

Bauhaus - didactic experiments and their legacy

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ABSTRACT: The author's objective here is to remind readers of the Bauhaus, which had a huge influence on modern aesthetics and architectural thought. The centenary of the school's foundation, which falls this year, is an opportunity to discuss the curriculum that is regarded as a symbol of modern education in the field of art, including architecture. In this article, a synthetic description is presented of an educational experiment introduced and its practical application in teaching. Then, it is analysed in the context of contemporary teaching practice, particularly in the Faculty of Architecture at Cracow University of Technology (FA-CUT), Kraków, Poland, as it is worth realising which elements of the curriculum have been included, and how they are implemented. Reviewed in the conclusions are several educational achievements of the Bauhaus, which operated for only 14 years, but continues to inspire - including architects - by its philosophy of educating students.

Keywords: Bauhaus school, architectural education, contemporary aesthetics, architectural thought, Bauhaus legacy

INTRODUCTION

The Bauhaus school has had an enormous impact on contemporary aesthetics and architectural thought. Its teachers included the greatest architects of the 20th Century, whose achievements, with the works of their students, markedly influenced the development of architecture, while the completed buildings constitute a significant part of the architecture created during the past century and characterised by features, such as functionality, linear composition, economy of shapes and forms [1].



Figure 1: The Bauhaus school in Dessau (Walter Gropius, 1925-26).

One of the fundamental ideas was availability to everyone and the principle of mass industrial production serving the society was preferred to luxury art. A major aspect of Bauhaus legacy is both its founders and graduates became influential teachers of several generations of art and architecture students, drawing on the pedagogical principles developed in this school (Figure 1).

The aim here is to recall the school on the occasion of the centenary of its foundation, which takes place this year and to outline the curriculum that is still regarded as a symbol of modern education [1]. The educational experiment introduced there is nowadays reflected in the curricula of many technical schools of architecture and remains a practical inspiration for the teaching of classes, as in the case of the FA-CUT.

BAUHAUS TEACHING AND ITS SPECIFIC FEATURES

The Bauhaus school was in operation for only 14 years, from 1919 until 1933. The school curriculum took shape under the influence of directors whose outstanding, creative personalities, individual ambitions and ideas did not interfere with the overall educational approach adopted in the school.

The first director was Walter Gropius, who headed the school (State Bauhaus in Weimar) at the beginning of 1919. It combined Kunstgewerbeschule (a type of vocational arts school) and Hochschule für Bildende Kunst (College of Fine Arts) [2]. He was an ardent advocate of the modern interpretation of art in all its avant-garde aspects. Therefore, the school's curriculum was shaped accordingly. Modernity and innovative technological methods were disseminated and publicised. One of the aims of education was to combine art and technology, which Gropius coined into the motto *Art and technology: a new unity* [2].

The second director, after the school had moved to Dessau, was the Swiss architect, Hannes Meyer (1928). His directorship marked a shift in the curriculum towards architectural issues. At the time the school enjoyed great popularity through the innovative teaching approach and promotion of the latest trends in art. Meyer was also a supporter of realism and social contexts, which was reflected in the curriculum and students' works presented at exhibitions [2].

The third director was Ludwig Mies van der Rohe. His term of office covered the last three years of the existence of the school, including one year in Berlin. Teaching was seriously impacted by the problems with maintaining Bauhaus and the opinion that it spread *radical left-wing culture* [2] contributed to the final closing of the school in 1933.

On the whole, Bauhaus can be said to be the first modern school which discarded traditional academic methods of teaching. Teaching by making students copy historical models, for example, was discontinued although the artworks themselves were used in the didactic process. Walter Gropius did not deny the need to teach history, but he said that:

The binding principles of the period must derive from new, creative works. History classes can prove most useful for older students who have already found their own means of expression. Confronting an innocent novice with great achievements of the past can effectively discourage him from individual creative activity [3].

