the center of the building.

Shed- A roof that slopes only in one direction with the roof at the front being slightly higher than at the back of the building.

Windows:

Doublehung- A window consisting of two sashes, fitted with balances or weights, thus permitting raising or lowering of the individual sash.

Casement- A window in which the sashes are hinged so that they may swing either in or out.

Bay- A window projecting outward so as to form a recess in a room.

Corner- A window usually at right angles to another at a corner of the house.

Mullion- Two or more windows separated by a vertical division between the sashes which is called a mullion.

Stationary or Single Sash- A window that is not designed to be opened.
Exterior Finish:

Siding- The outside boarding of a house.

Freize- The lower section of a cornice and at the top of the siding.

Corner Boards-The exterior boards at the corners of a house against which the siding is fitted.

Trim- The name given to the decorative woodwork such as door and window casings and baseboards.

Battens- Narrow strips of wood for various uses such as over joints to make weather tight.

Cornice- Upper horizontal molding of a wall.

Eave- That part of a roof projecting beyond the wall.

Gable- Triangular end of a building from the line of the eaves to the top of the roof.

Gable End-End wall of a building where there is a Gable.

Lintel- The support over openings such as at windows and doors.

Mouldings-Decorative woodwork used in cornices, ceilings, and wherever necessary to cover the joints of surfaces joined at angles.

Rake Mold-Molding used at the joint formed by the Gable end and roof.
THE SLIDE DESCRIPTIONS

Slide No. 1

A well designed Ranch type house with an ell. Special points of interest are the attractive chimney set into the front wall flanked by two small stationary windows. By extending the roof, protection over the front entrance is provided. Combination vertical and horizontal siding and mullion windows make up an attractive gable end.

Slide No. 2

A modern Ranch type with an ell having a double garage under the ell. Note here the absence of trim, flush door, casement windows, low pitched roof, and row of high stationary windows in the main part of the house. Although this type of stationary window will not provide all the light of larger windows and no passage of air, it does allow for unbroken lower walls. This is excellent for ease of furniture placement. Here the house has been designed to allow for a sloping lot.

Slide No. 3

The Hip roof and large porch make this design somewhat different from the usual. The break in the
roof and slightly recessed porch break up what would be a plain front. A logical question here, whether the large porch at the expense of other rooms is justified, could only be answered by the owner. Closing part of it in at a later date is a possibility. An attractive picture window with casement windows at each side is attractively designed. Special paneling beneath the window is added interest.

Slide No. 4

An example of how well designed mullion windows can add to the appearance of a garage. Although serving no useful purpose this type of window in the garage adds greatly to what would be a not too attractive house. Notice how a small gable at the front is used to break the straight roof effect.

Slide No. 5

A straight rectangular style Ranch type house with garage slightly angled to the house. Casement windows are grouped and are small and high in the walls, low eave lines and foundation wall make this house seem to hug the ground. By setting the garage at an angle, the front surfaces of the house are nicely broken up.
**Slide No. 5A**

The well designed window and entrance to the house in slide no. 5. The huge window facing south will add warmth to the house in winter as well as attractiveness to the design. A recessed doorway gives protection from the elements and glass blocks are used to give light to the interior without the loss of privacy. The large amount of siding exposed to the weather in this design adds to the sense of ruggedness of the house.

**Slide No. 6**

A slight roof extension and small brick wall add greatly to the appearance of this front entrance. The small gable at the front is worked in nicely to the design. Here we see how, by the use of a well proportioned gable, picture window, roof projection, and brick wall, a small house is designed so well that anyone could be proud of it.

**Slide No. 7** (Compare with slide no. 4)

Another illustration of how by extending the roof over the front entrance protection as well as added interest is provided at the front of the house.
**Slide No. 8**

A small Ranch type with an ell. Windows are of interest here with corner windows set in the ell and small mullion windows in the main body of the house.

**Slide No. 9**

A very attractive L-shaped Ranch in an attractive setting with a minimum of windows in the ell. Let's look a little closer at this ell.

**Slide No. 9A**

Natural vertical siding combined with shingles and trim make up these attractive gable ends. Long eaves provide protection from the sun in the summer, as we see by these shadows, without blocking out the warming rays of the winter sun. A cornice of the simplest possible type is in keeping with this modern style. With an eave of this size vents may be installed which lead air up to the exhaust vent shown, thereby considerably cooling the roof and room below.

