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# Exploring Design Literacy in Socially Responsible Design Education

## A Rural Planning and Design Course in Perspective

### **ABSTRACT**

*Students majoring in design have the important responsibility of implementing the Chinese national rural revitalisation strategy in their future careers. The Rural Planning and Design course at Shandong University of Art & Design (SUAD) is a contributor to the cultivation of students' quality of responsibility. The design of this course adheres to the national strategy and closely focuses on the cultivation of these responsibilities, which are integrated into the course syllabus and activities. Students in this course are required to go into the countryside, conduct in-depth investigations to determine what social problems the people face and then think independently, cooperate with each other, create and propose innovative design strategies to solve the problems. Multidisciplinary theoretical knowledge is integrated into the course to promote students' design literacy, including collaborative innovation, critical thinking, communication and research skills. This article introduces this course in detail and uses it as a practical case through which to explore what kind of design literacy is needed, how to cultivate design literacy and its impacts on various practical challenges.*

**Keywords:** Rural Design, Social Responsibility, Design Literacy

### **INTRODUCTION**

Design plays a key role in improving and organising our lives and determining what will happen in the future (Fuad-Luke, 2009). In *Design for the Real World*, Papanek (1971) criticised contemporary design practices for being harmful to the environment and out of touch with the needs and lives of ordinary people. Papanek advocated fostering social responsibility and design ethics among designers. Faced with the complex problem of reforming an unsustainability society (Fry, 2009), change through design and design education has become an ethical issue. He also suggested to incorporate design into any curriculum to drive change by exploring situations and satisfying identified issues.

What kind of design literacy should design education promote to meet the challenges of a future of unfettered economic growth, pollution and inequality? Lutnæs (2019, 2020, 2021) explored

what constitutes responsible design literacy education and constructed a framework for the cultivation of design literacy that consists of the following four narratives:

- a) raising awareness through making
- b) building capacity for change and civic engagement
- c) addressing the complexity of real-world problems
- d) participating in the design process

The definitions for the four narratives described by Lutnæs are provided below.

#### **(a) Raising awareness through making**

Through making, students learn how to transform materials and use visual elements to express and advance ideas for the future. This allows them to connect with both physical reality and concepts to express meaning. The inclusion of making in design literacy courses, with an emphasis on technical literacy, leads students to focus on the multiple contexts of materiality and the social environmental impacts of man-made things.

#### **(b) Building capacity for change and civic engagement**

Empowering students individually is a common goal of design literacy at different levels. Such capacity encourages more responsible civic engagement, where students question and become agents of reflection and change in the world.

#### **(c) Addressing the complexity of real-world problems**

The desired ability of design education is to address the complexity of real-world problems, which is a key feature of design literacy. Students accept complexity and explore solutions that contribute to a better future.

#### **(d) Participating in the design process**

Students are encouraged to use the tools of designers to innovate, participate in the design process and take on more socio-ecological responsibility. The design process also provides a way to facilitate learning and empower students to be creative.

In this paper, I introduce the Rural Planning and Design course, which is aimed at Chinese undergraduate students. I will use the course to map out the four design literacy narratives described above and explore what level of design literacy was achieved in the course as well as how it was cultivated.

### **THE RURAL PLANNING AND DESIGN COURSE**

The Rural Planning and Design course was launched in 2018. It was developed to address the talent shortage and activities related to design planning. The course's inauguration also took into consideration the growing number of projects related to rural development in China. Most colleges and universities in China –especially those that focus on architecture, planning, landscape and agriculture – have offered students rural planning and design courses. These courses aim to help students develop a comprehensive understanding of the development history of rural areas and rural planning and to understand the design objects as well as the main types and methods of rural planning. This course plays an indispensable role in training qualified rural planners. The teaching objectives and syllabus of the course are determined by the National Higher Education Urban Planning Professional Steering Committee. The next section describes the project students undertake within the course as well as its context.

### **Social context and vision of the project**

Although most of China's population lives in urban areas – about 900 million people (66%), forming the largest city cluster in the world – 400 million people (34%) still live in rural areas (Wang, 2017). Therefore, for a long time, rural areas will still be the space where most people live in China. As observed in the development experiences of other countries, rural population decline is a common phenomenon that results from urbanisation and modernisation. As young people leave for urban areas, a substantial reduction in the rural population results in rural hollowing, ageing and a reduction of agricultural production. The perceived backwardness of the countryside is in sharp contrast to the prosperity of the city (Wang, 2017).

In 2018, the Central Committee and the State Council (CPC) released a package of policies charting the roadmap for rural revitalisation, which it defined as an overall improvement of rural development based on economic development, including rural culture, governance, people's livelihoods and ecology. The general policy aims are thriving businesses, pleasant living environments, social etiquette and civility, effective governance and prosperity (Wang & Zhuo, 2018). Rural construction is an important part of implementing the strategy of rural revitalisation and of the country's modernisation efforts. In China's rural areas, there is a low level of agricultural modernisation and a shortage of all kinds of human resources, especially technical personnel. It is the common expectation and responsibility of people to take the road to rural development with Chinese characteristics, which is also an important design direction and theme that designers need to face now and in the future.

As an important guideline for the implementation of rural revitalisation, village planning and design assume extremely important missions and tasks. The working principles include inheriting and protecting traditional village dwellings and local culture, highlighting regional and rural characteristics, and preserving rural features with local characteristics and local flavours to create a unique, modern version of the beautiful countryside.

### **Basic information about the course**

In 2018, the Rural Planning and Design course was introduced as a compulsory course in the third year in the undergraduate degree delivered by the College of Architecture and Landscape Architecture at Shandong University of Art & Design (SUAD). The course is delivered over eight weeks, which includes two weeks of theory teaching and six weeks of design practice (Table 1). Altogether, 96 hours are allocated for course activities, of which 24 hours are guided by the academic staff, while the rest of the time is allocated for the student self-learning.

According to the syllabus, this course is practical and comprehensive, as it discusses technology, economy and society while considering various factors such as population, housing, infrastructure, ecology, the environment, history and culture.

The learning objectives follow the suggestions of the National Higher Education Urban Planning Professional Steering Committee: On the basis of understanding the background of rural revitalisation, students are required to be familiar with the content and preparation requirements of rural planning and design; to master current data collection methods, screening and identification; to be able to make independent decisions and analysis, develop industrial and spatial development plans and carry out implement programmes; to understand content relevant to rural planning and design; to master relevant technical and economic indicators and calculation methods; and to have the theoretical foundation and knowledge required for organising and participating in tasks such as design, research and reporting.

