

儿童友好型社区营造中的 参与者社会网络构建与分析 ——以湖南省长沙市育才第三小学 “娃娃农园”营造实践为例

THE ESTABLISHMENT AND ANALYSES OF THE SOCIAL NETWORK OF PARTICIPANTS IN CHILD-FRIENDLY COMMUNITY BUILDING — A CASE OF THE KIDS' GARDENS IN YUCAI NO. 3 PRIMARY SCHOOL IN CHANGSHA, HUNAN PROVINCE

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摘要

本研究针对中国大陆地区社区营造过程中公众参与和多元合作模式面临的现实问题，以湖南省长沙市育才第三小学“娃娃农园”营造实践为例，运用社会网络分析软件（UCINET），建立了基于联系网络的社群图，对儿童友好型社区营造实践过程中的参与者主体特征及其网络关系的变化展开了系统解析。由此发现，“娃娃农园”联合居民（“民”）、政府和党组织（“政”）、高校（“校”），以及企事业单位和组织（“企”）四方力量，成功借助外部力量带动各方参与，撬动了“企”方社区的内部资源；在营造过程中，被培育的“企”方最终克服了组织惰性、脱离了外部力量，实现了独立运营并发展壮大。研究结果表明，从参与者社会网络结构的整体视角来看，存在自主模式与依赖模式两种不同方向，其中以内部关系主导、致密组织、树状结构和结构进化为特征的自主模式在网络发展中更具优势；从参与主体的个体视角来看，网络中存在一些关键代理角色，其“中介”工作可以提高营造活动的成功率。最后，根据上述结论，本研究从加强空间对多种功能的适用性、细分责任区块、提供“半完成”状态的空间，以及分期开发等方面为同类型的社区营造实践提供了可借鉴的空间设计策略。

关键词

参与者；社会网络；儿童；社区营造；“娃娃农园”；培育；空间设计

ABSTRACT

Introducing the case of the Kids' Gardens in Yucai No. 3 Primary School in Changsha City, Hunan Province, this study established sociograms upon the contact-frequency-based network with UCINET to systematically analyze the characteristics of different participants in the process of the child-friendly community building and the varying pattern of all social relations, aiming at addressing problems emerging in public participation and multi-stakeholder collaboration in Chinese mainland. It was found that by bonding stakeholders including citizens, the government and party organizations, universities, and public institutions and enterprises, this practice encouraged the school — as a community — to leverage its internal resources. The school finally overcame the organizational inertia and achieved independent operation and growth during the process of community building. The study also demonstrated that the social network of participants was developed and defined with both independent and dependent modes from an overall perspective, of which the former characterized for its dominant internal ties and a dense tree-like hierarchical management structure might be more efficient. From a participant perspective, the brokerage roles in key nodes were critical to the community building. Finally, spatial design strategies, including enhancing the spatial affordance to serve diverse activities, space zoning and allocation, offering “half-done” spaces, and phased development, were provided for similar community building practice.

KEYWORDS

Participants; Social Network; Children; Community Building; Kids' Gardens; Cultivation; Spatial Design

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1 引言

通常而言,社区即“一群具有不同特征的人因社会纽带而联系在一起,他们秉持相似的观点,在同一地域或环境中参与共同的行动”^[1]。无论是住区、村落、企业,抑或是学校,只要处于一定的地域范围内,成员之间存在共同的关系纽带和社会互动,就可被定义为“社区”。“社区营造”一词最初来源于日本,指为了实现特定、具体的生活空间建设目标而采取的社区行动,属于自下而上的地方行动^[2]。自20世纪60年代起,日本的社区营造即根植于公众参与的土壤,并不断发展和完善^{[3][4]},行政机构、居民、非营利组织和企业^[5]等多元主体通过协调合作,成为了社区营造的中坚力量^[6]。

中国大陆的社区营造则始于2012年以后,且目前仍处于起步阶段,实践主要以日本和中国台湾地区的社区营造为参考,通常由专业人员和社会组织带领居民发掘社区资源,规划社区发展,解决社区问题,提高居民的社区认同感^{[7][8]}。相关案例包括自2012年启动的成都肖家河街道“1237N”模式^[9]、2014年启动的北京史家胡同参与式改造^[10]、2016年启动的深圳光明新区凤凰社区管理治理计划^[11],以及上海的“社区花园”营造实践^[12]等。目前,大陆地区尝试开展的社区营造实践多发起于特大城市,尚未形成全国性的规模,且通常仍采取以政府为主导的自上而下的推进模式,公众参与虽已从形式性参与向实质性参与转变,但与真正的自发、自主和自力营造目标还相距甚远。另外,大陆地区相关的社会组织发育尚不成熟,对政府的政策和资本依赖程度高,并且组织内部暂未实现多元的融资方式和可持续的运行模式,难以形成持久的支持力量^[12]。如何借助外部力量撬动社区内部资源、带动社区参与,以及如何在政府、社会组织、企业及居民个体之间形成有效联合,是当前大陆地区社区营造所面临的主要问题^[7]。其中,各类参与者主体的社会关系所构成的社会网络是问题解决的突破口^[13]。因此,本文将基于社会网络理论视角与分析方法对此展开论述。

1 Introduction

Generally, a community is “a group of people with diverse characteristics who are linked by social ties, share common perspectives, and engage in joint action in geographical locations or settings”^[1], according to which entities such as residential areas, villages, enterprises, and schools may all be communities. Since its origination from Japan in the 1960s, community building, a bottom-up local action to establish a living space with particular functions^[2], has been rooted in, and propelled with public participation^{[3][4]} among multiple stakeholders. Today, administrations, residents, non-profit organizations, and enterprises^[5] are the major stakeholders and pivots in community building through collaborations^[6].

Drawing lessons mainly from Japanese cities and Taiwan, China, community building practice in Chinese mainland started from around 2012 and is still in its infancy. Most of these practices are led by professionals and social organizations, aiming at solving community-level problems, formulating development plans, and enhancing their community identity^{[7][8]} through resource exploration and integration for community building. Examples include the “1237N” mode proposed by Xiaojiahe Street in Chengdu since 2012^[9], the participatory renovation of Shijia Hutong in Beijing since 2014^[10], the management and governance plans developed by Phoenix Community in Guangming New District of Shenzhen since 2016^[11], and the Community Gardens Program in Shanghai^[12]. Currently, although seeing a substantial advance in public participation, these individual experimental community building projects in Chinese mainland are often found in metropolises and led by governments with a top-down approach, far from being initiative, autonomous, and self-supported. Main reasons include the inadequacy of relevant social organizations, heavy dependence on policy and funding support from the government, and communities' failure to establish internal diversified financing modes and sustainable operations for a long run^[12]. Existing challenges are: how to leverage external strengths which could activate the internal resources and mobilize citizen participation in each community, and how to efficiently engage and coordinate among governments, social organizations, enterprises, and citizens in the process of community building^[7], both of which are associated with the social network theory. In view of the social networks formed by all kinds of social relations of various participants^[13], this study introduces theoretical bases and analytical methods from the social network theory that may offer insights on addressing such issues.

社会网络理论关注社会关系：人的行为、态度、信息或货物等均通过社会关系来传递，这种社会关系包括人际关系、组织间关系、国家关系等所有关系^[13]。社会网络分析是社会关系研究的一种范式，主要研究对象为不同社会单位（个体或群体）所构成关系的结构及属性^{[14][15]}。这一方法可明晰地陈述和测度社会关系，有助于将微观个体的关系和行为与宏观社会系统结构联系起来。社区营造作为一种社会行为，借助参与其中的不同人和组织的社会关系实现行为传递，构成“参与者社会网络”。

本研究选取湖南省长沙市的一所小学作为营造场地——这一专门面向儿童的特殊社区是承载儿童日常活动的重要场所，却鲜少能在社区营造研究中取得一席之地——应用社会网络的分析方法，建立基于联系网络^①的社群图，系统剖析社区营造实践过程中参与者的主体特征及其网络关系的变化规律，探查和总结社区营造参与者之间的社会网络模式，以期为同类型的社区营造实践提供启发性的规划与设计策略参考。

2 项目概况

湖南省长沙市育才第三小学（以下简称“育才三小”）地处芙蓉区，占地面积25 668m²，绿地面积约10 500m²，其中以“见缝插针”形式分散布置的“娃娃农园”^②规划面积约为4 000m²，共分三期建设；一期施工面积约为1 200m²（图1），由湖南农业大学“娃娃农园”团队（以下简称“农大团队”）负责施工，后续部分将由育才三小自行建设。“娃娃农园”的营造过程共划分为4个阶段：

1) 前期准备阶段。本阶段起始于2017年11月，历时三个月，包含倡议反馈调查、资金筹集和委托赋权等。参与者包括来自农大团队的专家周晨教授^③及育才三小校长和党委书记，三人在“娃娃农园”的参与者社会网络中形成“三人组”^④，其中校长与党委书记之间的关系更紧密。