**Slide No. 10** (Compare with slide no. 17)

An example of how not to design a picture window. Less width in proportion to the height would add to
the appearance and give more privacy to the occupants. An otherwise attractive house is spoiled by the poor proportion of a picture window.

Slide No. 11

This house is bigger than you would think at first. With its low pitched hip roof and nearly square floor plan, it covers a lot of ground. Generous use of windows including some at the corners ensure plenty of light and ventilation throughout.

Slide No. 12 (Compare with slide no. 7)

A simple basic rectangular plan here. Strictly functional in design, this house is economical to build and yet is attractive. Let's see what helps to make it so.

Slide No. 12A

This small inexpensive addition serves three purposes. It serves as a small porch on which the owner can enjoy the summer evenings; it offers protection to the front entrance; it adds attraction to the design. Note that the roof pitch had to be reduced to maintain proper height.

Slide No. 13

The use of granite combined with wood garage
and gable front make a pleasing combination here. With the chimney exactly in the middle and the two gables so similar there is a feeling of almost too perfect balancing of the design. A good design but perhaps not the best.

**Slide No. 14**

Unpainted horizontal siding in the gable combined with a well designed picture window set into a white wall make an attractive gable end on this house. Interest is added to the design by use of a glassed in breezeway-porch. Note again the size of the cornice typical in this style house.

**Slide No. 15**

A basic rectangular Ranch style with plenty of windows and nearly flat roof.

**Slide No. 15A**

Notice here that with the roof pitched at such a small angle, the eaves can be extended out without interfering with the vision from a window. This would not be possible with a more steeply pitched roof. Because of the partly recessed front, the eave at the front wall is less than at the back wall. The partial use of brick at the side makes for harmon-
ious combination of materials. Close inspection will show that even gutters have been omitted here.

**Slide No. 16**

The use of granite combined with wood set this gable end apart from others. A roof extension provides protection for the front entrance. Here we see how corner windows are used to provide light and ventilation for one section of this house. How might the area where granite meets the shingles in the gable end be better designed?

**Slide No. 17** (Compare with slide no. 10)

A well proportioned picture window and gable end show good design. Although this house is laid out very closely to that shown in slide number ten, this picture window is an example of good proportion.

**Slide No. 18**

Good or bad? If you want plenty of light in your living room you've got it here. Vertical siding in this gable end coupled with the immense window really catches the eye. Don't depend on much ventilation from this end of the room. We should notice here how the gable corner has been carried out.
beyond the right wall of the house. These small
details are what make for an interesting design.

**Slide No. 19**

What a simple break in the roof and front wall
can do to the appearance of a house! See how it
catches the sun and adds interest to the roof design.
Nicely proportioned mullion windows are as attractive
as any picture window and would be more useful. The
oversize chimney tops off what is a simple basic design
and yet is exceedingly attractive.

**Slide No. 20**

By the use of a hip roof and recessed entrance
a simple rectangular plan is made to look attractive.
Here we have an open cornice with exposed rafter ends
that supply a detail of interest. Unusual in this
part of the country is a carport with protection
on one side only. Since three sides are exposed to
the elements, this will provide adequate protection
for a car in spring, summer and fall but not for
the cold winter. Since we see that a garage is
provided, the value of the carport is questionable
considering its cost. It is true however that with
the length of house increased to include this feature
we have a more interesting overall design than if the house were without the carport. Notice here how the house hugs the ground with so little foundation wall exposed. What might this suggest?

*slide No. 21*

*If you want a variation in front entrance design, look at this.* The light colored stone entrance framing a rustic door is set off well against dark brown siding. An addition slightly lower and set at a slight angle to the main part of the house provides an interesting effect. Notice the mullion windows at the left are made up of two sashes with six panes of glass and one with eight panes.

*slide No. 22*

*The recessed porch serves many purposes here.* As well as providing protection for the front entrance it breaks up the appearance of the front of the house to make a more interesting overall design. Here also is adequate space for chairs or settee to be enjoyed on a warm summer night. Wood siding combined with brick makes an attractive gable end. Note that the ridge of the gable is lower than the main ridge. What does the position of the chimney and picture
window indicate about the layout of this house?