**TABLE 1.** Course time allocation and schedule (June–July).

	WEEKS	IN-CLASS TASKS	ASSIGNMENTS
Course time allocation and schedule	Week 1	Theoretical lecture on the theme of rural composition and design content	Students must individually describe the countryside with which they are familiar
	Week 2	Theoretical lecture on the theme of rural design ideas and methods	Students must individually summarise relevant laws, regulations, local documents, etc.
	Week 3	Research process, content, grouping and interpretation of tasks	Students must prepare research questionnaires, etc., as a group
	Weeks 4–8 (Summer practice)	Research Report & planning design	Research the countryside and administer the survey (group work)
			Analyse collected survey data and complete the case analysis (group work) Plan village development (including industrial development strategy, spatial development planning, facility planning, etc.)
Design a habitat environment (including public space design, residential architecture design, environmental design, etc.) Design (individual)			

## COURSE TEACHING SYSTEM

### Bridging related courses

In the development of rural areas, there is an urgent need for overall planning and design, including the design of farmers' residence, the development of agricultural economy, and the protection of rural ecological environment. Therefore, the curriculum of Rural Planning and Design needs to cultivate students' comprehensive ability in terms of diversified knowledge reserve, skill mastery, innovative thinking and humanistic care, to ensure that they can effectively support the development needs of industry and society. Combined with the basic requirements of the educational guidance department for the course, the College of Architecture and Landscape Architecture at SUAD scheduled this course in the second semester (May–June) of the third year of the undergraduate degree.

Since the Rural Planning and Design course involves analysis of population demand for living conditions, industrial economy, geographical environments, students need to synthesise the knowledge and abilities they acquired in previous years. Before enrolling in this course, students will have completed first- and second-year courses – such as Principles of Architectural Design, Principles of Urban and Rural Planning, Urban Sociology, Geographic Information Systems, and Social Survey Methods – which relate to this course to form a progressive teaching cycle of 'basic-to-advanced application'.

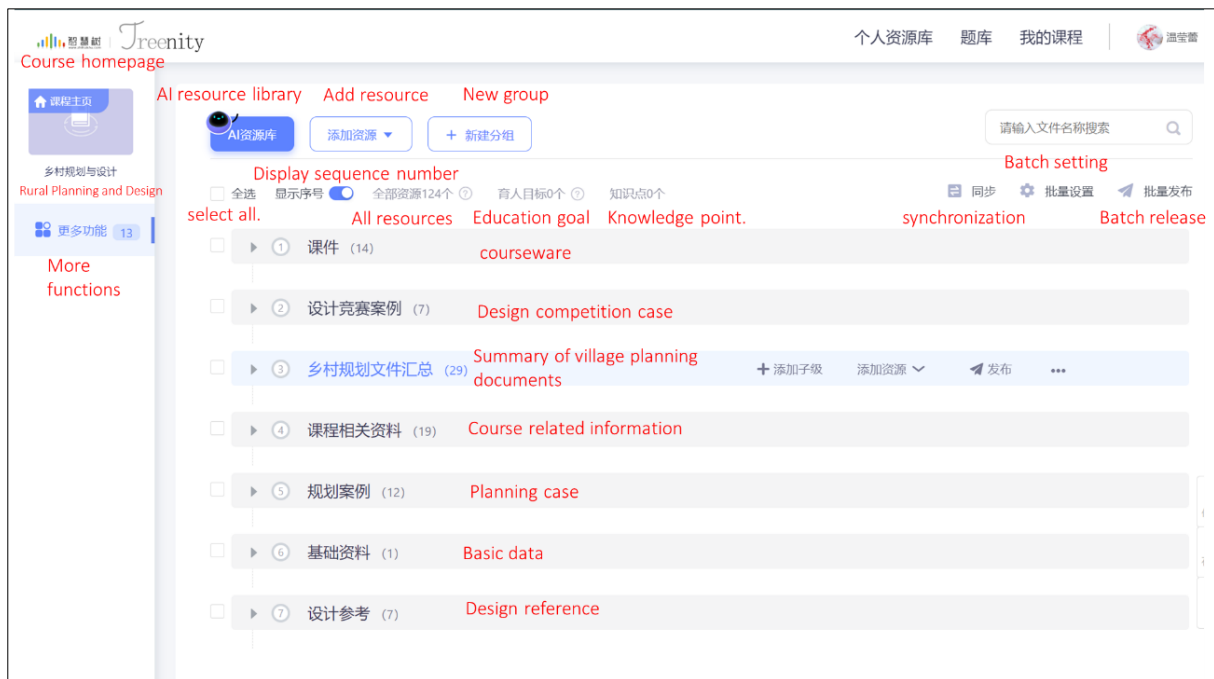
First-year courses focus on consolidating basic design and cartography knowledge, while second-year courses expand students' knowledge of architectural design, the history of spatial development and geography. The first semester of the third year offers courses on urban design and road traffic. A series of pre-requisite courses provides students with the necessary foundation of knowledge framework for the Rural Planning and Design course, which mainly focuses on cultivating students' comprehensive ability and covers the fields of rural spatial environment, economic society, natural ecology and folk culture. This course also helps students integrate design with other areas, such as community planning and design, in their fourth year.

In the following sections, I outline the Rural Planning and Design course's teaching delivery and content as well as the research areas in which students must engage.

### Multidisciplinary integration of theoretical teaching

During theoretical lectures, the academic staff (of which I am a part) uses many visual examples of excellent villages, multimedia and online teaching resources to make the lectures intuitive and interesting and to stimulate students’ learning enthusiasm. We also invite experts and scholars in the industry to give lectures and front-line designers from design organisations to discuss design solutions.

Theoretical lectures are delivered via mixed methods – that is, in classroom lectures and online. Online teaching is carried out with the aid of digital teaching tools, including the Tencent Meeting platform and the Treenity platform (see Figure 1). By providing students with theoretical course content and design cases on their mobile phones, they can learn at any time. Classes take place twice a week with face-to-face discussions (see Figure 2).



**FIGURE 1.** An example of theoretical course content and design cases on the Treenity platform. The picture above reflects the various learning resources provided by the teacher for this course to enable students to access theoretical course content at any time.



**FIGURE 2.** Face-to-face class in the Rural Planning and Design course (delivered by the author)

Table 2 shows the theoretical course content, including the three major sections of rural basics, planning and design and habitat design. The basics include the characteristics of the countryside, the development history of the countryside and the differences between countryside planning and urban design. The second lecture "Rural planning and design" mainly describes the main content of design and the key points of different types of rural design. Habitat design covers the integration of spatial design, architectural design, ecological landscape, tourism planning and the preservation and inheritance of rural cultural characteristics, including rural living space patterns, rural architecture, infrastructure and planting.