2) 设计施工阶段。本阶段起始于2018年2月，耗时约7个月，包含方案商定和施工作业等。参与者包括育才三小校方负责人和少数管理层教师、施工团队，以及农大团队，这一阶段初步形成了企事业单位和组织及高校双方各据一隅的参与者社会网络。

3) 维护运营阶段。2018年9月开学后，“娃娃农园”一期正式投入运营使用，这一阶段包含经营周转、修葺维护、活动组织和宣传培育等。参与者包括校方负责人、管理层教师、专业教师^⑤、部分班主任、部分学生和学生家长，以及农大团队。在此阶段，“娃娃农园”的营造活动主要依靠农大团队来推动和指导，育才三小师生对农大团队的依赖性较大，缺乏主动推动的意识和能力。从组织惰性概念可以判断，即便外部环境发生重大变动，育才三小的组织战略和结构仍不易改变，这将阻碍其对新事物的积极探索^[16]。

The theory of social network focuses on studying all types of social relations — interpersonal, inter-organizational, and inter-state — through which human behaviors and attitudes, information, or goods can be communicated or conveyed^[13]. Social network analysis provides a paradigm to study the structures and attributes of social relations formed via different social entities (individuals or groups)^{[14][15]}, which is often used to clearly describe and measure social relations by linking homogeneous ties or behaviors with larger-scale social systems. As a kind of social behavior, community building realizes the delivery of behaviors through a “social network of participants” constituted by the social relations between different participants (individuals and organizations).

Considering that primary schools, a typical community that accommodates children’s daily activities, are less studied in the field of community building, this research selects a primary school in Changsha, Hunan Province to probe into the social network modes of such communities for children. Employing the analytical methods of social network theory, the research establishes sociograms upon the contact-frequency-based network (CFB network hereafter)^① to systematically analyze the characteristics of different participants in the process of community building and the varying pattern of all social relations. Finally, planning and design strategies are proposed to inspire similar community building practices.

2 Project Overview

The studied community, Yucai No. 3 Primary School in Changsha, Hunan Province is located in Furong District, covering an area of 25,668 m². With a total planned area of 4,000 m², the Kids’ Gardens^② are scattered in the 10,500-square-meter green space and to be constructed in three phases. The first-phase construction (1,200 m²) (Fig. 1) was led by the Kids’ Garden team from Hunan Agricultural University (HUNAU team hereafter) and the further two will be carried out by the school itself. Overall the construction includes four stages:

Stage 1: Preparation. Started from November 2017, the preparatory work took about three months, including proposal feedback collection, fund raising, and authorization / empowerment. Participants in this stage were Zhou Chen^③, expert from the HUNAU team, and the principal and party secretary of the school, who together formed a triad^④ in the social network, where the latter two participants have a closer relation.

Stage 2: Design and Construction. It took about seven months for design proposal negotiation and construction from February 2018; participants included decision-makers and a

① “联系网络”即基于联系频率数据，以联系关系作为关系纽带来建立的社会网络。

② “娃娃农园”是以儿童为服务对象，以自然教育为目的，将植物栽培作为主要活动来培养儿童自然知识、情感和动手能力参与型绿地。

③ 周晨教授已于2020年调离湖南农业大学，赴长沙理工大学建筑学院风景园林系任教。

④ “三人组”由自方（Ego）、对方（Alter）和他方（Third）三方，以及三方之间的关系构成。“三人组”是社会网络分析中的基础概念，是理解复杂社会关系存在的最小单位。“结构洞”理论和“代理人”概念等均由“三人组”概念衍生而成。

⑤ 专业教师包括美术教师、科学教师 and 综合实践教师等，他们经过农大团队的培训后，为学生和家长讲授相关知识。

① Contact-frequency-based network is a social network established with relational ties upon contact frequency.

② The Kids’ Gardens is a participatory natural-education project to increase children’s knowledge about nature, and foster their emotion and hands-on ability through plant cultivation.

③ Professor Zhou Chen now joins the faculty of the Department of Landscape Architecture, School of Architecture, Changsha University of Science and Technology.

④ The “triad” consists of Ego, Alter, and Third, as well as the relations between the three parties. Triad is the smallest unit of analysis for a network of social ties. The theory of “structural holes” and the concept of “brokerages” are derived from the Triad concept.



图例 Legend

一期施工范围
Phase I construction scope

- | | |
|----------------------------------|--------------------------------------|
| 1 五彩花园 Multicolored plaza | 8 中庭娃娃农园1 Kids' Garden 1 in atrium |
| 2 叠水彩池 Colorful pools | 9 中庭娃娃农园2 Kids' Garden 2 in atrium |
| 3 儿童剧场 Children's theater | 10 瓜果廊 Corridor of melons and fruits |
| 4 娃娃农园 Kids' Gardens | 11 种子资源库 Seed bank |
| 5 读书天地 Reading corner | 12 丛林探险 Jungle adventure |
| 6 锁孔花园 Keyhole Garden | 13 花果园 Garden of flowers and fruits |
| 7 生态蓄水池 Rainwater retention pond | |

© “娃娃农园”团队
1

⑤ Subject teachers are the faculty of art lessons, science lessons, workshops, etc., who were trained by the HUNAU team to educate students and their parents about knowledge of the nature.

4) 权责转移阶段。2019年伊始,营造活动中出现了部分参与者退出或加入、负责人转换、职权结构更替等变化。该阶段增加了个别上级政府部门与新闻媒体,营造活动形式也产生了积极变化:育才三小师生逐渐开始自主营造和创造,引发了更多的社会关注、认可和参与。这一转变意味着育才三小一方面通过人员调整,整合了组织的内部资源,增强了自身的网络能力^[17];另一方面,通过运用网络能力,开发并使用了组织间的联系网络,进一步吸收和转化了农大团队的知识与资源,克服了自身的组织惰性。

3 参与者社会网络构建

本研究将“参与”的概念进行了具体界定,包括物质给予、借物支持、行为承担、指导建议、宣传推广、情感互动等行为。“参与者”即为在营造活动中具备上述行为的主体。“娃娃农园”营造活动的参与者构成了层次多样、复杂交错的动态社会网络。本研究采取下述步骤对参与者社会网络进行构建。

3.1 第一步:参与者识别

研究通过调查走访了解了社区营造参与者的构成,并将参与者分为居民(以下简称“民”)、政府和党组织(以下简称“政”)、

few administrative teachers from the primary school, the construction team, and the HUNAU team. Here, the dyad of social network was formed where the public institution (school) and the enterprise (construction team) held a balance with the university (HUNAU team).

Stage 3: Operation and Maintenance. The first-phase of Kids' Gardens was open to teachers and students since the beginning of the autumn term in 2018, which needed to be operated and maintained to support events and education. Participants included in this stage were decision-makers, executive teachers, subject teachers^⑤, some of the class teachers, some students and their parents, and the HUNAU team. The operation was heavily led by the HUNAU team, who also took charge of the training and guidance to other participants from the school. This weakness in initiative and motivation might impede the school's exploration into the unknown, according to the concept of organizational inertia that a community is prone to remain organized strategies and structure despite of significant changes of the external environment^[16].

Stage 4: Power and Responsibility Transfer. At the beginning of 2019, changes happened regarding the composition and remit of participants and decision-makers. To be specific, the community building practice was more widely concerned and received as a few higher-level government offices and press agencies participated, while teachers and students began to take the path of self-reliance gradually. This was a favorable change that the school has not only enhanced its network capability^[17] by optimizing its internal resource through personnel adjustment, but also overcome the organizational inertia by taking advantage of the network capability to develop and employ the CFB network between organizations, as well as adopting the knowledge and resources from the HUNAU team.

3 Establishment of the Social Network of Participants

In this study, behaviors of participation ranged from material provision or lend, task performing, guidance or advice offering, public promotion to empathizing. People taking part in all these activities during the Kids' Gardens building were regarded as “participants,” who constituted a complex and dynamic multi-level social network together. This study concludes the establishment of the social network of participants into four steps.

3.1 Step 1: Participant Identification

Participants in the Kids' Gardens case were identified by onsite interview and investigation, and classified into groups of

1. 育才三小“娃娃农园”平面图

1. Site plan of the Kids' Gardens in Yucai No. 3 Primary School

高校（以下简称“校”），以及企事业单位和组织（以下简称“企”）。

3.2 第二步：网络关系设定

研究所涵盖的所有网络关系数据均通过全覆盖式问卷调查^⑥方式获取。基于可调查和可量化的原则及篇幅限制，本文选择联系网络这一网络关系类型予以呈现。

为尽可能清晰地展现网络结构，本研究构建了三个不同层次的网络：1）完整联系网络（多值无向网络），包含由“民”“政”“校”“企”4种角色构成的93个节点，并将这4种角色标记为不同的颜色，各节点间的连线反映了角色间互相联系的频率强度；2）精简后的联系网络（二值无向网络），设有“民”“政”“校”“企”4个区域，以营造活动参与度最高的“企”

citizens (Group C hereafter), government and party organizations (Group G hereafter), the university (Group U hereafter), and the public institution (Group P hereafter).