**Slide No. 23**

A compact house set on an average size lot is shown on this slide. The well designed and very attractive gable end, using stained vertical and painted horizontal siding distinguishes this house. Note how the small, well proportioned gable returns add to the affect of a design well planned and carried out. A rake mold of interesting design adds further ideas for study here. Note also that the ridge of the gable and of the main part of the house are at the same height. This is because the roof pitch has been made the same for both and because both gable ends are of equal width.

**Slide No. 24**

What not to do with a picture window is the title of this slide. Cutting a hole in the wall and putting glass in doesn't make a very attractive design as we see here. The window should be rectangular instead of square. Since windows are intended to give ventilation as well as light the main window should be flanked by small doublehung windows. A small gable added in the middle of the house breaks up
what would be a monotonous roof line. Note here how mullion windows are used.

Slide No. 25

Windows are our topic here. An oversize picture window borders on the point of being too big and yet can't quite be labeled poor from a design standpoint. Light in the entrance hall will be provided by using a column of glass blocks. Next we see the use of mullion windows where wall space was inadequate for two separate windows.

Slide No. 26

What is most eye-catching here? Why the gable end of course. Topped by a flush white peak which shows well against the dark roof shingles, it is followed by natural finish vertical siding. Below, the rough brickwork offers a nice contrast to the smooth woodwork. Although this house is more expensive than those we are to design, couldn't the same or similar combination be used in smaller designs?

Slide No. 27

A pleasing combination of material to produce an attractive exterior finish. Let's look more closely at this house.
Slide No. 27A

A country cottage type of setting achieved here with the use of stone. This picture window, made up of a stationary and single casement although very long, is pleasing to the eye. Notice how the window is separated from the stone wall by the use of a casing. Plain boards make up a simple but attractive freize.

Slide No. 27B

Light colored attractive corner boards and a large window make this an attractive gable end. The casing above the window contrasts nicely with the rest of the siding.

Slide No. 27C

This house has much more room than you thought from looking at the front. In addition to that provided by the shed dormer, room is also available in the basement area at the rear. With a fine view is it any wonder that as much window space as possible has been provided in this house? Notice how the ell at the left, being beyond the side of the house, affects the roof. Remember that the more corners in the design the more cutting and fitting is necessary with a resultant increase in cost.
Slide No. 28

Size of gable end is the point of interest here. With the door recessed so far into the ell how much space is left in the adjoining room? How could this be improved?

Slide No. 29

Why was this slide included in the collection? Do you notice anything different here? Look at that lower left window. Instead of a conventional doublehung window, a narrow mullion window has been substituted.

Slide No. 30

A Garrison Colonial here with its typical second floor extension at the front. Small bay windows are used downstairs while upstairs three doublehung windows are used with a smaller one centered between two larger ones. This is a very common window placement for a Garrison type house. Since the front wall is brought forward around the doorway some protection and interest of design is attained for the recessed door. This style house is noted for its square large rooms with no waste space. Shingles are made to meet tightly at the corners and corner
boards are omitted.

**Slide No. 31**

Another Garrison Colonial type using a combination of granite and wood exterior finish. Exposed wood lintels at the windows and doors are especially attractive. Red brick sills are a further addition in the exterior design here.

**Slide No. 32**

Here we see how lowered front walls have been achieved by dropping the eave line below the second floor ceiling. Note that the eave line at the rear is higher than at the front. Note also the size of the freize which runs down to the window sill. What affect does this have on the second floor room? What has been gained by lowering the eave line?

**Slide No. 33**

A gambrel type roof topping a style of house known as the Dutch Colonial is shown here. Fairly large eaves cast interesting shadows and add protection from a high sun. This design is at its best without dormers. The porch roof although not in strict keeping with the lines of the main roof is perhaps better this way than to try to put a gambrel
in such a small span.

The legend goes that this long sweeping roof was the ingenious means by which the Dutch colonists evaded the heavy tax on two-story houses. This style is admirably adapted to the small modern home because it is very informal, yet pleasing.

Note that the next four houses are basically the same.