**TABLE 2.** Theoretical teaching content of the Rural Planning and Design course.

THEORETICAL COURSE CONTENT	MAIN CHAPTER	MAIN CONTENT
Countryside Planning and Design Knowledge	The first lecture: "Countryside Basic Knowledge"	Rural planning characteristics (45 min)
		History of rural development (45 min)
		Differences between rural planning and urban planning (45 min)
	The second lecture: "Rural Planning and Design"	The main content of rural planning( living conditions, industrial economy, geographical environments)
		Different types of rural planning (45 min)
		Living space model (45 min)
	The third lecture: "Rural Habitat Construction and Development"	Rural architecture (45 min)
		Rural infrastructure (45 min)
		Native plant matching (45 min)

In addition to the two weeks of theoretical study, students should also learn the relevant laws and regulations on villagers' housing, infrastructure and environmental protection, and make detailed plans for their research work, such as the 'Guidelines for the Preparation of Village Planning'(Unified formulation by government departments). These materials are provided by teachers and functional

organisations related to the rural location to be investigated (e.g. the Culture and Tourism Bureau, the Nature and Resources Bureau and the Transportation Bureau), while some are accessed through the government website. This content is generally made available to students to learn independently outside the classroom.

### Systematic and comprehensive practical teaching

In the process of design practice, rural research and design comprises the main content. According to the requirements of the course which must be completed on time, through contact between the school and the local government or the recommendations of the design agency, the academic staff will select the villages in advance according to the following criteria: i) those with a population of about 1,000 people and an area of 2–3 km<sup>2</sup> (so that students can traverse the outer boundary of the village within 2 hours, do a thorough understanding and conduct detailed research according to the needs of the design), ii) those with convenient transportation or a direct public transportation system (for students' convenience while conducting research), and iii) those that are prominent and that have outstanding natural resources, a rich folk culture and a foundation for rural industry development (to facilitate students' investigations and excavations of local characteristics from different ideas). In the process of precise positioning and design, students will deeply explore the real needs of villages and villagers and propose corresponding design schemes.

The research content is comprehensive and based on specific country sites. Table 3 shows the industry standard document 'Guidelines for the Preparation of Village Planning' (developed by the academic staff), which stipulates the basic research content, including economic surveys, villagers and the ecological environment.

TABLE 3. Rural research content.

MAJOR RESEARCH CATEGORY	INTERMEDIATE RESEARCH CATEGORY	SPECIFIC CONTENT
Social system	Countryside history	Spatial evolution trajectory of the administrative division of villages in different periods
	Population composition and mobility	Village demographics (including age, social class and household composition)
Economical system	Composition of three industries	Type and scale of the village's agriculture; size and value of village enterprises
	Collective income of villages	The main sources of the village's collective income and household income
Cultural system	Tangible cultural heritage	Location and levels of historical buildings, ancient bridges, ancient wells, ancient tombs, etc.
	Intangible cultural heritage	Village customs, festivals, traditional cuisine, rituals, folklore, oral lore, celebrities, craftsmanship, etc.
Natural system	Natural conditions	The topography, mountain and river systems, forest vegetation and climate upon which the village depends
	Special habitats	Availability of animal and plant habitats
Built environment	Village land use	Land category, area and spatial distribution
	Roads and traffic	Road names, grades, locations, section forms and widths, and quality; parking lot locations and areas; bridge forms and locations
	Infrastructure	Current status, location and scale of the village's water supply, sewage, electricity, communications, sanitation and other infrastructure as well as public toilets and garbage collection facilities
	Public service facilities	Location and scale of village committees, elementary schools, kindergartens, supermarkets, convenience stores, food markets, etc.
	Village greenery	Greening system species and current status of greening of main roads and distribution of old and valuable trees
	Villagers' residences	Housing forms, building quality, building heights and building levels
	Public spaces	The square and landscape quality

The students' research methods include on-site interviews with villagers, questionnaires and photography; Conduct case studies and group discussions among students. The interviewees include local villagers, non-locals travelling to the village to invest in development or tourism, government workers, etc. The teacher will provide a basic research form, students can add questions to the survey template based on the specific situation of the village or the theme of their research.

As the research project stage covers a lot of content, the course leader decided that student teams should complete tasks related to this project stage. Thus, the class is divided into four project teams of five to six students. Students are instructed that each group should work together to discuss and formulate the survey plan, survey content and questionnaire form. They also need to have a clear division of labour, such as recording interviews, taking photos and filling out questionnaires. Each student has their own main responsibility. Finally, the team members collect and analyse the data and produce the report.

**TABLE 4.** Division of tasks.

ACTIVITIES	CLASS	TEAMS	INDIVIDUAL STUDENT
Research	x		
Formulate the survey plan		x	
Administer the survey	x		
Specific survey (e.g. recording interviews, taking photos and filling out questionnaires)			x
Analyse the survey		x	
Research Report		x	
Overall report	x		

The investigation and research study usually takes a week to complete. During this period, teachers and students meet every two days, and each group makes a research report. A survey report with practical data and theoretical analysis provides each student with a rigorous, systematic, personal experience and rational analysis of the course experience and lays a solid foundation for their subsequent design.

The data at this stage consists of the records and analysis reports created during the investigation stage – including interview recordings, photos, charts and drawings – which are uploaded to the course assignments on the Treenity platform in the specific project stages as an interim achievement. Figures 3 and 4 illustrate examples of students' work. Figure 3 is an example of a mind map that was developed by one of the student groups. This student group used the mind map to plan the project's research content, which was used to guide the students' research. The image shows the economic profile (left) and the research outline (right).



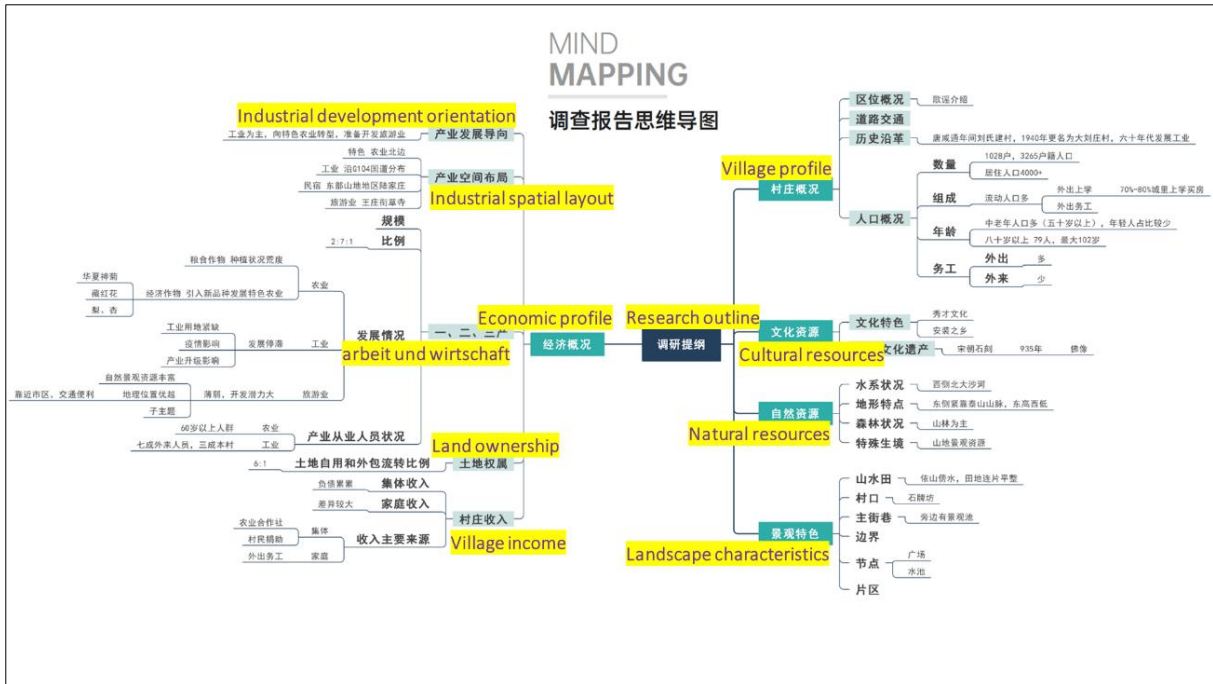


FIGURE 3. A mind map developed by one of the student groups.

