

SUSTAINABLE EDUCATION IN EARTH BUILDING

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Summary

In Europe, a wide variety of further education courses on building with earth are currently available. They range from simple one day events to longer courses spanning several weeks. To be truly sustainable in the sense of fostering a higher quality of knowledge and expertise and providing the participants with a better standing in the market place, education and training courses need to be developed, organised and embedded within the pre-existing local education and training system for the building trades.

The Dachverband Lehm e.V., the German association of earth builders, has developed and successfully implemented a vocational training course of this kind for craftsmen which leads to qualification as a “Specialist for Building with Earth”. In cooperation with the Chamber of Crafts a certification procedure has been developed that enables participants to found a business as an “earth builder” with the intention of earning money by earth building. Over the past few years, around a hundred participants have passed the examination and many of them have gone on to found their own company based on this certificate.

In recent years, the course has attracted significant interest in Europe and around the world and is at present in the process of being offered on the international market.

Keywords: Earth building, education, vocational training, standards, sustainability, quality management

1 Sustainable Education in Earth building

1.1 Background – the intention of the vocational training course

Since the mid 1980s, the use of earth as building material has experienced a renaissance brought about by several reasons including a renewed interest in ecological and sustainable building. What began as an initiative by a few experts or pioneers in the field has since attracted an increasing number of craftsmen involved in earth building. The “Dachverband Lehm e.V.” was established in 1992 as an association to promote the culture of building with earth and to represent all those interested or working in the field of earth building. At the end of the last century as building with earth became more widespread, a need arose to establish quality criteria and with it a quality label for certified craftsmen trained to work according to these criteria.

As the association predominantly promotes the use of earth as building material, there is a corresponding need to ensure that earth adequately fulfils the needs of consumers, house owners and public institutions. The vocational training to become a “Specialist for Building with Earth” was established to by the Dachverband Lehm e.V. to meet this need.

1.2 Implementation of the vocational training course

In 2001, the pilot phase began with the first course, which was partly financed through state funding. In order for the qualification to be recognised by the Chamber of Crafts, an instrument for the specific statutory regulation of further education by the Chamber of Crafts was developed. This regulation had to be issued by the General Assembly of the Chamber as the responsible body. It describes the necessary admission requirements for taking part in the vocational training course as well as the examination procedure and the resulting qualification.

By way of example, the section describing admission requirements gives an impression of the procedure:

...§ 2
Admission requirements

(1) Admission to the examination is open to those who have successfully completed an apprenticeship examination in a relevant trade. A qualification in one of the following trades is deemed as satisfying the requirements for admission: bricklayer, concrete and reinforced concrete constructor, carpenter, stucco plasterer, oven and air-heating builder, screed layer, tiler, paver and mosaic layer, fountain builder, stonemason and stone sculptor as well as painter and varnishers.

(2) Admission to the course is also available to applicants who have successfully qualified in a recognised training course in the field of construction with at least three years of practical experience or have successfully qualified in another recognised profession followed by at least five years of working experience or those who can provide evidence of six years of relevant practical experience.

(3) Notwithstanding Paragraphs 1 and 2, admission is possible for applicants who through presentation of certificates or other means, can demonstrate to the examining committee that they have accumulated sufficient knowledge, skills and experience to entitle them to participate in the course.

...

Based on the experience of the pilot phase from 2001 to 2003, revisions were made to the vocational training programme and it was implemented in 2005.



Fig. 1 Cover of course handbook

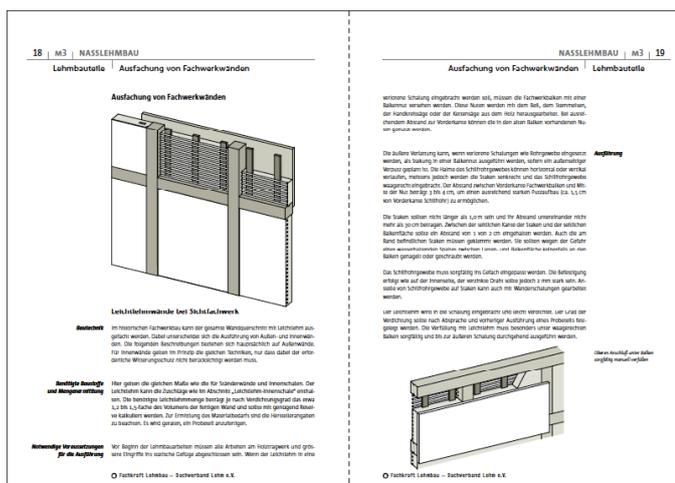


Fig. 2 Sample spread from the course handbook

1.3 Quality management

The admission requirements described above are part of quality management measures aimed at ensuring a high quality of training and expertise. A second aspect of this is the selection of lecturers and assistants.

Lecturers must themselves meet the quality standard of the successful final examination of the course and are appointed by the board of the Dachverband Lehm e.V. for each course. They are committed to training the participants according to the curricula set out in the course handbook, the state of the art and the German building regulations (Lehmbau Regeln).

Course lecturers and those who assist in practical training are typically craftsmen with many years' experience of building with earth building, for example as the proprietor of an earth building company.

A further aspect of quality management is the ongoing improvement of the course handbook for the participants and the lecturer's manual that provides supporting didactic techniques and advice for teaching.

1.4 A personal quality seal for the participants

Where participants successfully pass the final examination, they receive a certificate and a seal that is personalised with a certificate number and DVL seal. Participants can publicly communicate their qualification to clients and through advertising. This represents a significant competitive advantage in the market place over other companies without any quality seal, as feedback from consumers confirms.

1.5 Sustainability of the qualification

The acquisition of recognised certification through the Chamber of Crafts entitles the recipient to register as a craftsman/woman and accords building with earth an equal status to other recognised trades. This course goes a step beyond other existing courses and seminars in the field and represents a major step in improving acceptance of building with earth in the professional building sector. Around a hundred participants have passed the examination and a large number of them have established themselves as an "earth builder"

and earn money from building with earth. This confirms the quality of the vocational training course.

The training course is evaluated by the participants and an advisory panel of experts appointed by the association to ensure and improve the standards of the qualification. Cooperation with vocational training centres for craftsmen and the Chambers of Crafts has been instrumental in embedding the course within the pre-existing system of training and certification in the building trades. This cooperation has also helped make the course affordable for the participants.



Fig. 3 Practical demonstration



Fig. 4 Rammed earth test construction

1.6 Ongoing professional development

Another important means of ensuring the sustainability of the education is an annual meeting of the participants each December. This is an opportunity to communicate new developments in practice and legislation, changes in building regulations, new findings from research and so on. The participants are able to share their experience of daily practice and their dealings with authorities, customers and the market in general. This consolidates and augments the support that is available year-round from our organisation.

1.7 Current development – future prospects

Over the last few years, the course has begun to attract interest and participants from neighbouring European countries as well as colleagues interested in an international English language course. Responding to this rising demand, the Dachverband Lehm e.V. is pleased to announce that the vocational training course will take place in English for the first time in September 2010 in Biberach, Germany.

References

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- [3] <http://www.dachverband-lehm.de/specialist-for-building-with-earth/> and <http://www.dachverband-lehm.de/fachkraft-lehm bau/>