**Slide No. 34**

A rectangular or square house topped by a hip roof. Note how close the top of the second story windows are to the eave line. What affect does this have on the second floor rooms?

**Slide No. 35**

The same type house but with a gable roof.

**Slide No. 36**

Still the same style with a third type of roof; the gambrel roof with full shed dormer at the front.

**Slide No. 37**

Still going! Isn't it still essentially the same house? Although a Cape style this time with dormers, the room layout is probably identical with the other three. How would the second floor rooms
compare with those using the Gambrel and Gable roof?  
**Slide No. 39** (Compare with slide no. 42B)

Don't design a shed dormer this way. To provide interesting lines on the side of a house, the roof line should be carried down from the ridge at the same angle to the front and back wall. If additional room is desired, a shed dormer runs nearly, but not entirely, the full length of the house. The second window shown here would have to be omitted but a single side window and dormer windows will provide adequate cross ventilation. Avoid this!

**Slide No. 39**

A small Cape with a steeply pitched roof.

Recessed garage makes for a broken front and roof line. Flat small dormers are well proportioned. Note the steep pitch of the dormer gables in keeping with the pitch of the main roof. Somewhat unusual but attractive is the bay window.

**Slide No. 40**

Simplicity and perfection!

**Slide No. 40A**

Carrying the roof lines from the ridge down to the rear. A full shed dormer at the rear is carried
out flush with the rear wall. Plenty of head room in those upstairs bedrooms.

**Slide No. 41**

Plenty of windows in this front wall with these three 16-light windows.

**Slide No. 42**

Something a little different in a Cape style. Windows slightly narrower than usual but still are attractive.

**Slide No. 42A**

Let's look closer at these windows. What do you notice about them? What is a disadvantage with the use of sashes that are not the same size?

**Slide No. 42B**

Parallel roof lines make for pleasing side views.

**Slide No. 43**

A Cape style using only two windows at the front, large 16-light windows are chosen here since there are only two. Advantage of the sloping lot is taken by placing the garage under the house.

**Slide No. 44**

In spite of what many people think, a new house can be attractively designed without the use of a
picture window. Here a well proportioned mullion window is just as interesting and more practical than a picture window would be. We notice that the door is offset from the center of the house. This enables the living room to be made larger than would be possible if the door were centered. This is almost a necessity with small houses.

**Slide No. 45**

Here is another variation in the Cape. One room, probably the living room, extended out at the front provides space for a large picture window. The necessary roof extension here provides shelter over the front entrance. Notice how the bright sunlit walls against a dark roof emphasize the parallel slanting roofs, of house, rear entrance and garage. The small well proportioned dormers are directly in line with the large windows in the front wall.

**Slide No. 46**

This is still another Cape but not like any we have seen before. Not content with having the car in a garage adjacent to the house, it now is moved right into the house. What is the affect on
the room layout? Although well designed and attractive, is the layout practical when one considers how valuable the garage floor space would be for living area? Check the building codes of the town and see what provisions must be made for having an automobile in the house itself.

**Slide No. 47**

A gable roof carried forward to overhang the breezeway and a garage provides good protection and adds interest to this design. Small, well proportioned gable returns add still more interest. Since the width is enough to provide wall space for them, two mullion windows instead of one are used. Added air to cool the bedrooms on a hot summer night.

**Slide No. 48** (Compare with slide no. 61)

A house doesn't have to be big to be attractive!

**Slide No. 49**

How not to design a house front. Although helped out by the use of the gable, the design needs to be greatly improved to avoid the monotonous, plain affect around the garage door. In a situation like this the design would be better if the garage
wall were either recessed or set out from the front of the house.

Slide No. 50

Still another design of a picture window in a gable end is shown here. Notice the many small lights in the big window instead of using one big light. Since the same size lights have been used in the doublehung windows the result is an attractive window even though it is extremely long. Mullion windows opening to the recessed porch provide good light and ventilation in a limited wall space. Notice that the roof is made to overhang the gable end slightly rather than be flush with the wall. The front entrance here is more colonial in style than modern.

Slide No. 51

What is different about the looks of this house? Usually a house of this type is finished in clapboards or shingles, but here we see the use of a plywood type siding which gives a smooth, flush finish. Nearly impossible to detect any joints here.