### Professional innovation achievement system

The outcomes of this course include the following assignments: a study status report (Figure 4), development planning, village area planning and thematic studies (Figure 5) and spatial planning of settlements (Figure 6).

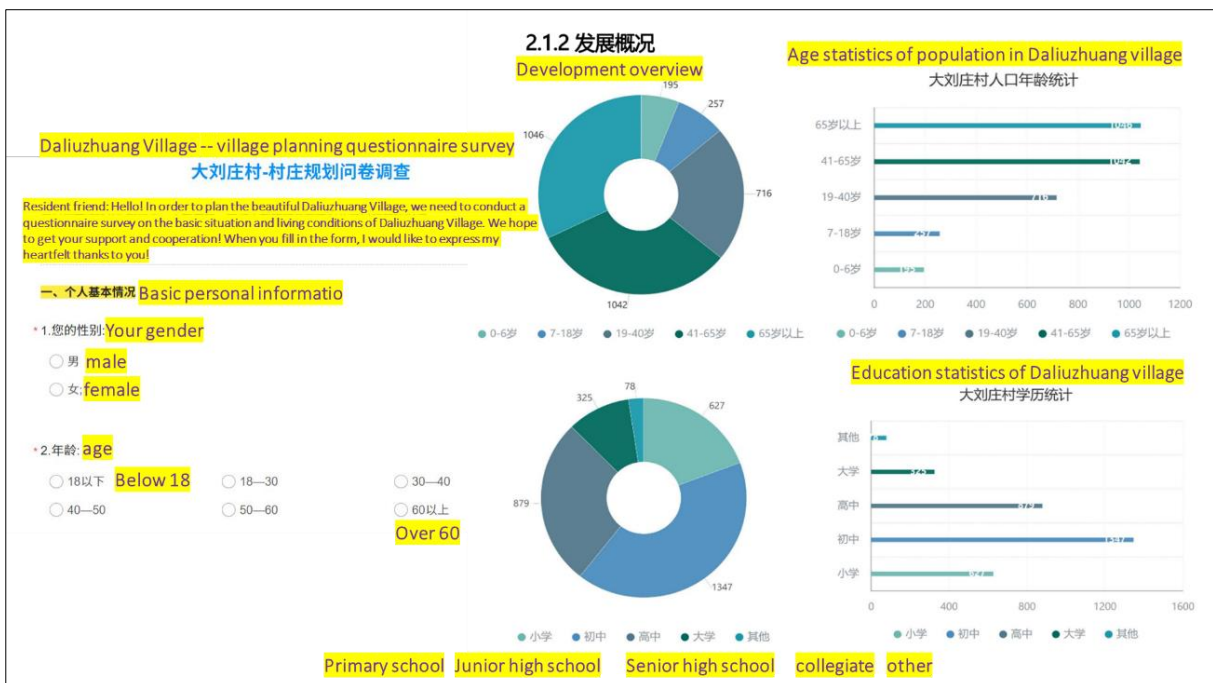


FIGURE 4. Analysis of one of the survey questions (the population composition of the village). The top doughnut chart indicates the proportion of villagers of different ages. The bottom doughnut chart shows the proportion of villagers with different levels of education.

### Research report section

In the research report section, students conduct more in-depth research on the selected village at various levels, including regional and local, as well as the natural, economic, industrial, demographic, collective organisational, social, ecological, construction, cultural and other characteristics of the village. Students are required to summarise the current characteristics of the village, identify the main problems in the development of the village and the resources that can be utilised, as well as how they can be exploited, and write a research report on the current situation. The research report should be no less than 5,000 words, have an A4 vertical layout and include illustrations.

Each student must upload their report to the Treenity platform. By selecting a specific student's submission, the contents of the report are displayed (see Figure 5 for an example).



FIGURE 5. Example of two reports as shown on the Treenity platform. The image on the left shows the route of the student's research expedition. The figure on the right shows a photographic analysis of a village's street, landscaping, public facilities and other features.

### Planning and design section

In the planning and design section, students are asked to propose development concepts, development goals and implementation strategies suitable for the local area, including the selection of leading industries and the arrangement of their implementation paths, based on the local development resources and the main problems faced, taking into account national strategies and the characteristics of local industries, ecological conditions, historical and cultural resource conditions, new villagers and industrial organisations. Project teams are also required to conduct a concept analysis.

Design should take into account the real needs, which are often accompanied by multiple interests. Students face many questions, such as how do we choose 'developing more houses for more economic benefits, or maintaining a more ecological environment?', 'Is the public space of the village mainly for local villagers or for foreign visitors to show more agricultural products?' The students include issues such as economic development, ecological balance and the maintenance of social life in their final design concepts. These design concepts concern not only the technical expression but also the integration of the problems to be solved and the actual needs of the villages into the design solution. A research report is subsequently produced by small teams of students proposing strategic solutions for different types of villages. Some examples of these are described below.

### Report focusing on agricultural development

Students investigate the characteristics of the agriculture practiced in the village they are studying, including the products and categories of plants; the quantity, types and distribution of local agricultural products; local agricultural production levels; and the needs of local agricultural practitioners. Students combine science and technology with farming characteristics through the design and analysis of specific cases of similar agricultural and sideline product processing according to the current status of the local agriculture. They propose the development of regional and creative precision agriculture models, including agricultural product processing technology, service logistics, packaging and brand design, and business model innovation, focusing in transferring the original offline sales mode to a variety of online precision agriculture sales channels. Students solve the current problems of enterprises through innovation from a design perspective, integrate resources, enhance the industrial structure and achieve industrial upgrading in the rural market.

For example, the design of Sanshangou village includes the characteristic planting of ginger. The students studied the rotation and intercropping of ginger and wheat and put forward an optimised planting scheme (see Figure 6).