3.2 Step 2: Relation Structuring

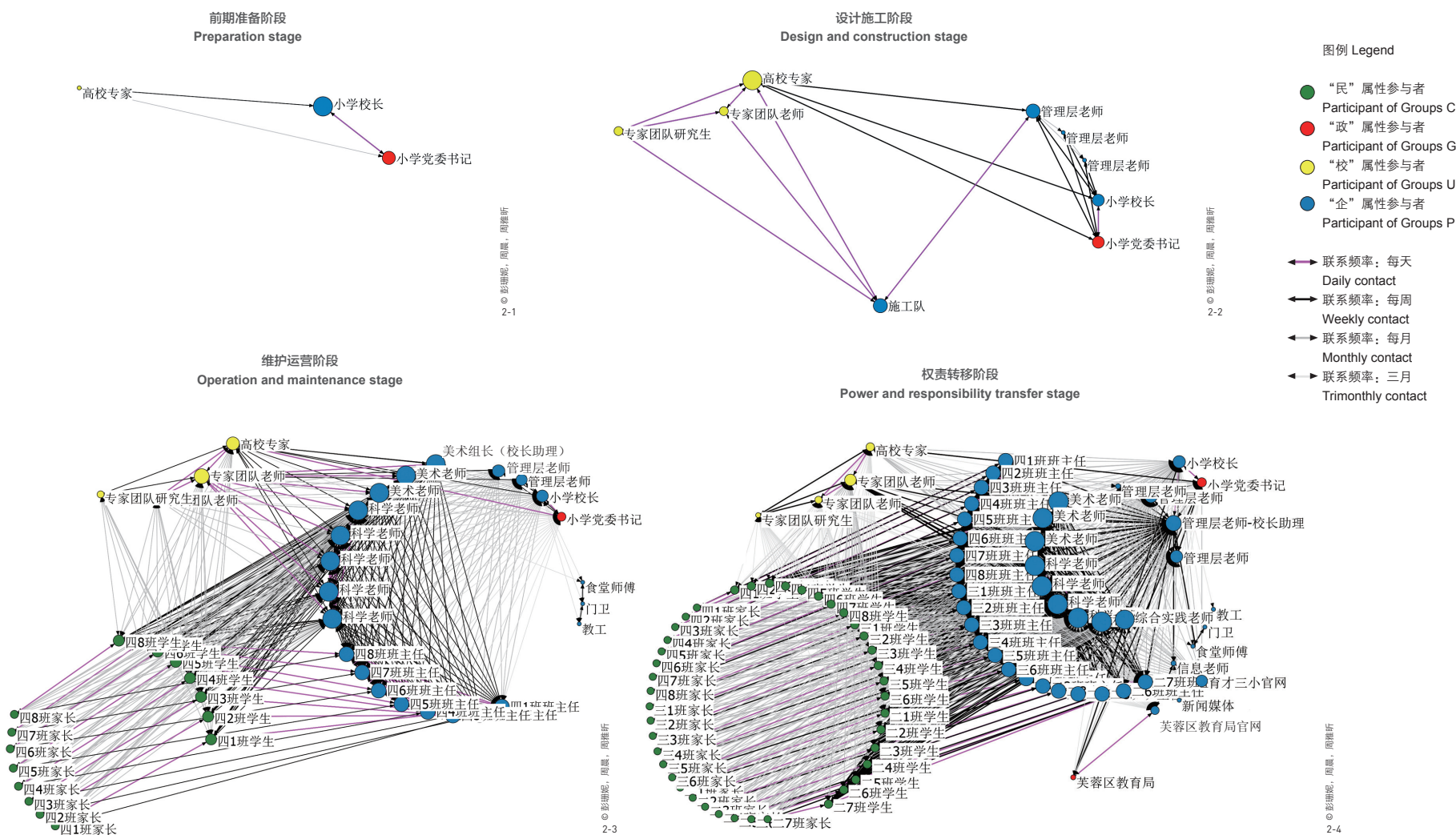
The data of network relations were collected by an inclusive questionnaire^⑥ covering all the participants. This article, however, centers on the CFB network due to the consideration on availability and quantifiability, as well as the article length limit.

This study employed a three-level network structure. The first level is a complete CFB network (multi-value undirected network) comprised of 93 nodes between the Group C, Group G, Group U, and Group P that are in different colors, where the lines between nodes indicate the contact frequency between participants. The second level is a simplified contact network (two-value undirected network) with four parts adjacent to each other, where Group P occupies the center as they participated

⑥ 在社会网络分析中，样本不能代表整个网络，抽样后的网络结构很少能与整体结构完全一致。因此，本研究调查未采取抽样调查，而是把所有参与者都包含在内。

⑥ All participants were covered in the social network analysis considering the deviation of the sampling survey.

2. 育才三小“娃娃农园”案例联系网络社群图
2. Sociogram showing the CFB network of participants in the Kids' Gardens project in Yucai No. 3 Primary School



⑦ 在精简后的图3中，“校长助理”归属于“管理层教师”。

⑦ The assistant to the principal is one of the administrative teachers in the simplified CFB network shown in Figure 3.

为中心，4个区域两两邻接，不同节点间的连线表示“常联系”（频率为一周一次及以上）；3）自我中心网络，以所考察的节点为中心来展示，各节点间连线的数据来源与精简后的二值无向网络相同。

3.3 第三步：社群图绘制

本文使用社会网络分析软件（UCINET）绘制社群图，将“娃娃农园”的参与者分为“民”（绿色节点）、“政”（红色节点）、“校”（黄色节点）和“企”（蓝色节点）4个圈子。其中，红色节点“小学党委书记”因职业特殊性，与“企”方育才三小的交流往来每日发生，频率显著高于其自身所属类别，因此也被归入“企”圈。图2为“娃娃农园”4个阶段的社区营造参与者联系网络社群图，节点大小依据各自的特征向量中心度（衡量网络中全局重要性的指标）决定，以便直观体现网络中的“冷—热”关系——节点越大，表示其中心度越高、在网络中的地位也越重要。整体视角的精简网络社群图如图3所示。

3.4 第四步：联系网络描述

联系网络的发展具有如下特征：

1) 黄圈（“校”）对蓝圈（“企”）的培育。自前期准备阶段起，黄圈就开始了对蓝圈的培育。由图2-1、图2-2和图2-3可见，在前三个阶段中，黄圈与蓝圈的联系越来越频繁，蓝、黄节点之间大多呈高频率连线（每天联系）。由于育才三小本身已经是一个组织严密的社会网络，蓝圈从一开始就拥有相当数量的内部联系，因此并非完全依赖外部。当发展至图2-4所示的权责转移阶段时，黄圈与蓝圈之间的连线数量减少、强度减弱；同时，蓝圈内部的联系更为紧密，并形成了树状分层管理结构。这代表着蓝圈降低了对黄圈的依赖，优化了自身结构，逐渐实现自主发展——由图2-3和图2-4可见，黄色节点所代表的专家团队人员参与程度有所降低（节点面积变小），而蓝色节点所代表的育才三小一方的参与者人数和参与程度却在增加，体现了参与者的重心转移这一显著趋势。蓝圈的发展过程中存在一个非常关键的变化，即“校长助理”角色的转变^⑦。综合图2-3和图3-3可见，在维护运营阶段，“校长助理”（美术组长）实际上仅充当了“专业教师”的角色，“小学校长”与“专业教师”“班主任及其他教职员工”的联系关系薄弱，“小学校长”

in this building practice the most. The straight lines between represent the corresponding contact frequency (once a week at least). Finally, the third ego-centered network is centered with the node to be examined, where the lines between nodes share the same data source with the second type of network.

3.3 Step 3: Sociogram Mapping

The sociograms indicating participant attributes was mapped with UCINET, a social network analysis tool, with green, red, yellow, and blue nodes for clusters of Group C, Group G, Group U, and Group P, respectively. Noticeably, the party secretary of the school (the red node) was included into Group P as she kept daily contact with the school. Figure 2 shows the sociograms of the CFB network between participants in the four stages of the community building in this case. The node size was defined by their eigenvector centrality, a measure on the influence of a node in a network according to the graph theory — the larger the node is, the more important it is with a higher centrality in the network. The simplified sociograms from an overall perspective are shown in Figure 3.