Observe that the second floor is provided with light and ventilation by two mullion windows instead of a single window and that shingles are used for
in the colonial style and centered, oversize chimney. No dormers are used in this splendid example of the Cape Cod colonial at its best.

*Slide No. 54*

Dull, drab, gloomy...these words describe this house. A combination of siding that definitely does not belong together—very dark natural siding combined with dull red brickwork. More outside wood trim is a must around the door. This house needs to be brightened up.

*Slide No. 55*

To avoid monotony we might use more than one type of material. But don't overdo it! Look closely at this house and see how many different materials have been used. How many should be used and still have an attractive design? Not content with brick, plywood, half-timber work, and shingles the builder had to add rough-cut boards to the gable end.

*Slide No. 56* (Compare with slide no. 59)

A very attractive colonial type home. Using a full shed dormer to give additional room to an already ample second floor, this house will have good sized, well ventilated bedrooms. Notice that the roof's
upper pitch is carried down to be the roof of the dormer, thus providing an unbroken line. Although this is called a full shed dormer note that the dormer sides are set in from the side of the house just enough to produce that black roof line which carries the eye down to the lower eave. A sun room with Gable roof instead of Gambrel style is still an attractive addition.

**Slide No. 57**

A neat economical Ranch type house with a Hip roof. What function of a window does this picture window not fulfill? What might be added to improve the appearance of this house front?

**Slide No. 58**

Recessed entrance and picture window are interesting here. Notice that the roof is lower at the left side. What affect might this have on the layout of rooms?

**Slide No. 59** (Compare with slide no. 56)

Another Gambrel roof using only single dormers rather than a shed type. Notice the roof pattern is carried out to the porch and garage. This is acceptable but in small spans of this type would
not a simple Gable roof have been better? The front entrance here is attractive and of Colonial style in keeping with the style of the house. 

**Slide No. 60**

"Is this where they keep the chickens?" was one comment about this slide.

What's wrong here is an easy question to answer. First of all the colors aren't even the same. Then the roof lines are so different in pitch. Why was the pitch of the addition made so low? Obviously he didn't want to block off his attic window. In a situation like this there is no solution for building on at the side but the only possibility would be to add on at the rear of the house. Notice that not even the window types are the same.

**Slide No. 61** (Compare with slide no. 48)

What is the window doing against the door?

On such a small house a Gable roof would be better than this Gambrel style. Just because the house is small it doesn't have to be unattractive.

**Slide No. 62**

This picture speaks for itself. Look at that
porch with the brick columns. A drab, plain house not helped by basement windows in the front wall. Instead of omitting the window casing entirely as was done here in these casement windows, white wood window casings should have been used. Against the dull, red brickwork, this bright woodwork would improve the appearance of the windows tremendously. Remember this in designing windows in brick walls.

*Slide No. 63*

Modern and up to date. Notice the economical use of trim here, also the flush door. Small, high, stationary windows provide light in the interior but give privacy from the street. Now look at the other end of the house. Plenty of windows here and why not? Look at the view he's got. This is where you really want picture windows. The large chimney is in keeping with the style of the house where more than one fireplace is utilized. A combination of exterior finish, shingles and siding make a pleasing design. An economical and modern flat roof tops the design. One of the biggest problems of an irregular floor plan is the covering of it with a Gable roof. With a flat roof there is no problem.
This is one of the main advantages of the flat roof.

**Slide No. 64**

More modern yet! Beautiful and yet simple in style. How would this compare in construction with a conventional house? No raised roof to be framed for one thing. The design is a basic L-shape. The main advantage of the flat roof is that any shaped area can be covered without a lot of gables, valleys, and ridges to add to the expense. As little trim as possible is used and the walls are simply glass instead of wood or brick. Note the lawn. Only on a lot of this size would this house show to best advantage. This is an example of how improvements in manufacturing of glass have affected and made possible the designs of our houses today.

**Slide No. 65**

Is this an example of the house of the future? Designed perhaps by Frank Lloyd Wright, it is far from what we are used to seeing as a house. This ultra-modern affair typified by the flat roof, window walls, natural exterior finish, lack of trim and clean lines exemplifies the work of our modern designers. Built on a sloping lot, this house has
two full stories at the front, only one at the rear. Compare the construction of this roof with a conventional Gable roof.