The educational system was redefined in relation to the emerging culture of the time, technical and technological capacities and rapidly developing mass production. Completely new trends were set in education based on the integration of all areas of art. In practice, this meant, among other things, teaching first-year classes to all students, regardless of the course they had originally chosen. The would-be painters, sculptors and architects were set the same tasks and carried them out collectively. Walter Gropius wrote in his first programme that:

...the Bauhaus's goal is to instruct students in combination of craft (workshop training), fine art (drawing and painting), and science (analytical methods) [2].

Workshops aimed at practical experimentation with technology and materials becoming key elements of the teaching process on an equal footing with theoretical knowledge. The distinguishing feature of this school was the preference for experimenting in practice the workshop experience of technical properties of materials; the possibilities of their application rather than gaining pure theoretical knowledge.

In this respect, Walter Gropius' considerations are crucial:

Can an architect become a master of his profession without first getting acquainted with the tools and materials, without the practical knowledge gained through informative experiences with building and making? (...) The influence of industrialisation on our professions has turned out to be so profound that educating young generations of designers requires close collaboration with building enterprises that have laboratories at their disposal [3].

The school principle was collective work of faculty and students on the tasks, without master classes and individual workshops. The idea was to remove the barriers between teacher and student.

SELECTED ITEMS OF THE CURRICULUM

A wide range of achievements in terms of the programme of this modern school still arouses interest and is thoroughly analysed. Among its faculty were the creators of the European avant-garde trends in architecture and art, who represented diverse aesthetic approaches. They included, among others, El Lissitzky who was immersed in the ideas of Constructivism (a learning theory); Kazimir Malevich, the creator of Suprematism (an art form); Theo van Doesburg representing the expressive stylistics of the De Stijl (a Dutch art movement) group and Pablo Picasso, who joined the school during the last few months of its functioning [2].

Thus, it is easy to conclude that the school's profile was thoroughly modern, while its students were trained in taking modern approaches not only to preferred aesthetics, but also to techniques, technology and, certainly, to social aspects in architecture and art. The latter interest resulted in the closing down of the school. It might seem that the period of the school's existence was so brief, almost marginal, in the history of architectural education that it would soon be forgotten and yet it undoubtedly dominated the way of teaching for another 100 years. Therefore, it is worth recalling the model solutions, which remain valid 100 years on and are referred to by present-day teachers of architecture.

As regards teaching, it is worth quoting Walter Gropius, who considered workshops to be key elements of the education of architects, but also thought that:

...introducing science courses aimed at formulating a common language of communication (...) is indispensable for effective lecturing on the art of design, and architecture in particular [3].

Drawing

The Bauhaus school treated drawing as a universal medium of communication, as well as a representation of phenomena and information transfer. According to Walter Gropius:

Skill at drawing is generally confused with preparation for the creation of innovative projects. And yet, in fact, like skill at craftwork, it is just a skill, an important medium for expressing spatial concepts. Skill at drawing or craft is not art [3].

Although skill at drawing was not regarded as art, it was nevertheless indispensable for fulfilling the tasks set in the programme. For example, the Swiss expressionist associated with the Bauhaus school, Johannes Itten, suggested using this medium in his preliminary course, with a particular didactic purpose in mind, in *..A series of quickfire drawing exercises intended to awaken the psyche, senses and hand [2].*

Colour Theory

Issues concerning perception and colour theory were the most basic elements of the curriculum of the preliminary course. Initially, classes were taught by Johannes Itten, who was then replaced by Hungarian painter László Moholy-Nagy, and finally Josef Albers, a German-born American artist and educator. The programme was uniform. One of the students' tasks was to develop a colour wheel divided into 12 parts that included three primary colours, three secondary ones and six intermediate tones, so as to create a colour system corresponding to the division of the octave into 12 equal parts [2].

Also, Kandinsky's own fascinations with three primary colours and primary forms - the triangle, the circle and the square - were imprinted on the school's curriculum. He focused on the colour juxtapositions: warm and light or dark and cool or light and dark, so as to define the most basic capacities and relations [2]. Despite clear colour preferences noted in the architecture of modernism, classes of this kind were significant as visualisation of ideas and expressive presentation of forms requiring appropriate knowledge, including colour theory.