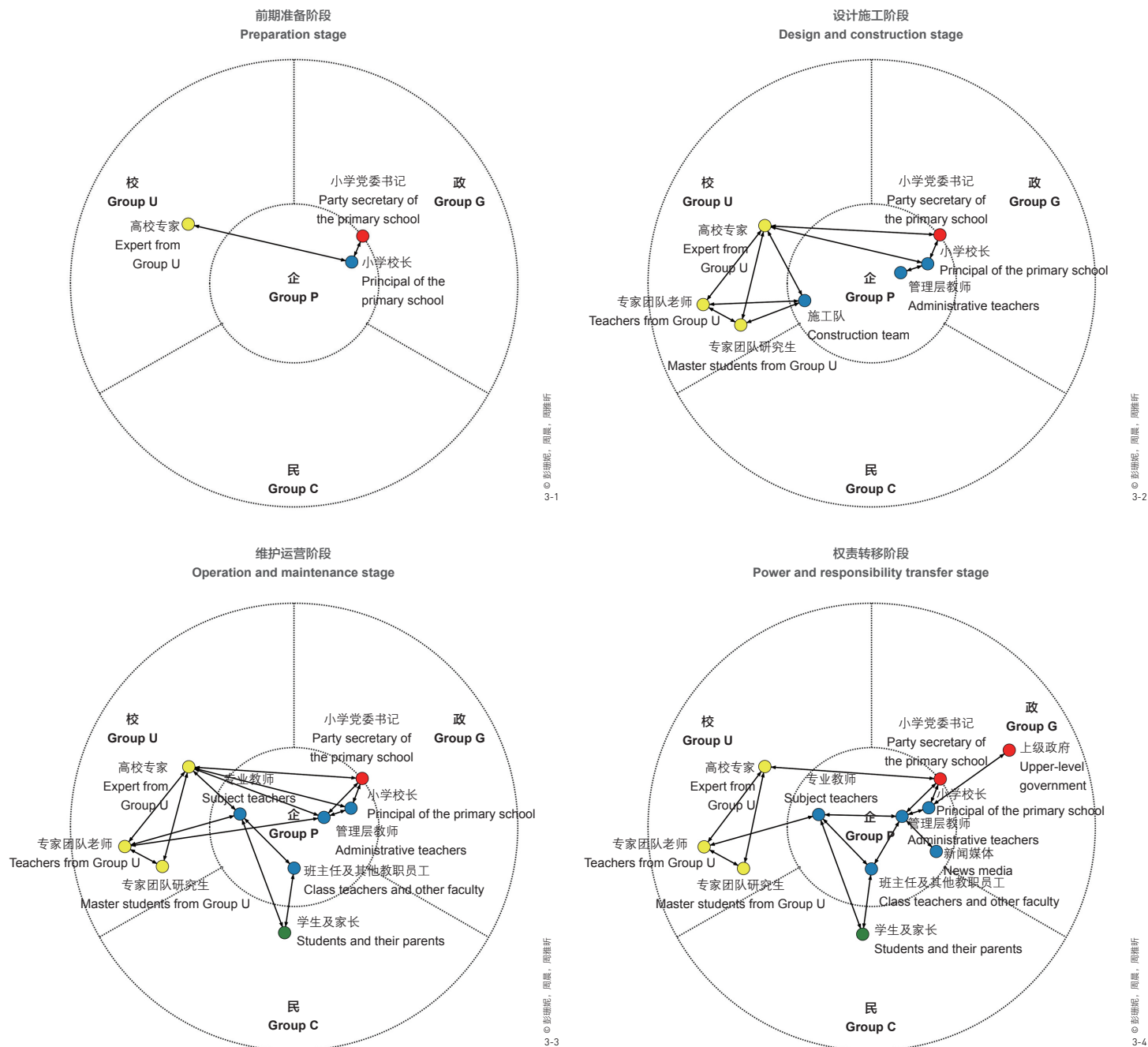
3.4 Step 4: CFB Network Description

The pattern of CFB network witnesses variations or trends in the following three aspects:

1) Leadership cultivation from the yellow cluster (Group U) to the blue cluster (Group P), which began at the preparation stage and ran through the following two. As can be seen in Figures 2-1, 2-2, and 2-3, Group U contacted more frequently with Group P (almost once a day at least). Primarily, the school itself is a well-organized social network whose members kept a frequent contact with each other, seeing a less dependency on the external environment. When it came to the power and responsibility transfer stage (Fig. 2-4), the link lines between Group U and Group P decreased with a weakened contact frequency, while the internal contact within Group P increasingly intensified and formed a tree-like management hierarchy. It implies that Group P achieved an autonomous development with an optimized structure, which is corroborated with the finding that there were a lower-level participation from Group U and more participants with higher-level participation from Group P in this stage (Fig. 2-3, 2-4). In the meantime, a key change occurred to the role of “Assistant to the Principal”^⑦. It can be seen from Figures 2-3 and 3-3 that in the stage of operation and maintenance, the principal insufficiently contacted to the subject teachers, class teachers, or other faculty because the assistant to the principal only acted as a subject teacher (the leader for Art teaching) and failed to bridge these two sides. However, stepping into the fourth stage, she was appointed to take full charge of

3. 育才三小“娃娃农园”
案例联系网络社群图精
简视图

3. Simplified sociogram
showing the CFB
network of participants
in the Kids' Gardens
project in Yucai No. 3
Primary School



指令的通达性不足。当发展至权责转移阶段，“校长助理”被指派为“娃娃农园”营造活动的专门负责人，全权管理农园的一切事宜，发挥了统筹作用（图2-4，3-4）。“校长助理”向上直接对接“小学校长”，向下与“专业教师”和“班主任及其他教职员”加强联系，发挥了桥梁作用，极大地提升了信息传递效率。对比图2-3和图2-4可见，蓝圈从扁平结构转变为树状结构，正是“校长助理”角色转变的直接体现。

2) 蓝圈（“企”）对绿圈（“民”）的培育。如图2-3和图2-4所

the building of the Kids' Gardens and the coordination among all participants. Consequently, the instruction from the principal could be more efficiently delivered to other faculty. The change of the assistant's role (Fig. 2-3, 2-4) was also presented from the management structure transformation from the flat to the tree-like one.

2) Awareness cultivation from the blue cluster (Group P) to the green cluster (Group C). As shown in Figures 2-3 and 2-4, Group C was cultivated consciously by Group P in the latter two stages of the Kids' Gardens community building. Although the

示,在维护运营阶段和权责转移阶段,绿圈是由蓝圈有意识培育而成的。随着蓝圈和绿圈节点数量的增多,其连线也自然增多,但模式却毫无变化:绿圈从始至终只涵盖一种角色,即“学生及家长”,期间无其他社区居民加入(图3-3,3-4);绿圈与蓝圈的联系包括“学生及家长”与“专业教师”及“班主任”的联系,其中“专业教师”与“学生及家长”联系频率较低但覆盖面广,而“班主任”与“学生及家长”则为一对一的高频率联系;绿圈内部的联系仅为学生及其家长之间的一对一联系。

3) 红圈(“政”)的消极参与。在本研究中,红色节点“小学党委书记”被归于蓝圈,因而红圈的实际参与者仅为“芙蓉区教育局(上级政府)”,且仅参与了最后阶段(图2-4,图3-4),参与程度也较低。

4 网络诊断与分析

4.1 整体视角:自主模式与依赖模式

在本研究中,蓝圈和绿圈的参与行为大多是培育而成。整体来看,参与者社会网络结构呈现出了自主模式与依赖模式两个方向。其表现特征的区别可从主导关系、组织密度、结构层级和结构变化4个方面来剖析。

4.1.1 内部关系主导和外部关系主导

如图2-1~2-3所示,蓝圈与黄圈之间的连线及频率逐渐增多、增强,在图2-4中却出现了减少、减弱的趋势,即外部关系在减弱,同时蓝圈的内部关系不断加强。在图2-3和图2-4中,绿圈更多表现出外部关系主导的特征。社会网络分析中的E-I指数可测量外部关系对内部关系的支配程度:该值越向1靠近,表明关系越趋向于发生在群体之外;该值越接近-1,表明关系越趋向于发生在群体之内^[18]。从维护运营阶段到权责转移阶段,蓝圈的E-I指数从-0.292下降至-0.442,表明蓝圈的内部关系占据主导地位且主导性持续加强;绿圈的E-I指数从0.833上升至0.846,数值持续较高,表明外部关系占据主导地位。从网络的稳定性来看,内部关系主导比外部关系主导更为稳定——当网络中某个圈子消散或崩溃时,依附其上者会随之消失,而内部关系主导的圈子则受影响较小。

4.1.2 致密组织和松散组织

从图2可观察到,随着营造活动的推进,蓝圈结构日渐致密,绿圈结构则始终较为松散。这是由于营造活动的联系网络建立于各圈子

number of link lines between nodes increased as the blue and green nodes multiplied, the network mode saw no change — participants from Group C only included students and their parents and no other citizens participated (Fig. 3-3, 3-4). Regarding the contact between Group C and Group P, the students and their parents kept one-to-one contact with their class teachers, but a low-frequent yet wide-ranging contact with the subject teachers. Within Group C, the contact existed only between the students and their parents.

3) Negative participation of the red cluster (Group G). Considering that the party secretary (the red node) was included in Group P, there was only a low-level participation from the higher Education Bureau of Furong District in the last stage of building (Fig. 2-4, 3-4).

