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Agenda of Higher Education gets accomplished through Service-Learning: Lady Doak College experiences

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Indian Higher Education has had an emphasis on inclusion of service in curriculum right from the 1960s. The National Service Scheme (NSS) launched in 1969 had one of its objectives as 'Utilizing the knowledge in finding practical solutions to individual and community problems'.

Lady Doak College founded in the year 1948 by the passionate service of Ms. Katie Wilcox, a Christian Missionary from the USA, has left a legacy where Higher Education, when interwoven with service, gears up students to become socially committed women leaders. The evaluative and non-evaluative service programs then offered became service-learning (SL) in some departments after 2003. From 2005, SL had been institutionalized when it became an integral part of the curriculum for extra credits. Hence, all 13 departments started offering SL programmes/courses as part of their curriculum. These departmental SL Programmes paved way for interdisciplinary community-based research, addressing some of the ethical concerns experienced when Service-Learning was practiced as pedagogy. Since 2013, the re-structured curriculum offered at undergraduate level had the mandatory component of 'Life Frontier Engagement' (LFE). The LFE has offered an academic experience enabling the student to create new knowledge as solution to a community based problem resulting in whole person development and consequently, the agenda of Higher Education is accomplished. This experience of Lady Doak College in evolving Service-Learning as pedagogy and subsequently the emergence of Life Frontier Engagement to address the ethical issues experienced in SL is presented in this paper.

INTRODUCTION

The Indian Higher Education system is the third largest in the world, next to United States and China. The University Grants Commission (UGC) is the highest apex body that governs tertiary level education in India. The Education Commission was formed under D. S. Kothari, the then Chairman of UGC in 1964. This commission was tasked to advise the government on the pattern of education to be followed at the national level and to suggest policies for the development of education at all levels ranging from primary to tertiary levels. One of the recommendations proposed by this commission was that work experience become an integral part of all education and so all stages of education should be associated with some form of social service. In 1986, National Policy of education was formulated and then modified in 1992. This policy stipulated that higher education had to provide people an opportunity to reflect on the critical, social, economic, cultural, moral, and spiritual issues facing humanity. Hence, higher education institutions are expected to incorporate a service component in the curriculum itself.

EVOLUTION OF SERVICE - LEARNING AT LADY DOAK COLLEGE

Lady Doak College, a premier Christian Institution founded in the year 1948 by an American missionary, Ms. Katie Wilcox, has had a service component in its curriculum, even before the college was conferred with a status of Autonomy in 1978. Raising up empowered women leaders being the purpose of the college, the curriculum was carefully designed not only for the acquisition of academic knowledge but also for the development of social responsibility. As an institution that had always striven for whole person development, the college had already been involved in various outreach programmes such as Social Service League, Student Christian Movement, National Service Scheme, and Population Education Club among others, even before the college was granted an autonomous status. The students registered in these programs on a voluntary basis.

Introduction of social service to students in tertiary education was seen as a measure to reform education and to enhance the quality of an educated person especially in the post-independent era. Hence, the nationally sponsored service programme called National Service Scheme (NSS) was

launched in 1969, which was Mahatma Gandhi's centenary year. The motto of NSS is "Not Me but You". The broad objectives of NSS are as follows:

- to understand the community in which they work;
- to understand themselves in relation to their community;
- to identify the needs and problems of the community and involve them in problem-solving;
- to develop among themselves a sense of social and civic responsibility;
- to utilise their knowledge in finding practical solutions to individual and community problems;
- to develop competence required for group-living and sharing of responsibilities;
- to gain skills in mobilising community participation;
- to acquire leadership qualities and democratic attitudes;
- to develop capacity to meet emergencies and natural disasters; and
- to practice national integration and social harmony.

In spite of the objectives that included utilization of knowledge to find practical solutions to individual and community problems, NSS was used as a platform for doing physical labour and for personality development.

In 1970, one of the significant service programmes at the college was taking Science to villages. The laboratory science students went to a nearby village school that did not have laboratory facilities. The students performed demonstrations of simple science experiments and were taught science concepts (Table 1).

Another unique service program was the College Literacy Program. A village was adopted and the students were involved in adult education to make the villagers literate. All these extension activities were non-evaluatory. When the autonomous status was conferred by UGC in 1978, these service programs were made a mandatory component in the curriculum. Grades were awarded based on evaluating the students' involvement in service programmes and meritorious students were recognized with special certificates during Annual College Day celebrations.