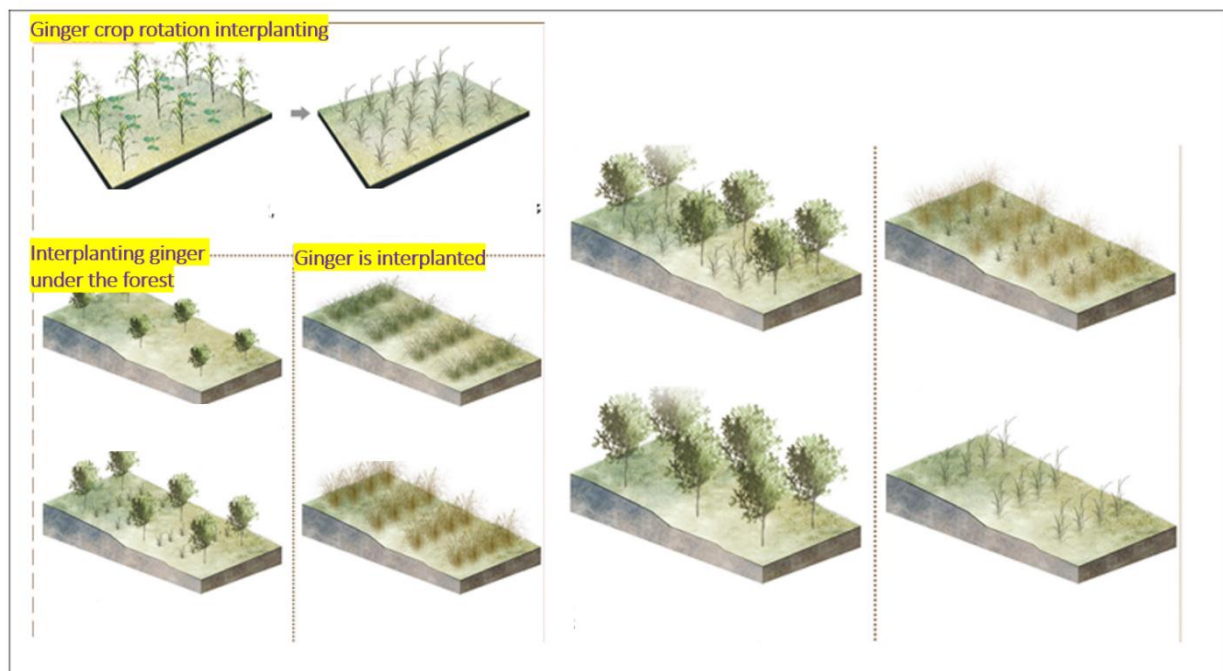


FIGURE 6. Production and planting plan proposed by students.

### Report focusing on the integration of culture and tourism

A certain group of students give full play to their creativity in the process of mining and protecting rural resources, the integration of cultural media and business forms, tourism services and scene construction as well as designing rural tourism routes, tourism products, tourist accommodations and tourism commodities, integrating elements such as mountains and rivers into them, reflecting the unique characteristics of the rural natural resources. They use internet technology to design an intelligent navigation system of tourism destinations and inject scientific and technological elements into rural development. They design homestay residences, visitor centres, rural cultural squares and other projects, among other factors, and promote the perfection of rural landscape quality and tourism services.

In the culture and tourism design process for Sanshangou village, students put forward a series of ginger products to build and put forward detailed plans for planting and processing, commodity

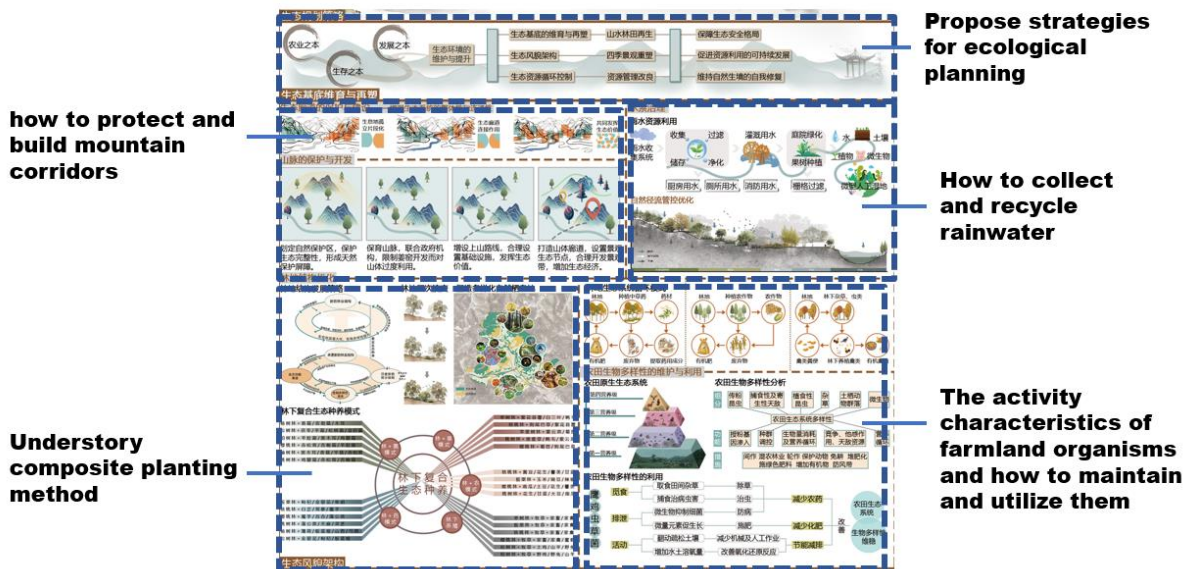
design, and accommodation and catering, providing a new approach to the coordinated development of culture, tourism and industry in the village (Table 5).

**TABLE 5.** Design path for the coordinated development of culture, tourism and industry.

INTEGRATION OF THREE INDUSTRIES	PLANTING AND BUILDING PROCESS	DERIVATIVE TOURISM ACTIVITIES
Ginger cultivation	Floral mix	Picking experiences Terraces visits Planting experiences
	Poultry mix	
	Herb mix	
	Crop mix	
Ginger processing	Ginger primary processing	Homemade/do-it-yourself (DIY) products Product processing experiences Processing plant visits
	Ginger deep processing	
	Ginger preservation	
Ginger sale	Snacks	Speciality supermarkets Speciality dining Healthcare Chinese medicine workshops Themed B&Bs
	Condiments	
	Healthcare products	
	Handicrafts	
	Chinese herbs	
	Catering	
	Daily necessities	

**Report focusing ecology and technology**

Faced with a future of constant technological innovation, rural areas will need to build new innovative models of integrated development of production, life and ecology. At the technical level, interdisciplinary research findings (e.g. from biotechnology, environmental science and information management) need to be used to solve complex problems. At the design level, it is necessary to use the systematic thinking of sustainable design, big data models and environmental design to collaboratively design cities, villages, nature and people.