4 Network Diagnoses and Analyses

4.1 Independent and Dependent Modes from an Overall Perspective

This study demonstrated that the cultivated participation of Group P and Group C implied a disparity between independent and dependent modes of the social network in dominant tie, organization density, structural level, and structural change.

4.1.1 Internal or External Ties

In Figures 2-1 ~ 2-3, the link lines between the blue and yellow clusters increased with higher frequencies as the Kids' Gardens building proceeded. However, when it came to the fourth stage (Fig. 2-4), the external ties of the blue cluster weakened while its internal ties strengthened. For the green cluster, external ties saw a dominance in the third and fourth stages (Fig. 2-3, 2-4). According to the theory of social network analysis, the External-Internal index (E-I index) may measure the degree of dominance of the external or internal ones, which can range from 1 to -1^[18]. From the third to the fourth stage, the E-I index of the blue cluster decreased from -0.292 to -0.442, showing that the dominance of its internal ties amplified. On the contrary, the ties external to the green cluster dominated as the E-I index kept a high value by increasing from 0.833 to 0.846. Theoretically, a network of internal-tie-dominated tends to be more stable than an external-tie-dominated one because the former might have a less dependency on external strengths and be less impacted by the collapse of other associated clusters in the network.

4.1.2 Dense and Loose Organization Structures

In Figure 2, the blue cluster was getting denser and denser while the green cluster remained a loose structure because the CFB network for the Kids' Gardens building was established on

原本的社交网络基础之上，育才三小原本就是组织严密的单位，营造活动的联系网络依托于此，才能在较短时间内迅速形成致密组织。相反，绿圈所对应的居民社交网络缺乏成型的组织结构，无法仅依托其现有的内部社交网络进行发展，而需建立新的联系网络；但这一过程十分耗时，且最终形成的网络可能仍然较为松散。在社会网络理论中，更高的密度通常代表结构更稳固、更具凝聚性^[13]；从效率上来比较，致密结构也比松散结构更为高效。

4.1.3 扁平式结构和树状结构

联系网络的扁平式结构和树状结构的差异主要体现在维护运营阶段和权责转移阶段的蓝圈之间。维护运营阶段的蓝圈只包含管理层和执行层；而权责转移阶段的蓝圈则发展为包含决策层（以小学校长为代表）、管理层（以校长助理为代表）、指导层（以专业教师为代表）和执行层（以班主任为代表）4个层级的树状结构管理模式。从信息传达和决策效率上而言，树状结构的层级管理具有更大的优势；但扁平结构的管理也具有民主决策和成本较低等优势。两种管理模式各有优劣，应以其对参与者社会网络的适用性为评判标准。

4.1.4 结构进化与结构固化

在营造过程的不同阶段，蓝圈的角色（成分、数量及结构）和联系关系是动态变化的。由图2-3和图2-4可知，蓝圈利用自身的网络能力主动学习，逐渐减弱了对黄圈的依赖，向着更为内聚的网络演进。而从维护运营阶段到权责转移阶段，绿圈的人数显著增多，但角色成分和联系关系未有任何改变。组织惰性理论认为，组织内普遍存在保持既定行为方式和消极应对环境变化的倾向^[19]，这种固有的模式会阻碍组织的持续成长^[20]；也有学者从个体视角指出，对特定信息传播模式的过度依赖将阻碍不同行动者之间的横向合作^[21]。因此，参与者社会网络的发展不能仅注重角色数量的增加，还需关注圈子结构的进化，以有效适应不断变化的环境。

4.2 个体视角：网络中的代理角色

通过分析社会网络结构的个体参与者的代理角色，可对不同个体在网络结构中发挥的作用进行解读。如果一个人的联系人之间并不直接接触，那么这个人就有机会起到中间人的作用，在其联系人之间的“结构洞”上架起桥梁^[13]。图4展示了5种常见的代理角色：圈内协调者、圈外中介者、发言人、守门人和联络员。如图所示，参与者担当

each cluster's intrinsic social network, particularly true for the blue cluster (the school) which got densified in a very short time. In contrast, the existing internal ties of the green cluster, representing the social network of citizens, were too loose to support its development of social network. Although structuring a new network seemed to be necessary, it would be time-consuming and might even end in futility. In the theory of social network, a denser network is always more stable, cohesive^[13], and efficient in communication.

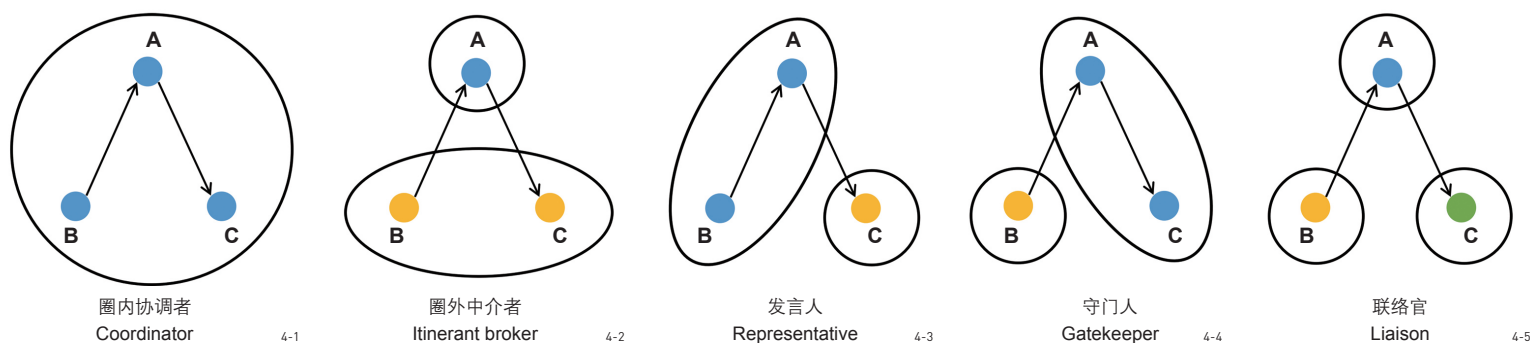
4.1.3 Flat and Tree-like Structures

A structural difference of CFB network, being flat or tree-like, existed between the blue clusters in the third and fourth stages. Specifically, during the operation and maintenance of the Kids' Gardens, the blue cluster was comprised by administrative and executive participants; whereas due to the power and responsibility transfer, a tree-like management hierarchy was established with four kinds of participants — decision-making participant (the principal), administrative participant (assistant to the principal), instructor participants (subject teachers), and executive participants (class teachers). Comparatively, the tree-like structure is superior to the flat one in communication and decision-making efficiency, while the flat structure is an optimum for being more democratic and lower-cost. In practice these two network structures should be chosen carefully considering the suitability to varied conditions.

4.1.4 Dynamic and Static Structures

In different stages of the community building of this case, the roles of participants within the blue cluster (concerning attribute, number, and structure), as well as the mutual ties, were changing. As shown in Figures 2-3 and 2-4, the blue cluster was getting more independent and cohesive benefiting from their network capability. Notably, from the third to the fourth stage, the number of participants within the green cluster increased significantly, while no change happened to their attributes or mutual ties. According to the theory of organizational inertia, an intrinsic behavior mode and negative response to external changes of an organization^[19] may impede its continuous growth^[20]. From a participant perspective, the over dependence on specific communicating modes may also become obstacles to the collaboration among different actors^[21]. Therefore, the social network of participants should lay an emphasis not only on the increase in amount of different roles, but also on optimizing each cluster's structure to adapt to the ever-changing social conditions.

4. 五种代理角色 (改绘自参考文献[13])
5. 权责转移阶段“管理层教师”的自我中心网络
4. Five brokerage roles [Adaptation source: Ref. [13]]
5. Ego-centered network of administrative teachers at the stage of power and responsibility transfer



何种代理角色、行使何种代理功能，取决于其自身和联系人所属的群体。同一参与者在网络中可以同时充当几种不同的代理角色，关键个体在网络中的位置及其“中介”工作可以提升社区的各项能力，如鼓励社区参与、优化社区管理、增强社区意识等^[22]。

(1) 圈内协调者

如图4-1，在“圈内协调者”角色下，参与者A与所代理的参与者B和C都属于同一群体，A即圈内协调者。

“娃娃农园”营造活动的前三个阶段不存在“圈内协调者”，而权责转移阶段的“管理层教师”扮演了典型的“圈内协调者”角色。图5为该阶段“管理层教师”的自我中心网络，可见“小学校长”与“专业教师”及“班主任及其他教职员工”之间并无联系，而“管理层教师”则是其间的桥梁。实际上，自从校方的管理结构调整后，办事效率得到了显著提升。

(2) 圈外中介者

如图4-2，在“圈外中介者”角色下，参与者B和C属同一群体，并由属于另一群体的A来担任代理人，此时A即“圈外中介者”。

在“娃娃农园”的维护运营阶段，“高校专家”和“专家团队老师”扮演了“圈外中介者”的角色。图6呈现了“高校专家”和“专家团队老师”的自我中心网络，如图6-2所示，“高校专家”为“小学校长”和“专业教师”之间的桥梁，同时也是“管理层教师”与“专业

4.2 Brokerage Roles in a Network from the Participant Perspective

An analysis on the brokerage roles of the participants may help interpret their attributes in the social network. One person could act as an intermediary to bridge the “structural holes” between his / her contacts^[13]. As shown in Figure 4, common brokerage roles include coordinator, itinerant broker, representative, gatekeeper, and liaison. What brokerage role(s) a participant will play depends on the group he / she and his / her contacts belong to. Moreover, one can play several brokerage roles in the social network, among which the key roles impact a community’s capacity a lot in encouraging community participation, improving community management, and enhancing the sense of community^[22].