In 2001, Choice Based Credit System was introduced for undergraduate students. More options were given under extension programmes, such as NSS, Ranging, Library Service Programme, Environmental Awareness

Programme, and so on. Project work was part of the curriculum and students worked on some applied projects (Table 2).

Table 1. Service Program on Taking Science to the Villages

Title	Extending Functional Science Education to the Village Chittampatti
Departments	Chemistry, Botany, Zoology and Physics
Programme	Science Education, Self-employment schemes and Health awareness
Place	Chittampatti Village (18 kms from Madurai City)
Target Group	School Children of Chittampatti
Participants	Interested Science students and Teachers
Objective	To provide better learning facilities and promote Science Education to rural school children
Activities	<ul style="list-style-type: none"> • Establishment of mobile laboratory and library • Tutoring school Children in Science subjects • Preparation of Audio visual aids (Charts, models & Maps) • Talent show & Science Exhibition for School children
Collaborating Community Agencies	<ul style="list-style-type: none"> • Village Panchayat Union • School authorities of the village

Table 2. Choice-Based Credit System Program for Undergraduate Students

Department	All Departments both Humanities and Sciences (Under Autonomy)
Programme	A few projects at undergraduate level which are application oriented
Participants	All students (Humanities and Sciences)
Target Group	Local community
Objectives	<ul style="list-style-type: none"> • To identify a research problem in the major discipline applicable to the local community • To analyse the factors responsible for the problem in a systematic manner using scientific approach • To suggest remedial measures for solving the problem to the appropriate body for action

Student involvement in service programmes was evaluated. In 2002-2003, the Department of Zoology introduced an extension program where classroom knowledge was also applied in serving the community (Table 3).

Table 3. Extension Program of the Department of Zoology

Department	Zoology
Programme	Health & Environment
Participants	17 interested undergraduate students and two teachers of Zoology
Target Group	Rural women and school children of Anaiyur Panchayat
Objectives	<ul style="list-style-type: none"> • Survey on demographic profile • Health & Environmental awareness programme • Survey of Dental, Communicable and Skin diseases • Analysis of Water sample and Quality assessment • Tailoring classes to village women • Free eye camp • Street cleaning with sanitary workers and school children • Competition on Environmental issues • Exhibition on Health and environmental awareness • Training – Preparation of low cost nutritious food items to mothers with young children
Collaborating Agencies	<ul style="list-style-type: none"> • Apollo Hospital • Meenakshi Mission Hospital • Primary Health Centre and Local School Authorities

These fruitful experiences of the College in the various services led to the introduction of SL in the regular academic chart. In 2003-2004, efforts were made to institutionalize SL, integrating the service component into each discipline thus facilitating education of the head, heart, and hand.

INSTITUTIONALIZING SERVICE - LEARNING AT LADY DOAK COLLEGE

In the first phase of institutionalizing, a core team was constituted with faculty members drawn from all departments. A national consultation and periodical discussions were held for the core team to address the following questions related to service learning.

Ethical Challenges /Service Learning Dilemma

- Academic Rigor: Will service-learning dilute the curriculum?
- In what way is service-learning different from community service / volunteerism / internship?
- Does service-learning fit into all courses?
- Should all service-learning be off-campus activity?
- How to find a service-learning site?

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- How much can really be accomplished during a semester?
 - Would it not become an additional responsibility for the faculty?

When the core team had internalized the significance of SL, the departments came forward with their own proposals for introduction of SL, the basic elements of SL where classroom learning was applied for service, and reflection when new learning happened—all given due importance while designing the models in LDC. The proposals given by the departments were categorized into the following models.

- Model 1: Discipline-Related – A Separate SL program of the Department
- Model 2: Course-Related – SL components incorporated in the existing courses
- Model 3: A created study – A separate SL course offered by the Department
- Model 4: Applied Projects – An independent applied project work in a specific community

The departments had the freedom to design different kinds of SL courses/programs with the basic focus on extending classroom knowledge to community service with a component on reflection to gain new learning.

Some departments also facilitated their students to undertake applied projects that had an application of their classroom learning. A few examples are as follows:

- Analysis of pesticide residue in fruits, vegetables, greens sold at vegetable market in PT Rajan Road;
- Monitoring of BOD and COD during sewage treatment process at Lady Doak College campus; and
- Analysis of the fine particulate matter and oxide sulphur, nitrogen in Air at B.B. Kulam and Lady Doak College campus.