**FIGURE 7.** Ecological plan proposed by a group of students.

These group students also need to learn about agriculture and ecology. They proposed regeneration strategies from the perspective of ecology and the landscape for the mountains, rivers, forests and fields in the countryside. They tried to find a new approach to mountain protection, woodland optimisation,

water system management and proposed strategies to ensure ecological security, promote the sustainable development of resources, maintain the self-restoration of natural habitats. They completed the design scheme of integrated development of production, living and ecology (Figure 7).

### Rural living environments section

With the progress of the course, all students entered the special design stage. According to the different research focuses of the students in the previous stage, they choose a topic on which to carry out special research for the whole village. The selected thematic directions include village industry, population change, public space and public facilities, rural landscape design and infrastructure.

For example, some students focused on the environment of human settlements. In their view, the old buildings and traditional street environments in the countryside reflected the village's characteristics. The layouts of some newly built buildings were chaotic, and the built environment lacked harmony with the natural environment. Therefore, based on the concept of space design, they carried out a series of design on street space, courtyard space, riverside space and communication space. The design content included the layouts of rural residences and streets, the transformation of quadrangle courtyards into combined courtyards, and the hydrophilic and ecological design of riverside space. The shaping of open, efficient and beautiful communication space meets the multiple needs of villagers and outsiders, such as chess and cards, sports, tea drinking, recreation (see Figure 8).

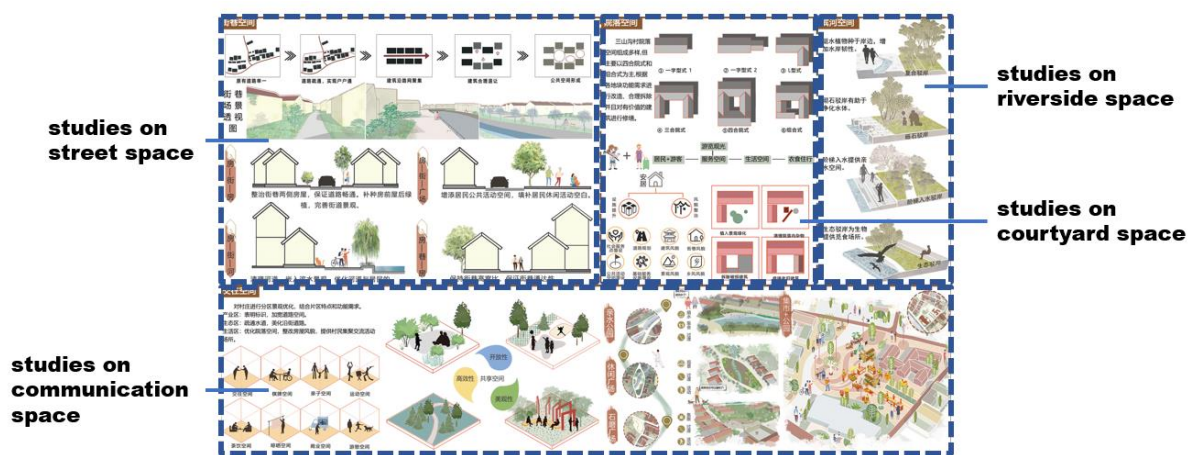


FIGURE 8. Students' thematic design of rural space design (rural residences and streets).

By interviewing villagers, another group of students learned that many of them were dissatisfied with the drainage, ground pavement and cut-offs of the current streets and alleys. Therefore, these students selected the creation of rural street and alley landscapes in hilly terrain as the focus of their research. They then conducted detailed research on the layout of streets, road materials, garbage disposal, topographical changes and so on in the village. They selected the representative nodes for detail design. The content included street section design, matching of native plants at nodes, scale control, viewpoints from the top of a hill and from the bottom, etc. (Figure 9).

The design also included a series of drawings, including a location analysis diagram, Strength, Weakness, Opportunities and Threats (SWOT) analysis diagram, status quo diagram, development planning diagram and key node design diagram. The drawings need to meet the specification requirements and be readable. The effect drawings, aerial views and model drawings can highlight according to the needs expressed by the villagers.

Considering that many of the recipients of the results are villagers who have not received design education, the students designed a multiform visualisation of the results, which logically and clearly presents the design concepts and allows people to visually observe and consider the abstract concepts.

This helped villagers hear and understand the prospect of village development and enabled them to participate together with designer to discuss the proposed design solutions (see Figure 10).

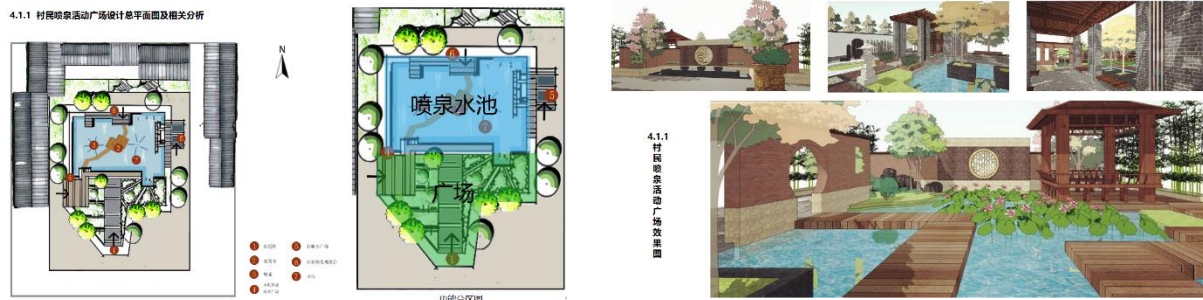


FIGURE 9. Detail (pond) design created by students.

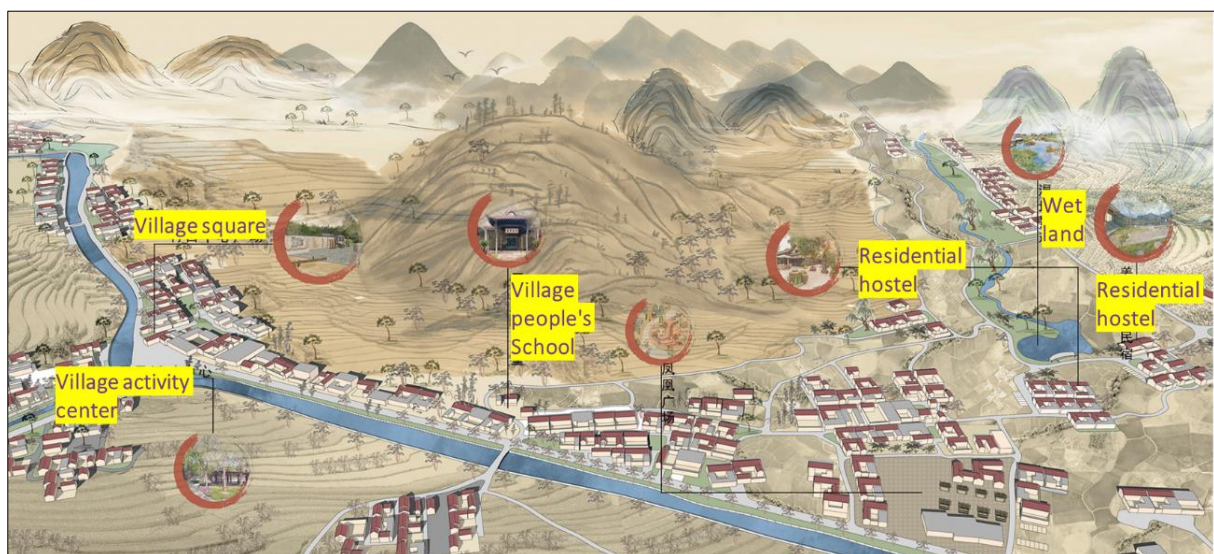


FIGURE 10. Visual and intuitive bird's-eye view of Sanshangou village.