(1) Coordinator

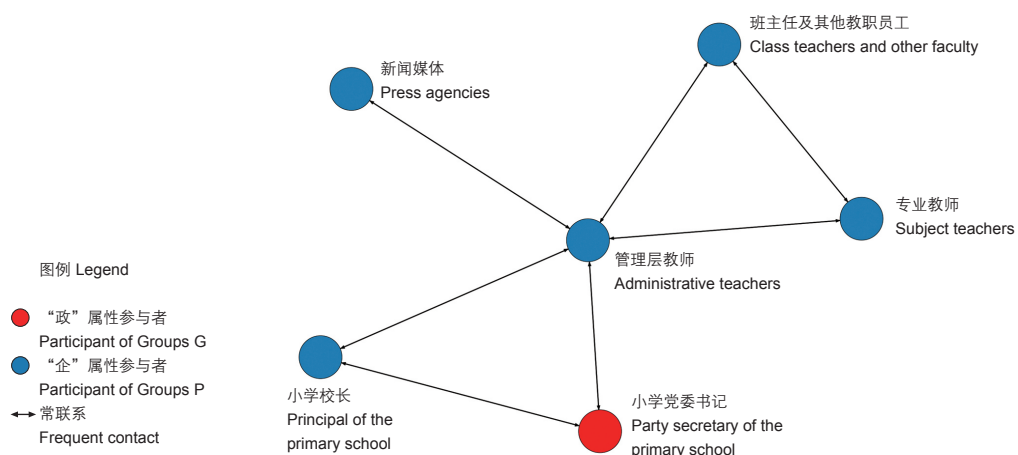
Theoretically, if participant A and his / her brokerage role(s), namely participants B and C in Figure 4-1, are from the same group, participant A then is a coordinator.

In the case of the Kids’ Gardens, only when it came to the power and responsibility transfer stage, the administrative teachers started to act as a coordinator. Figure 5 shows the ego-centered network of an administrative teacher that he / she served to bond the principal to subject teachers, class teachers, and other faculty. This improved management structure was turned out to be more efficient in communication and operation.

(2) Itinerant broker

If participant B and participant C are from a same group, while participant A from another, then A is an itinerant broker (Fig. 4-2).

During the operation and maintenance stage of the Kids’ Gardens, the expert and teachers from Group U acted as an itinerant broker. Their ego-centered networks shown in Figure 6 implied that they linked up the principal / administrative teachers with the subject teachers (Fig. 6-2, 6-3). Here, the guidance and support from Group U helped establish an order



教师”之间的桥梁；如图6-3所示，“专家团队老师”同样充当了“管理层教师”与“专业教师”之间的桥梁。高校专家和专家团队老师为育才三小内部各种角色秩序的建立提供了指导和帮助。

(3) 发言人

如图4-3，“发言人”角色描述了A在分属不同群体的参与者B和C之间担当代理人的情况。A能调节从自身所属群体发出的信息流或货物流，被称为自身所属群体的“发言人”。

在“娃娃农园”营造活动中，“高校专家”在设计施工和维护运营阶段扮演了典型的黄圈“发言人”角色。由“高校专家”的自我中心网络（图6-1，6-2）可见，在这两个阶段中，“高校专家”代表黄圈与蓝圈的决策层和管理层进行沟通。

(4) 守门人

如图4-4，“守门人”角色与“发言人”相似，但与之呈反向关系——A把持着从外界指向自身所属群体的信息流或货物流，被称为自身所属群体的“守门人”。

在“娃娃农园”案例中“守门人”角色并不典型，仅可见于前期

for each role within the community of the Yucai No. 3 Primary School.

(3) Representative

In Figure 4-3, when participants A and B come from a same group and participant C is from another, then A may act as a representative of participant B to convey the flows of information or goods to participant C.

In the Kids' Gardens case, the expert from Group U was a typical representative of her group both in the second and third stages. The ego-centered networks shown in Figures 6-1 and 6-2 prove that the expert represented the whole Group U to communicate with the decision-making and executive participants from Group P.

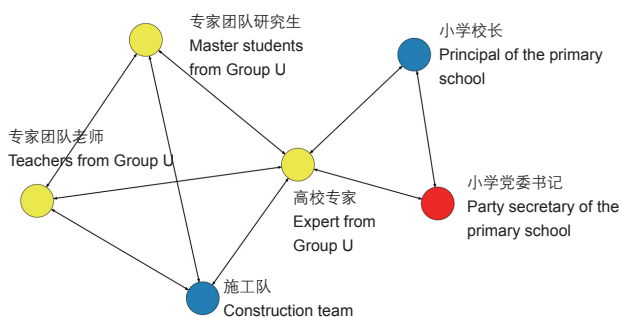
(4) Gatekeeper

The role of a gatekeeper is similar to a representative other than that participant A, the gatekeeper of his / her group, controls the flows of information and goods from the external environment (Fig. 4-4).

This role was not clearly demonstrated in the Kids' Gardens case. Merely in the stage of preparation, the principal acted as

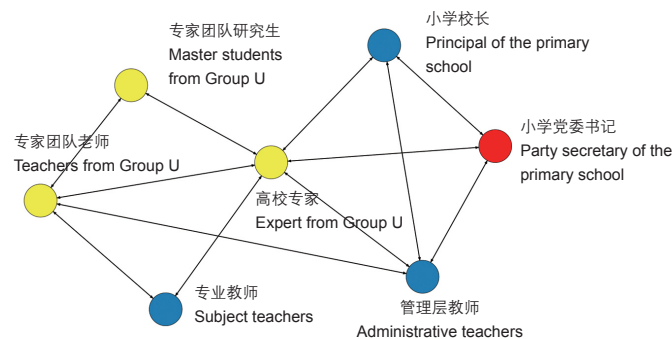
6. “高校专家”和“专家团队老师”的自我中心网络
7. “专业教师”的自我中心网络
6. Ego-centered networks of expert and teachers from Group U
7. Ego-centered network of subject teachers

“高校专家”的自我中心网络（设计施工阶段）
Ego-centered network of expert from Group U (design and construction stage)



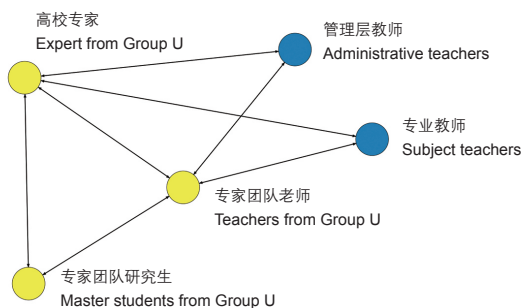
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6-1

“高校专家”的自我中心网络（维护运营阶段）
Ego-centered network of expert from Group U (operation and maintenance stage)