Table 4. Profile of SL Courses/Programs Offered
in the Odd Semester (June-October) in 2005

Department	Course Title
Tamil	Life Education in Villages
History	Citizenship training for Rural Women
Social Sciences	Child Development
Economics	Population Education to Rural Women
Commerce	Training in Self-Help Group
Mathematics	Maths for Competitive Exams
Physics	Motivating School children to learn Physics GIS Based Community Projects
Chemistry	Diagnostic Chemistry
Botany	Applied Botany
Zoology	Promotion of Environmental and Health Awareness
Business Administration	Entrepreneurship Development
Computer Applications/ Information Technology Management	Web Based Community Project

Table 5. Profile of Service-Learning Courses/Programs Offered in the
Even semester (November 2005-April 2006)

Department	Course Title
Mathematics	Statistics
Chemistry	Environmental Chemistry Applied Projects
Zoology	Environmental Biology

ETHICAL ISSUES EXPERIENCED IN SERVICE-LEARNING

The mandatory extension program offered for undergraduate program did not seem to impart social responsibility. The SL used as pedagogy in all the departments was revisited due to some ethical concerns.

- In all the departments, SL was offered as an optional course for extra credit only.
- Since completion of SL led to extra credit, it was not included in the faculty workload.

- Students went to the community outside class hours only and so faculty could not accompany them every time.
- After the completion of service in the community, the community was not able to enjoy the benefits of service because of time constraints. Hence, the community seems to have been used as laboratory for data collection.
- While planning for the service and when the students were evaluated, the community partners were not involved.

These experiences brought about the need to assess the sustainability of the service in the community. The difficulty faced in identifying the right problem in the right community was also realized.

In the year 2012-2013, when the college was involved in restructuring the Undergraduate curriculum, the following future plans were envisioned for life frontier engagement (LFE) based on the experience of SL programs offered so far:

- involving more faculty in SL;
- creating/Requiring a platform for all students to participate in SL;
- linking research with extension;
- introducing interdisciplinary community work;
- providing all students the opportunity to apply their classroom knowledge to community service—this then became an effort to achieve the mission of the college

Pilot Experiences on Life Frontier Engagement

The United Board funds enabled us to have pilot experiences on Community Based Research from 2010. Below are a few of such experiences.

Community based environmental health initiatives at Sellur. Sellur was a highly polluted and deeply congested area with 13 streets consisting of 150 houses in each street. The different studies undertaken in Sellur included the following:

- the area chosen for community-based research was geo-mapped by the students from the Department of Physics;
- the water quality was studied by the students from the Department

of Chemistry;

- fecal contamination of drinking water was identified by the students from the department of Botany and microbiology; and
- the survey report showed the high prevalence of dental problems in Sellur because of poor water quality.

Based on the results of the community project, the students involved in SL organized awareness programs especially for the school children in that area, as it was believed that through the school children the awareness can be passed on to the adults in that area. Womenfolk were also given training on making paper bags in order to minimize the usage of plastic bags.

Action frame work for parthenium control. Parthenium is an herb; its pollens when inhaled leads to respiratory problems. Hence, it had to be eradicated in the residential areas. The students from the Department of Botany undertook a project for controlling Parthenium, and they promoted awareness among the students and public on the impact of this herb. The department selected Koozhapandi, a village near Madurai, and trained the village community on management of Parthenium. Recently, when the department visited the village, the village was completely free of Parthenium. This experience had also inspired one of the students in that department to undertake an academic project in creating new knowledge on control measures on Parthenium. The students who were involved in this SL activity organized an awareness exhibition especially on the identification of Parthenium, for the college community, and for the public.

GIS based community projects

Study on the traffic flow around Lady Doak College campus. The students from the Department of Physics observed the vehicle movement at peak hours in hot spots using GIS tools. The hot spots were mapped. Results of this study were of help in the installation of traffic signals in specified spots as well as in rescheduling of time for colleges and schools.

Geomapping of Civic condition in terms of solid waste around Meenakshi Amman temple. Meenakshi Amman temple being a very famous tourist spot, the students of Physics department undertook a study of the surrounding area that is highly polluted by solid waste. The GIS

map was hosted as a documentary film in Youtube showing the extent of pollution by solid waste. This created considerable awareness among the public to become cautious of solid waste.