Recombinable Modular Elements

To address the issues of improving the aesthetic quality of standardised objects resulting from rapidly growing mass production, system design workshops were introduced [2]. Exercises in creating a wide range of solutions using a set of reproducible elements and their recombinations were supposed to equip the future artist with tools for industrial design.

Freehand drawing was applied in this area as an appropriate and practical way of representation. Students produced graphic compositions of curved and straight shapes and forms treated as a limited set of reproducible elements. Later, sets of moulded-glass forms were made as elements to build a model.

The idea of the workshops was to prepare the ground for modularity in architecture, designing objects with the use of prefabricated modules, which could be combined in various configurations to create standardised, prefabricated buildings. The ideas of modularity, normalisation and standardisation proved most useful and were widely applied in the new, postwar reality, especially in Europe.

Teaching Aesthetics of the Time

Teaching the aesthetic norms of the time was a crucial item of the Bauhaus curriculum. Composition of the faculty was conducive to the task. The problem is worth highlighting as the phenomena in art, including architecture, underwent a radical formal transformation at the start of the 20th Century. The appearance and recognition of abstract art led to the re-evaluation of the perception of artistic achievements of the creators of art and architecture. A combination of materials, technology and production capacities of industry resulted in the emergence of a new style that stripped objects and buildings of ornament and decoration. The style was often referred to as the Bauhaus style. Gropius did not like the term as he claimed that all defined norms or dogmatic statements preclude *creative perception of the world* [3].

Architecture of the Time

The Bauhaus was an art school. Architecture officially appeared on the curriculum in December 1926, although earlier, students could learn and work with Gropius on some projects in his studio [2]. Three directors of the school were architects whose creative output laid the foundations of modern architecture. They directed the curriculum to modernity, stressing the relation between the architect and the world at the time. Architecture was to emerge as a result of creative endeavours, a search for individual solutions in keeping with current technological capacities. It was to be invented and not reproduced. Gropius stated that projects should allow for *...the thoughts and mood of our time to be expressed* [3]. The atmosphere of the location was also important as it had to inspire the project. Outstanding personalities of subsequent directors, their inventiveness and talents, made the school and its curriculum innovative, compared to the system of education at the time. They also imposed some definitely individual values that are reflected in the very original style of contemporary architecture.

TEACHING AT THE FA-CUT

The contemporary architectural curriculum includes many elements from the Bauhaus programme, such as art classes, including courses in drawing, basic colour theory and modelling. It is worth considering how the FA-CUT curriculum compares with the Bauhaus programme and which elements are still maintained. Undoubtedly, freehand drawing is a necessary item in the present architectural curriculum and its role has increased over the past years, due mainly to the widespread use of the computer as a tool. However, it should be noted that although the computer certainly improves work, it cannot replace the creative process of shaping architectural space.

Among the architect's tools, drawing performs two fundamental tasks: it helps develop precise spatial imagination that is indispensable for the process of creation and is the basic medium of communication and information. Thus, it seems that with the common use of the computer in the design process, the importance of freehand drawing as the basic stimulus of spatial imagination increases at the same time. Therefore, freehand drawing based on the knowledge of the principles of realism, perspective and form construction still remains a staple item on the architectural curriculum and the fundamental tool in the architect's work at the FA-CUT [4] and other schools [5].

As regards teaching the basics of colour theory, it seems that the introduction and definition of the role of visual experiences and the importance of colours in creating architecture are a key aspect in the design process. The competencies of feeling at ease with ensuring the quality of information conveyed, and choosing means of expression, should belong to the necessary resources of skills acquired as a result of the process of studying architecture.

In summarising the artistic aspects of teaching architects, it is possible to note many timeless elements necessary for practising the profession, including the unquestionable expertise on drawing which is not necessarily acquired in the process of studying.