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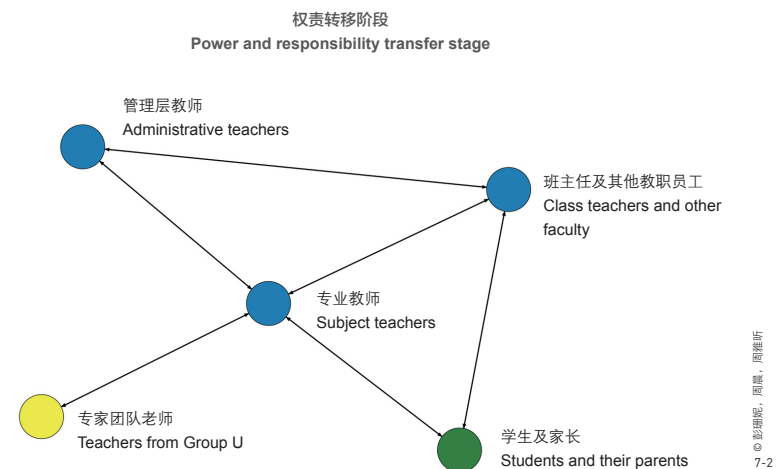
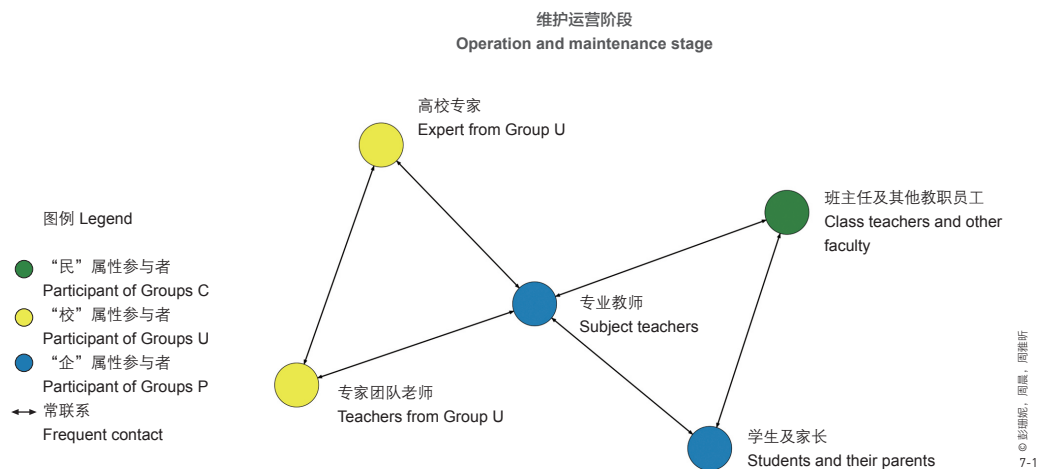
“专家团队老师”的自我中心网络（维护运营阶段）
Ego-centered network of teachers from Group U (operation and maintenance stage)



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6-3

图例 Legend

- “政”属性参与者
Participant of Groups G
- “校”属性参与者
Participant of Groups U
- “企”属性参与者
Participant of Groups P
- ↔ 常联系
Frequent contact



准备阶段：“小学校长”作为“守门人”，准许“娃娃农园”营造项目进入育才三小（图3-1）。

(5) 联络员

如图4-5，在“联络员”角色中，参与者B和C分属不同的群体，A作为代理人属于不同于前两者的第三个群体，此时A即“联络员”。

在“娃娃农园”案例中，“专业教师”扮演了“联络员”这一角色，主要表现在维护运营和权责转移阶段。由“专业教师”的自我中心网络（图7）可见，其作为蓝圈的一员担当了黄圈和绿圈之间的“联络员”，是将“校”方的专家团队老师和“企”方的学生及家长联系起来的桥梁。

5 结论与展望

5.1 研究结论

育才三小“娃娃农园”营造实践创造了一个充满活力的社区空间，是一次较为成功的儿童友好型社区营造活动。该实践联合“民”“政”“校”“企”四方力量，促使“企”方成功借助外部力量带动各方参与，撬动了社区内部资源，并增强其内部认同感。在营造过程中，被培育的“企”方最终克服了组织惰性、脱离了外部力量，实现了独立运营并发展壮大。本研究通过建立这一儿童友好型社区营造活动中的参与者社会网络，用图示化语言展现了各个参与者的联系关系在不同发展阶段的变迁，并从整体视角和个体视角得出如下结论：

1) 整体而言，参与者社会网络结构表现出自主模式和依赖模式两个方向。“企”方为自主模式，表现为内部关系主导、致密组织、树状结构和结构进化的特征；“民”方为依赖模式，表现出外部关系主导、松散组织、扁平化结构和结构固化的特征。相较而言，自主模式

a gatekeeper who approved the Kids’ Gardens project into the school (Fig. 3-1).

(5) Liaison

In Figure 4-5, under the condition that participants A, B, and C are all from different groups, then participant A is a liaison.

In the Kids’ Gardens case, the subject teachers who belong to the blue cluster acted as a liaison mainly in the third and fourth stages. As shown in their ego-centered networks (Fig. 7), they were the liaisons between the yellow and green clusters, representing Group U and Group C respectively.

5 Conclusions and Prospects

5.1 Research Conclusions

The Kids’ Gardens project in Yucai No. 3 Primary School successfully creates a child-friendly community with vigorous space. Bonding stakeholders including citizens, the government and party organizations, universities, and public institutions and enterprises, this practice encouraged the school — as a community — to leverage its internal resources and enhance its identity under the guidance from local university. During the process of community building, the school finally overcame the organizational inertia and achieved independent operation and growth. This study thus draws following conclusions by establishing the social network of participants for the child-friendly community and visualizing the changes of relations between participants at different stages:

1) Generally speaking, the social network of participants was developed and defined with both independent and dependent modes. Group P was an example of the former as it was characterized for its dominant internal ties and a dense tree-like hierarchical management structure; while Group C represented

下行动者的圈子更为高效、持久和稳定，更有利于其实现最终的独立发展；依赖模式下行动者的自我进化能力较弱，若其所依附的圈子不再，则可能快速崩溃。

2) 在营造活动中，不同角色发挥的作用不一，在一些关键位置上存在功能各异的代理角色。如充当“圈内协调者”的“管理层教师”、充当“圈外中介者”的“高校专家”和“专家团队老师”、充当“发言人”的“高校专家”、作为“守门人”的“小学校长”，以及作为“联络官”的“专业教师”。这5类节点的重要性高于其他节点，是营造活动成功与否的关键。

5.2 研究启示与展望

以育才三小“娃娃农园”营造实践为参照，类似的儿童友好型社区营造实践可有意识地加强自主模式的网络优势，同时找出关键位置上的代理角色，有针对性地促使其发挥代理功能，以此来优化营造的参与者社会网络，实现信息的高效通达。本文期望从公众参与和设计策略两个层面为同类型的社区营造实践提供启发性参考。

5.2.1 创造积极的参与者社会网络

首先，营造活动中的出资者和组织者——如本案例中的“企”方育才三小——应当积极运用自身的网络能力，主动学习以克服自身组织惰性。现有研究将学习划分为利用式学习与探索式学习：就一个组织而言，前者包括稳步改善组织运营、提升执行效率、优化决策和实施等行为，强调对现有知识的整合与利用；后者包括开拓新的业务和研发新的技术、提升组织韧性、不断进行试验和创新等，强调探索新知识和主动实施变革^[23]。在组织中维持这两类学习活动的均衡至关重要。

其次，营造活动中的主要目标群体——如本案例中的“民”方学生与家长——应强化内部关系、提升凝聚力。对于小学这一特殊的社区来说，由于师生之间及学生之间本已互有联系，应尽可能强化不同学生家长之间的联系，打破以班级、年级为单位的交流壁垒；有意识地培养参与家长的独立性和主观能动性，推动营造活动向周边社区辐

the latter that it was dominated by external ties with a static, loose flat management structure. Comparatively, the actors' cluster under the independent mode might be more efficient, lasting, and stable which is conducive to a self-development pattern; the cluster of actors under the dependent mode is weaker in self-evolution and may soon collapse when its support disappears.

2) Different participants of varied attributes and brokerage roles existed in some key nodes in the community building, such as the coordinator acted by the administrative teachers, the itinerant broker by the expert and teachers from Group U, the representative by the expert from Group U, the gatekeeper by the principal, and the liaison by the subject teachers. These five types of nodes in the network were critical to the community building.

5.2 Research Inspirations and Prospects

The case of the Kids' Gardens of Yucai No. 3 Primary School suggests a roadmap for other projects of child-friendly community building that is to consciously adopt an independent mode for the social network development, and identify the brokerage roles in key nodes and facilitate their performance, thus optimizing the social network of participants for an efficient communication. Insights in public participation and design strategies from this example might be provided for similar community building practice.

5.2.1 Establishing an Active Social Network of Participants

To begin with, the investors and organizers, such as Yucai No. 3 Primary School in this case, should leverage their network capability and overcome the organizational inertia by active learning. It is essential to keep the balance of the exploitative and explorative learning — concluded by existing studies — the former help steadily improve organizational operations, boost executive efficiency, and inform decision-making and implementation, reinforcing the integration and utilization of existing knowledge; the latter helps develop new services and technologies and emphasizes knowledge mining and proactive reforms by enhancing organizational flexibility with continuous experiments and innovations^[23].