Slide No. 65A

A louver design at the sides of the windows serves as permanent blinds. A Garrison type overhang breaks the two story high front into two sections. We should notice here the long eave which shields the window-walls and the batten-type finish to the second floor walls.

Slide No. 66

Neat, clean and compact. A window wall with a southern exposure admits the winter sun's ray to the living room. At each side is a door opening out to a patio. Since there is little window space in the side wall, the designer has provided a window at the peak of the roof to admit light to the far interior. An extremely plain front entrance is in keeping with the rest of the house. Could something be done about that chimney to improve its appearance?

Slide No. 67

A home of yesterday—probably a house to be proud of in its day. Compare this to a modern house.
Notice the use of trim and all the fancy work, large porch and posts and intricate design at the peak. At the rear we see the top of a tower-like affair topped with the ornamental ironwork.

Slide No. 68

This is not quite as old a house as in the previous slide. Note the changes. Although the trim is gradually being eliminated, with the bay window and roof over it and exposed triangular corner braces at the roof line, we are still far from our clean modern lines of today. A huge glassed-in porch at the front is characteristic of this type.
CHAPTER IV

THE PHOTOGRAPHY, FURTHER STUDY, AND SLIDE INDEX

Summary. We have seen from the previous chapters that the slide collection has been made to add interest and supply information for high school architectural drafting classes. Chapters one and two have outlined the problem and described the conditions under which the classes operate. Various uses for the slide collection and a description of the individual slides have been explained in chapter three.

Chapter four will conclude the work with a report of the photography, possibilities for further study, and the tabulated index of the slides.

The Photography. All the slides were taken by the author using an Argus C-3 35MM. camera with built-in rangefinder. Lens settings were determined by the use of a Weston Universal exposure meter. The film was Kodachrome processed by the Eastman Kodak Company of Rochester, New York. Although it is advisable to use a tripod as much as possible for the study of detail, it was found to be very cumbersome and in the case of positioning on uneven land, not satisfactory.
In nearly all cases, a shutter speed of 1/50 second was used. On the few occasions where slower speeds were necessary a tripod and cable release were used for added steadiness.

One point which the author learned during the study was that lighting conditions thought to be ideal for taking pictures were not, for the purpose of this study, ideal at all. Since color film has a much smaller range than black and white film for correct exposure, it was found that some scenes with bright sun on light colored walls and with other details in deep shadow offered a greater contrast of light condition than the film could take. If correct exposure were made for the bright objects, the shadowed detail would be underexposed, if the lens were set for the shadows, the lighted areas would be over exposed with the resultant loss of detail. As a result most pictures were taken on a cloudy-bright day. Under these conditions the contrast was greatly reduced until it fell within the acceptable film range without the loss of the desired shadows.
Future Outlook. Although the collection for this study numbers sixty-eight slides, more will be added to it as other examples of interesting architecture are found. Travel about surrounding communities invariably uncovers interesting styles and features worth recording.

For a teacher owning a 35MM camera, there are unlimited possibilities for taking pictures which are related to school work. Supplemented by color photography, teaching effectiveness can be increased in other fields of education and at all grade levels. Pictures may be taken of student activities within the school or many more may be brought in from the outside to supplement existing teaching materials.

For further study in the field of architecture the following divisions would easily lend themselves to study in picture sequence form.

A Historical Study. A study of the history of architecture would be limited in scope only by a decision as to how far back in history the teacher cared to go. A vast collection of slides could be made by tracing the history of architecture from ancient Egypt to the present. Here we would start
with the picture of the flat roofed building of clay construction typical in the year 1500 B. C. A slide of the Roman or Greek house would show a house built around an open court for the purpose of admitting light and air. A hole in the roof was the only escape for smoke since chimneys as such did not exist. Much interesting discussion could be held on the innovation brought about in the Roman house with the use of doors very similar to ours today, central heating systems, and-piped hot water to kitchen and bath.

Early domestic architecture in Europe could be presented starting with the features of the Feudal castle with its "Great Hall" giving us today our "living rooms." The coming of a chimney made possible the use of a second story since this area would now be comparatively smoke free.

The small cottage with its two rooms was a common type of domestic abode in England in the sixteenth century.