### Comprehensive and diversified evaluation system

The assessment and evaluation system of students in this course adopts diversified methods, fully respects the individual differences of students, stimulates the potential of students and ensures the objectivity and comprehensiveness of the assessment of learning outcomes. Three items are evaluated: the field research report, the design results and the field survey. The research report accounts for 20 points, the design results account for 60 points and field survey accounts for 20 points. The final score which is added by each sub-item is 100 points. A score above 85 is considered excellent, a score of 70–84 is considered good, a score of 60–69 is considered a pass and a score below 60 is considered a fail (in which case the course has to be retaken the following year).

Assessments are carried out throughout the course. During the project, teachers give feedback on the research reports and design results submitted by students at different stages. Feedback is designed to help students identify and solve problems in each key step in a timely manner and to avoid large deviations from project objectives. In the final stage of the result defence, the course teacher invites engineers from off-campus design institutions, cadres and representatives from the village where the project was carried out to form a defence team to participate in the evaluation. The steps of achievement defence include four aspects: report, question, answer and comment. This process tests not only students' theoretical knowledge but also their innovative thinking, cooperation and mutual assistance, and artistic language expression abilities.

Here is how the assessments works: Each group is looked upon as a unit and report the design results together. The group members cooperate with each other to complete the design together. Each group report the results. If the review team encounters a misunderstanding, they can discuss it with the students to reach a consensus. Finally, the defence team comments on the achievements and offers suggestions to encourage students to think about more feasible schemes and make improvements to the design result.

### **REFLECTIONS BASED ON STUDENT FEEDBACK**

Course feedback is usually attached to the end of the research report, including the gains and questions during the research process. This course feedback indicates whether the course helped the student acquire the theoretical foundation and knowledge reserve required to fulfil the practical aspects of rural revitalisation work. It also indicates whether the student successfully developed their design thinking through a detailed investigation of problem requirements and scientific and rigorous design promotion. It also stimulates students' strong sense of responsibility for design.

The feedback of one specific student indicates that students (fictive names) found it valuable to undertake the project in the countryside, as it enabled them to better articulate their vision of the possible future of the countryside:

[...] people live in less material conditions than in the city, but they are very humane, and the collective consciousness is incomparable to the general community. In my opinion, the primary industry is the industry that cannot be abandoned in the countryside and will be bought to smart farming in the future; it is the industry that will be marginalised, looking for village characteristics and developing cultural tourism. Just like the cultural legends such as Shixiu Mountain in Daliuzhuang and the traces left by the literati. In Lujiazhuang, the governmental domain and other third industries, such as cultural tourism and recreation, are not exempted from being a good revitalisation method. (Yiming Huang)

They also said that the project provided them with a better awareness of the importance of collaboration:

Individuals are limited in their ability, and the only way to get twice the result with half the effort is to work together as a team. The research process is clearly divided: there are interviews, there are data recordings and there are photos and recordings. The close cooperation made the research activities successful and perfect, which made me feel the spirit and charm of the team, improved my ability to adapt to the team and helped me understand the importance of the team. (Dong Zhu)

Students' feedback also indicated that the project provided them with valuable communication experience:

I tried to let go of myself in the process of talking with local villagers, quickly adapt to the context and tone of speech. I think it is important to talk more and try to use my brain and speak boldly to improve my communication skills. (Qingchun Miao)

Some students acquired a new understanding of design concepts, methods and steps:

[...] conventional design is to express the designer's ideas within the framework of large specifications, while rural design is more like seeking the optimal solution within the framework of various documents and requirements. This requires a systematic and complete understanding of the entire planning system and a longer-term vision. Planning and design, on the other hand, is the coordination of the whole chain, which requires sufficient information support and the designer's ability to integrate and to be able to extract and reconnect the information in a messy and complex way to form the final solution. (Zixuan Zhang)

Some students realised that, as designers, they need to increase their sense of social responsibility:

I hope that the solution can take into account the spirit of innovation while ensuring feasibility. If we want the countryside to truly integrate with the city and the wider social environment, the solution must be scalable and applicable. Otherwise, it will be difficult to obtain long-term benefits from closed-loop development, and I know there is a long way to go. (Dawei Wang)

Considering the course learning objectives in relation to students' learning outcomes, the following areas of the course may need to be modified in future course iterations. Teamwork is a very important learning goal and it is important to evaluate teamwork. In the next course design, we will specifically propose content that promotes teamwork, including how to form a team more efficiently and reasonably and how to evaluate each team member's work, such as how to define the proportion of each team member's contribution rate and grade assessment.

### **LINKING COURSE LEARNING ACTIVITIES WITH DESIGN LITERACY**

Below, I discuss how the students' learning activities facilitate each of the design literacy narratives developed by Lutnæs (2019, 2020, 2021).

#### **(a) Raising awareness through making**

Students recognise the value of design, which can increase villages' economic, ecological and environmental sustainability. For example, some students consider the development trend and implementation strategy of smart agriculture in rural areas. Some students' designs actively improved the ecological environment of the countryside, and they arranged the drainage pipe network according to the characteristics of the terrain. Some students chose paving materials with strong water permeability, combined with native tree species, to arrange the villagers' public activity space. Some students thought about how to recycle and use rainwater. In this way, students improved the environmental quality of the countryside through local design and promoted interactions between villagers. By using and transforming materials to externalise and develop ideas, they improved their understanding of the socio-environmental impact of human-made artefacts and the value of long-lasting products.

#### **(b) Encouraging more responsible civic engagement**

This course project provides students with the tools to question, rethink and change the world around them, which develops their agency and increases responsible civic engagement. The course project promotes dialogue and participation in design education among stakeholders and the communication and participation of a wider audience of design literacy. After the final presentation, the course team received feedback from the villagers. They said that they saw the students' work, the younger generation's analysis and solution to the village, and that it was refreshing. Many design schemes were frequently referenced in the construction of the village, and the students' multidisciplinary technical research and mutual cooperation also broadened their thinking, encouraging them to continue to expand their abilities in multiple disciplines.