For the major target group, a more cohesive network of internal ties should be established. In this case, the existing social network of the school is largely defined by the relations between students and teachers, and between the students in the same class or grade. Relations between parents across classes or grades should be enhanced by, for example, fostering the autonomy and initiative of parents (as a participant) to

射；鼓励组建家长委员会等组织，实行自我管理和自我更新。对于一般社区而言，倡议方和组织方应利用社区居委会、社区兴趣小组等组织来串联有儿童的家庭，以增进群体内部关系，逐渐实现群体的自我管理。

再次，营造活动各方的上级管理者——如本案例中的“政”方教育主管部门——拥有较大的话语权。但在本案例中，“政”方的参与消极且不充分，这很大程度上是因为社区营造实践尚处在摸索和试点阶段，大多政府部门缺乏社区营造规划设计职能。针对这一现状，营造活动中的其他参与方可更主动地向“政”方进行宣传和汇报，争取获得更多的关注、了解、认可和帮助；或可视情况对接来自“政”方的“圈外中介者”（如政府专家等），以定期的指导或考评活动来加强“政”方参与的持续性。

最后，也是最重要的一点，营造活动的组织者和设计者——如本案例中的“校”方农大团队——常常在网络中扮演“圈外中介者”的角色（有时也可扮演“联络官”角色），可凭借自身的社会资源和知识权威地位，为网络中的其他成员牵线搭桥、促进参与者社会网络的发展壮大。在培育其他圈子的过程中，应有意识地培养其网络关系和学习能力，帮助其克服组织惰性、获得独立运营的能力，最终达到将运营权责重心转交给被培育一方的目的。

5.2.2 以促进公众参与为目标的儿童友好型社区营造策略

基于以上结论，本文针对儿童友好型社区营造中的空间设计实践提出如下可供参考的策略：

1) 充分考虑空间在观察、教学、科普等多种功能上的适用性，以便在有限的空间中组织更丰富的活动。例如，“娃娃农园”中营建了一米菜园（图8-1）、锁孔花园（图8-2）、奇趣花园（图8-3）等果蔬花卉栽培场地，根据不同的自然教育需求形成不同的景观特色；在农园区域内设置“学习天地”，以为孩子们提供科普空间（图8-4）；此外，教学楼外墙增设了与屋面排水管相连的雨水花园，并将雨水收集、净化和灌溉的科普教育融为一体（图8-5）。同一空间丰富的用途

popularize such building practices to neighboring communities, and establishing organizations such as parent committee to propel self-management and self-renewal — For most communities, neighborhood committees or groups can serve to activate the families with children so as to enhance the community's internal ties and facilitate self-management.

Moreover, the upper-level decision-makers of each parties are expected to be more engaged into building processes. However, in this case, the participation of the government (represented by the education authorities) was negative and insufficient, because current community building practice is largely at the pilot stage and most authorities are not prepared yet for the associated planning or design. On this basis, other stakeholders may proactively share their achievements with the government so as to gain more attention and promote mutual understanding; or invite itinerant brokers from the government (such as governmental experts) to give regular guidance or assessment, thus to ensure sustainable government participation.

Last but not least, organizers and designers in community building who often play a role of itinerant broker (or liaison sometimes), such as the HUNAU team in this case, can develop the social network of participants by leveraging their social resources and academic authority and strengthening the ties among stakeholders. For the leadership cultivation or awareness fostering to a certain group, it is essential to enhance its network capability and learning capability so as to help it get rid of organizational inertia to realize independent operation, and eventually finish the transfer of power and responsibility to the cultivated group.

5.2.2 Child-Friendly Community Building Strategies to Promote Public Participation

Based on the conclusions above, following strategies on spatial design of child-friendly communities could be summarized:

1) Thoroughly examine the spatial affordance of observation, teaching, science education, etc. to integrate diverse activities into the site. For instance, places to plant vegetables, fruits, and flowers in the Kids' Gardens, such as the Square-Foot Garden (Fig. 8-1), Keyhole Garden (Fig. 8-2), and Wonderland Garden (Fig. 8-3), form different landscape features that can serve for varied nature education needs; the Learning Corner in the Kids' Gardens functions as an outdoor classroom (Fig. 8-4); and the rain garden connected to the drainage pipes outside the teaching building helps students understand the rainwater collection, purification, and irrigation process (Fig. 8-5). This multi-purpose space brings about new experience to the participants to inspire

可以给参与者带来更多新奇的体验，有助于激发其探索的兴趣。其他类型的社区营造实践也可以运用类似的方法提升公众参与度。

2) 对空间进行细分，以方便参与者在社区运营阶段进行责任区域的划分，通过归属感和责任心来加强参与者与固定地块的联系，有利于提升公众参与的可持续性。例如，在“娃娃农园”中，场地被划分为一系列小型地块，以班级为单位进行种植和维护（图8-6），收获后也以班级为单位开展售卖活动，充分调动了学生的责任感与积极性。其他类型的社区营造实践可以此为借鉴，鼓励以个人、家庭、楼栋、班级、部门等社会单元为单位，对地块或植株进行认领或认养，鼓励“民”“政”“校”“企”各方中普通参与者（非决策或管理人员）的积极参与。

3) 提供“半完成”状态的空间，鼓励参与者加入小品、标识、道具等元素，以及植物种植和收获等环节，充分发挥参与者的主观能动性，有利于增进参与者的内部联系。在“娃娃农园”的维护运营和权责转移阶段，“企”“民”双方依据二十四节气共同组织了多次大型种植活动，植被选择、地块布置和日常维护均由参与者自主决定和进行；来自不同年级和班级的家长及学生还共同完成了标志牌、小品等的设计和制作（图8-7）。这些“半完成”的空间不仅为参与者提供了创作机会，也促进了作为倡议者的“校”方、作为管理者的“企”方，以及作为普通参与者的“民”方的内部和外部交流，促使参与者社会网络向更致密的方向发展，增进了网络资源的充分流动和有效利用。

4) 通过分期开发，为儿童活动提供足够的活动场地，同时也为参与者进行空间创造提供机会。在“娃娃农园”的权责转移阶段，二期建设提前开启，在“企”方教职员和“民”方学生家长共同努力下，启动了新的农园建设（图8-8）。在自主施工的过程中，许多具有一定专业技能的家长带领“民”方参与者共同劳动，这些家长有望推动“民”属圈子扮演更丰富、更积极的角色，成为加强“民”方内部联系的抓手。在其他类型的社区营造实践中，给予参与者空间创造的机会同样是促进参与者社会网络自我进化、萌生和培育关键个体的有效手段。LAF



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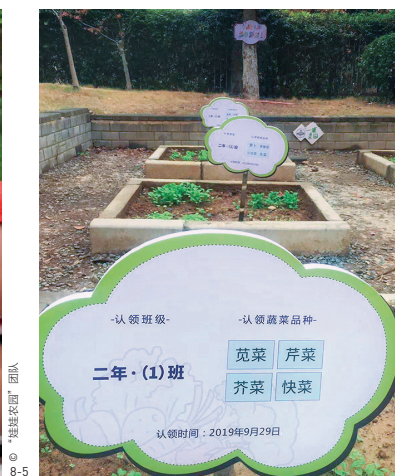
their exploratory behaviors. Other community building practice can employ similar approaches to enhance public participation.

2) Space zoning and allocation can increase participants' sense of belonging and responsibility in the operation and maintenance, helping encourage public participation in a long run. For example, the Kids' Gardens is divided into several small lots. Each class may take care of one lot (Fig. 8-6) and sell the harvest, during which the students' sense of responsibility and enthusiasm could be strengthened. In other community building practice, such an allocation can extend to common citizens (individuals, families, neighbors, etc.) or social entities (classes, authorities, etc.), so that common participants, instead of decision-makers or administrative faculty, can play a more robust role in community building.

3) Offer “half-done” spaces for participants combining with landscape features, signage, and ornamental elements and program plant cultivation and harvest to enhance internal ties between group members. In the Kids' Gardens case, participants from Group P and Group C co-organized several planting events in line with the 24 solar terms after the completion of Phase I construction. The participants were in charge of plant choice, lot arrangement, and daily maintenance. Students and their parents from different grades and classes also designed and made the signage and

8. “娃娃农园”中所采用的可以促进公众参与的空间策略，如图分别为一米菜园（图8-1）、锁孔花园（图8-2）、奇趣花园（图8-3）、学习天地（图8-4）、雨水花园（图8-5）、责任区块（图8-6）、自主设计和建造地块（图8-7）和自主开辟和施工地块（图8-8）。

8. Spatial strategies adopted in the Kids' Gardens to promote public participation, including square foot garden (Fig. 8-1); creating Keyhole Garden (Fig. 8-2), Wonderland Garden (Fig. 8-3), Learning Corner (Fig. 8-4), and rain garden (Fig. 8-5); space allocation to different classes (Fig. 8-6), independent design and construction plot (Fig. 8-7), and independent exploration and construction space (Fig. 8-8) by the school.



ornamental elements together (Fig. 8-7). Such “half-done” spaces provide not only creation opportunities for participants but also an exchange medium for Group U as the proposer, Group P as the manager, and Group C as common participants. In this way, the social network will grow into a denser structure to facilitate the full flow and efficient use of resources within the network.

4) Reserve spaces for children's activities and participants' creative spatial design and construction via phased development. At the power and responsibility transfer stage in this case,

the Phase II construction was launched earlier than scheduled through a collaborative effort by the faculty, students, and parents (Fig. 8-8). During this independent construction process, many parents with professional skills led the collaboration and shouldered more responsibilities, playing a key role to enhance the internal ties of Group C. By providing more opportunities for creative spatial design and construction, the social network of participants will evolve automatically and the leadership of key individuals can be fostered. **LAF**

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