As for teaching design principles at a large university, such as the CUT, it is impossible to create an unambiguous system and way of transferring knowledge. There are several levels and degrees of education, as well as numerous faculty members, which results in a variety of views and educational paths that the students can follow in order to obtain the desired and expected professional competencies. Yet despite the noticeable differences in learning outcomes among particular project units, most students are free to take on challenges and implement their own goals the way it was done at the Bauhaus school.

However, students are sometimes faced with limitations to their designing creativity. On the one hand, they are imposed by conservation rules on historic objects, where the existing values and relics of the past become unsurmountable. On the other hand, there still exist master classes and individual teaching workshops on architectural design principles where strict stylistic frameworks are designed for specific tasks. They restrict all freedom and teach manipulation within the permitted forms and means of expression.

CONCLUSIONS

In conclusion, it ought to be pointed out that although the Bauhaus school existed only for 14 years, its philosophy of education of artists, including architects, continues to inspire the present-day curricula, because the school's founders included in the programme innovative educational paths and a set of appropriate values.

First, the school developed and introduced modern principles of education and avant-garde style. This certainly contributed to the fact that the knowledge about the Bauhaus has been preserved for another 100 years.

Second, the Bauhaus combined the creative ideas and efforts of artists, architects and designers in integrated teams who worked collectively on common tasks, with a view to achieving common goals. This approach makes possible a continuous, interdisciplinary debate on the character and determinants of contemporary art.

Third, the curriculum addressed design challenges of the time, such as improving the aesthetics of mass-produced objects or creating foundations for prefabricated buildings, to meet the demand for affordable housing. This kind of education required practical knowledge of the science of materials and structural engineering. Thus, a set of key principles was developed leading to the specific shape of modernism that originated from the Bauhaus.

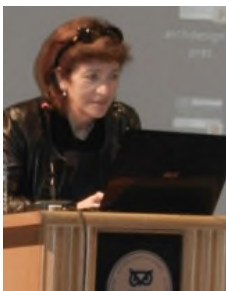
The point deserving special attention concerns the educational efforts aimed at creating functional, prefabricated housing, the implementation of which after World War II considerably contributed to eliminating the effects of war damage. Despite its many downsides, the cheap and fast building method met the demand for housing. It might have been low quality, but it met the housing needs of people who had no alternative shelters. Interestingly, according to statistics, in Poland alone, nearly 12 million people live in some four million flats in prefabricated blocks.

Recent years have brought new challenges concerning the Bauhaus legacy. This time, it is the problem of conservation and reuse of modernist architecture. The issue that features on academic architectural curricula as the key theme of course projects and theoretical classes is recognition of the resources of 20th Century architecture in urban space. Its complex historical and social value, as well as the stylistic features that are sometimes hard to categorise, make many buildings disappear imperceptibly. Therefore, on the one hand, faculty members should teach students how to evaluate this heritage and, on the other hand, develop effective methods of reuse of modernist buildings [6].

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BIOGRAPHY



Maria Jolanta Żychowska at present is a full Professor in the Faculty of Architecture at Cracow University of Technology (FA-CUT), Kraków, Poland. She graduated from the Faculty and obtained her PhD and DSc in 1987 and 1995, respectively. Her professional and research interests include contemporary architecture, especially modernism, conservation of monuments and also the history of stained-glass art. Professor Żychowska is also active as a practising architect, and the scope of her work includes historical object conservation, interior decoration, ecclesiastic architecture, public utility objects and design of stained glass for objects. Prof. Żychowska is the author and co-author of more than 50 architectural projects, including some that involved conservation of historical monuments and objects. Also, she has realised stained-glass projects in four churches in Germany and 10 in Poland.

She has published numerous research articles in peer-refereed journals and conference proceedings; books on the history of modern architecture and conservation of architectural objects; and books on education of freehand drawings. She is a member of a number of national and international professional, and scientific organisations and associations, including *Ars Vitrea Polona*; *ICOMOS - International Council on Monuments and Sites - Poland (Commission on 20th Century)*; and *Docomomo International*, to name a few. Her extramural activities include photography, wherein she has held several public exhibitions.