The Renaissance architecture of England was evident by the seventeenth century. The English house was translated into the formal symmetrical
type which later became the American Georgian or English Colonial of the early colonial period.

From the early crude one room houses of the early settlers at Plymouth the study could trace the development of Colonial architecture of America into the classic and persistent Colonial styles of the New England, Cape Cod, Garrison, Southern, and Dutch types.

While slides of ancient dwellings would probably have to be obtained from museums such as the Museum of Fine Arts, some models of these dwellings exist which could be photographed without too much trouble.

Here in the East, examples of the Colonial type houses surround us no matter what community we live in and offer a rich field of subject matter. A trip to such places as Williamsburg, Virginia, Sturbridge Village, or Plymouth, Massachusetts, would offer a most interesting and extensive source of material for a historical study.

A Study of House Construction. A collection of slides could be made which would show the successive stages in building a house. The first picture would be that of the original terrain on which the house is to
be built. This would be followed by the excavating and laying out for the foundation wall and footing. The sequence of steps involved in pouring a foundation wall would be followed by the steps of necessary framing detail starting with the erection of the sill and corner posts. Next would come scenes showing the studding and boarding in of the walls followed by a sequence showing the necessary work to build a roof. The final steps would be those involved in placing on the shingles or clapboards, window and door casing, moldings, and other external finish. The last slide would be of the completed landscaped house.

**A Study of Future Trends.** The postwar years have seen an increase in home building at a rate never before equalled in the history of our country.

Many of the homes are of the traditional type, that is to say, they have been designed so that they can be recognized as belonging to one of a number of styles of domestic architecture which were originated long ago. These styles have been found through the years to be so pleasing to the eye as well as practical to live in that they have been
used over and over again.

Some architects feel that the contemporary architecture should cast aside all tradition. Instead of designing a house with the idea that the exterior must have a certain appearance in keeping with some style which had been previously selected, they planned the interior to suit the requirements of the occupants and then designed the exterior to conform to the plan in the simplest possible way. Foremost of these men were LeCorbusier in France, Gropius in Germany, and Frank Lloyd Wright in America.

Merchant builders, who build homes by the hundreds, have found that there is a decrease in the demand for the building of the Traditional type of house. They have therefore concentrated their efforts on the styles now evolving.¹

Although at first there was doubt as to how extensively these new styles could be utilized in

¹ Townsend, Gilbert and J. R. Dalzell, How to Plan a House, American Technical Society, Chicago, 1952
this part of the country, there are now examples of
the very latest designs being built and although
they are not too numerous it would seem to indicate
that they are more widely being accepted by some
designers and home owners.

While some people see enough of the outdoors
in their regular daily job routine, the increasing
number of workers confined to the indoors want to
get as much of the outdoor effect into their house
as is possible. The recent advances in methods of
glass manufacture have put large sheets of glass
within the reach of the ordinary home builder.
Double-glazing and modern methods of weather stripping
have been made practical so that large windows can
be utilized in these colder climates without the
necessity of winter sash. Radiant heating has
eliminated the necessity for outside wall space in
which to place radiators. With all of these improve-
ments in technology the woods wall can now be replaced
by the glass wall.

The Gable or Hip roof have now given way to the
flat or shed roof. Cornice work is practically
eliminated and all other exterior finish is held to
the minimum.

So fast have the new styles involved and begun
to appear in this area that it is very difficult to
find architectural textbooks that are up to date.
For this reason a slide collection would be of great
help to the instructor and student.
# INDEX OF SLIDES

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**Additional Notes:**
- Break in roof - Large porch
- Poor picture window
- Large glass breezeway
- Nearly flat roof
- Large eave overhang
- Compare with slide #10
- Huge picture window
- Break in roof
- Carport
- Break in roof
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- These four were same basic house.
- Poor rear dormer.
- Break in roof.
- Two front windows.
- Rear dormer.
- Three front windows.
- Extension at side.
- No dormers.
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- POOR DESIGN
- STUDY OF CHANGES IN DESIGN - EVOLUTION OF OLD DESIGN TO NEW
BIBLIOGRAPHY


Color Photography Outdoors, Eastman Kodak Co., Rochester, New York, 1953