Web-based community projects

- Web based projects were undertaken by the students of computer science department before 2010 itself.
- The women of Self-help group from Thiruppalai (~7 km from our campus) faced difficulty in marketing their products. Hence, the students of Computer Science department designed a webpage for promoting their marketing in the year 2005.
- In 2006, a web site was designed for the Panchayat Union office of Uthangudi village.
- Desktop publishing training was given by the students of computer Science department to the students of Bethshan, a special school in Madurai.

Child development course. Housed at the college campus, the students of social sciences were involved in the Crèche as this activity is an SL component of the course in Child development. On the completion of their course, the students decided to give a special training for the crèche care takers.

Statistical analysis by department of mathematics. The students from Mathematics department undertook a statistical analysis in Madurai—this was a feedback on the training programme organized by an NGO, SOCO trust. Based on the results presented by the students, the NGO was able to reorganize their training program.

All these success stories of the community-based research provided an impetus for the sustainability of SL which can be achieved through life frontier engagement that is another level of the SL program. Hence, a decision was made to incorporate life frontier engagement as part of the curriculum that uses the integrated curricular model for the undergraduate program.

EVOLVING LIFE FRONTIER ENGAGEMENT INN UNDERGRADUATE CURRICULUM

The objectives of this LFE are to

- make LFE mandatory for final year undergraduate students which would be a stepping stone for interdisciplinary, community-based applied research, whereby students get an opportunity to appreciate their academic learning through community experiences and to suggest solutions to industrial and societal issues;
- facilitate faculty to frame an LFE curriculum suited to their discipline by consultation with experts in the field and to design the mode of implementation; and
- provide a framework for LFE by identifying collaborating agencies and facilitating tie ups with them, thereby generating a discipline-wise database.

The full-fledged LFE will be implemented in the year 2015 for all undergraduate students. Currently the college is involved in the preparatory phase for full-fledged LFE.

A core team of faculty members drawn from all departments had a brainstorming session on their SL experiences and how the ethical issues they faced in SL can be addressed when LFE becomes part of the regular curriculum.

Phase I: Capturing the right concept of LFE by the teachers involved in framing LFE

Phase II: Identifying the community issues jointly by the faculty, students, and community partners.

Phase III: Interacting with academic experts for framing the course that consist of learning outcomes, different units, and evaluation.

Phase IV: Evolving the curriculum with evaluation tools and assessment process

Phase V: Getting approval from the Academic Council, for the newly designed LFE before implementation in June 2015.

It is believed that LFE will be able to suitably address the ethical issues experienced in the earlier experience of SL when it was used only as pedagogy.

- Under LFE, this community-based research becomes part of the regular curriculum, and hence it becomes part of the faculty workload.
- LFE is not an extra credit programme, and so students and faculty are involved in community-based research during their regular working hours.
- The community involved will no longer be a laboratory or data providers; instead, the solution proposed by the students (the new knowledge created in their community-based research) will be disseminated in the community for implementation. Adequate time can be given for this process in LFE.
- Because every student is required to complete LFE, all undergraduate students get involved in community-based research and so the institutional mission of developing socially sensitive women leaders can be achieved.

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Academic Year	Service-Learning Projects funded by United Board
2002-2003	Service-Learning and Extension Programmes
2003-2004	Institutionalizing Service-Learning
2004-2005	Establishing a Centre for Service – Learning Activities
2007-2008	Transferring Technology through Service-Learning Eco-conscious Service-Learning Education in Paper Waste Management
2008-2009	Qualitative Assessment of Energy Consumptions and Methods of Energy Conservation
2010-2011	Community Bases Health Initiatives Carbon Foot Printing and its impact on Public Health in selected areas of Thathaneri, Madurai
2011-2012	Action Framework for Parthenium Control
2014-2015	Initiation & Implementation of Life Frontier Engagement for Whole Person Development

CONCLUSION

Chan, Brown, and Ludlow (2014) undertook a comparative study on the perspectives of an institution and the students on the goals and purposes of completing a Bachelor's degree in the 21st century. Their study had shown contrasting emphasis between the perspectives of students and that of institutions, and there was a significant mismatch found. Advanced skills and generic competencies were the goals of institutions that could be achieved by means of LFE. It is also concluded in the said study that the institutional goals could be achieved by modifying the curriculum and pedagogy, and hence the faculty needed to be equipped with necessary skills. In LFE, the students were presented with a problem existing in a community, and they generated new knowledge by undertaking research and providing a solution that is workable and intellectually defensible. This outcome is possible when cognitive learning—recall of knowledge, comprehension, application, analysis, synthesis, and evaluation—happens to an undergraduate student, which is the ultimate agenda of higher education.

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