#### **(c) Addressing the complexity of real-world problems**

In this project, students played a major role in identifying problems and proposing solutions to them, directly engaging with the socio-ecological consequences of their proposed solutions and prioritising which situations are worth changing. In their design, students solve different real-world problems and face value conflicts (e.g. 'How can the conflicts between ecological environmental protection and economic development be reconciled?'). Student feedback shows that students display a deep concern for nature and a concern for humanity (Dart & Tavin, 2010, p. 241). The design ideas of the students carry with them reflections on the ethics of design, and they delve into broader philosophical questions, such as what constitutes a good human life, especially how people and nature can better live together in harmony. They create visions and actions for a more sustainable way of life and gradually establish and consolidate a sense of social responsibility.



#### **(d) Adopting the tools of designers to innovate, participate in the design process and take on more socio-ecological responsibility**

Students face real-world problems and solve complex tasks: how to design an optimal solution given certain ecological, social, economic and other factors. The aim of the project is not simply to design a product but also to explore, reflect, break routine, be aware of one's social responsibility, put forward ecological protection strategy, meet the different needs of various stakeholders and identify the problem. Students must act, propose strategies, and continuously innovate and participate in the design process to create a scientific, rational and sustainable vision for the future. First, students established in-depth contact with the real physical world, they got to know the project through aerial photography and field research, they gained first-hand information on what kind of spatial experience is needed inside and outside a building and how to choose energy-saving and environmentally friendly design methods according to actual local conditions. Second, students innovated the design, completed the design results through the process of concept generation, scheme review, improvement based on feedback, digital presentation, etc., and evaluated the feasibility and sustainability of their designs using various systems.

#### **FINAL COMMENTS**

The project reported on in this paper is strictly from the perspective of teachers and reviewed and analysed from the perspective of Lutnæs's (2019, 2020, 2021) design literacy cultivation framework. The discourse of this course can be used as an example to illustrate how the methodical framework of design literacy cultivation can guide educational practice.

Overall, the curriculum can be closely linked to societal needs and provide a sense of value and relevance to student learning outcomes. In the process of developing design literacy, students become aware of the complexity of real-world problems, have the opportunity to learn about and balance theoretical learning and social needs and understand how any design concept can responsibly meet real-world problems. This learning and training process embodies all the expectations of the future designer – multidisciplinary design skills, collaborative work, and critical and sustainable innovation – while enabling students to continuously expand their horizons (with a sense of social responsibility, service design and systems analysis) and to provide design solutions that are fully prepared for future work practices. Students are not only designers; they are also participants in everyday life, and they need to fundamentally consider the needs of human beings and the value of design. In the future, we will continue to explore how to expand the audience of design literacy.

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## REFERENCES

- Chen, Q. (2018). *Xiāng cūn guī huà yǔ shè jì* [Rural planning and design]. China Architecture & Building Press.
- Cross, N. (1982). Designerly ways of knowing. *Design Studies*, 3(4), 221–227. [https://doi.org/10.1016/0142-694X\(82\)90040-0](https://doi.org/10.1016/0142-694X(82)90040-0)
- Darts, D., & Tavin, K. (2010). Global capitalism and strategic visual pedagogy. In J. A. Sandlin & P. McLaren (Eds.), *Critical pedagogies of consumption: Living and learning in the shadow of the “showocalypse”* (pp. 237–248). Routledge.
- Fan, X., & Weida, H. (2016). Fā xiàn yǔ jiě jué : jī yú fú wù shè jì lǐ niàn de jiào xué shí jiàn chuàng xīn jí shí xiàn [Finding and solving: The teaching practice innovation and realization based on service design idea]. *Art & Design*, (9), 130–131. <https://doi.org/10.16272/j.cnki.cn11-1392/j.2016.09.037>
- Fry, T. (2009). *Design futuring: Sustainability, ethics and new practice*. UNSW Press. <https://doi.org/10.5040/9781350036079>
- Fuad-Luke, A. (2009). *Design activism. Beautiful strangeness for a sustainable world*. Earthscan.
- Leng, H. Yuan, Q., & Yu, T. (2022). Xīn nóng kē jiàn shè bèi jǐng xià jiàn zhù yuàn xiào xiāng cūn guī huà jiào xué gǎi gé tàn suǒ-yǐ hǎ ěr bīn gōng yè dà xué wéi lì [Thoughts on the teaching reform of ideological and political teaching of rural planning courses against a national strategy background: An example from Harbin Institute of Technology]. *Journal of Architectural Education in Institutions of Higher Learning*, 31(3), 96–101.
- Lerner, F. (2018). Visual-spatial art and design literacy as a prelude to aesthetic growth. *The International Journal of Art and Design Education*, 37(1), 65–73. <https://doi.org/10.1111/jade.12110>
- Liu, Yi. (2018). Zhōng guó xīn shí dài chéng xiāng róng hé yǔ xiāng cūn zhèn xīng [Rural-urban integration and rural revitalization in the new era of China]. *Acta Geographica Sinica*, 73(4), 637–650.
- Lutnæs, E. (2017). Rethinking consumption culture: Educating the reflective citizen. In A. Skjervén & J. Reitan (Eds.), *Design for a sustainable culture. Perspectives, practices and education* (pp. 171–184). Routledge. <https://doi.org/10.4324/9781315229065-13>
- Lutnæs, E. (2021 [2019]). Framing the concept design literacy for a general public. *FormAkademisk*, 14(4), 1–13. <https://doi.org/10.7577/formakademisk.4639>
- Lutnæs, E. (2020). Empowering responsible design literacy: Identifying narratives in a new curriculum. *RChD: creación y pensamiento*, 5(8), 11–22. <https://doi.org/10.5354/0719-837X.2020.56120>
- Lutnæs, E. (2021). Exploring practices of critical design literacy: A comparative study of two lower secondary school design projects. In E. Bohemia, L. M. Nielsen, L. Pan, N. A. G. Z. Börekçi, & Y. Zhang (Eds.), *Learn X Design 2021: Engaging with challenges in design education, 24-26 September, Shandong University of Art & Design, Jinan, China*. [https://doi.org/10.21606/drs\\_lxd2021.05.138](https://doi.org/10.21606/drs_lxd2021.05.138)
- Papanek, V. (1971). *Design for the real world: Human ecology and social change*. Pantheon Books.
- Wang, H., & Zhuo, Y. (2018) The necessary way for the development of China’s rural areas in the new era-rural revitalization strategy. *Open Journal of Social Sciences*, 6, 97–106. <https://doi.org/10.4236/jss.2018.66010>
- Wang, Y., & Su, Y. (2017). Xiāng cūn zhèn xīng – zhōng guó nóng cūn fā zhǎn xīn zhàn lüè [Rural revitalization – A new strategy for rural development in China]. *Journal of the Central Institute of Socialism*, (6), 49–55.