Intrinsic Teacher Practice to Holistic Public School Reform – SDGs Project 1 Report

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Abstract: This article is a report on the development of a model for public school organization and curriculum as a foundation for Education for Sustainable Development (ESD) practice, undertaken as part of the "Project to Promote ESD" commissioned by the National Commission for UNESCO of the Ministry of Education, Culture, Sports, Science and Technology (MEXT). The project, led by Shizuoka University, is carried out by the ESD Hooripu, a framework study group that links public schools to holistic reform through intrinsic teacher practice for ESD. The project aims to construct a theoretical framework to support educational and school reform in local authorities from an ESD perspective, using Social Impact Management/Logic Model as a perspective for change. It also focuses on developing teachers' Ecological Teacher Agency (ETA) through workshops, training sessions, and evaluation support. The outcomes of these efforts are validated through a comprehensive evaluation. Overall, this article highlights the importance of intervention in the project, aiming to empower teachers to enhance their expertise and actively engage in educational reforms. The utilization of a logic model approach is crucial for sharing and aligning visions and aspirations for education in schools and communities, transcending mere outcome evaluation and leveraging it as a tool for educational policy.

Keywords: Education for Sustainable Development (ESD); Ecological Teacher Agency (ETA); Social Impact Management; Transformative learning; Systems thinking

1. Introduction

This report is part of the "Development of a Model for Public School Organization and Curriculum as a Foundation for ESD Practice" (project leader: Osamu Umezawa, Shizuoka University; hereafter referred to as "this project"), which is part of the "Project to Promote ESD" commissioned by the National Commission for UNESCO of the Ministry of Education, Culture, Sports, Science and Technology (MEXT). Implementation Team "ESDHoRIP" (A Framework Study Group that Links Public Schools to Holistic Reform through the Intrinsic Teacher Practice for ESD: ESD-related intrinsic teacher practice for ESD) A Framework Study Group that Links Public School to Holistic Reform (hereafter referred to as ESD Hooripu). Sections 2, 3, 4 (ii), 5, and 6 were written by Sakurai and Section 4 (i) by Sasaki.

2. Project overview and the ESD Hooripu

This project was commissioned by the Ministry of Education, Culture, Sports, Science and Technology's National Commission for UNESCO and led by Shizuoka University from FY2020, with the aim of

"launching research and studies while supporting two municipalities' educational reform cases in order to start developing a foundation for full-fledged ESD practice in Japanese school education (emergence-type model development)" (FY2020). The project has been carried out with the objectives of "launching a research study while supporting two municipalities in their educational reform case studies in order to start the development of a foundation for full-fledged initiatives in Japanese school education (emergent model development)" and "disseminating the existence of the model development nationwide and starting the construction of a network to promote ESD practices in public elementary and junior high schools" (extract from the 2020 UNESCO Activity Grant Application Form). **Table 1** shows the list of study groups in 2020.

Table 1: List of study groups in 2020

Month Day	Lecturer	Topic
25 June	Dr Toshio Teshima	ESD after Corona
26 June	Dr Yoshiyuki Nagata	Expectations for holistic school organization and curriculum reform
3 July	Dr Naoki Chiba	Expectations for holistic school organization and curriculum reform
10 July	Dr Sachiyo Soga	Development of models of public school organization and curriculum as a basis for ESD practice
16 July	Dr Takahisa Oshida	Consideration of trends and issues in curriculum reforms initiated by local authorities
17 July	Dr Yasuyuki Tamai	Characteristics and goals of school organization and curriculum reform in remote and small schools: links to holistic education
27 August	Dr Hiroaki Tamaki	"What is a good education: ethics, politics and democracy" by G. Biester, eds.
11 September	Dr Aki Yonehara	ESD School Management Practice at Minatomirai Honmachi Primary School
18 September	Dr Masaharu Sumida	Considering holistic public school reform from the ESD practice of creating colorful schools

The mission of ESD Hooripu, to which the presenters belong, is based on the aforementioned objectives. The mission includes: (A) to construct a theoretical framework for supporting educational and school reform (change) in local authorities (from an ESD perspective) and to examine the framework for change from the perspective of Social Impact Management/Logic Model, and to develop an Ecological Impact Management/Logic Model; (B) to support the development of teachers who demonstrate the Ecological Teacher Agency ([1,2], hereafter ETA model), this support includes workshops and training sessions, development support through evaluation, etc.; and (C) to validate the outcomes of (A) and (B).

3. Activities in the first year
In FY2020, the first year of the project, outreach activities were the main focus of research activities due to the impact of the Corona pandemic. Specifically, in relation to (A), (i) study meetings were held by inviting resource persons[1], (ii) discussions were held with local authorities to examine the effects and issues of operating the logic model in education policy and school education, (iii) tripartite discussions were held by Kawane Honmachi, Nanto City, and ESD Hooripu to share the current situation, issues of local authorities, and future prospects. The council took place in Nanto City, with the participation of Fukushima Prefecture's Okuma Town as an observer, (iv) Conducting logic model creation workshops (in Kawane Honmachi and Nanto City), and (v) disseminating results by holding symposia. For more information on

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[1] A "resource person" refers to someone who provides new intellectual resources and offers guidance on directions based on knowledge sharing for problem identification, problem-solving, and considering participants' opinions, suggestions, ideas, etc. This excerpt is taken from the project proposal document.

activities iii–v, please refer to [3].

3.1. Study meetings with resource persons
A total of nine study meetings were held online in FY2020. The study sessions covered topics related to ESD, Social Impact Management (SIM) and Logic Model (LM), as well as curriculum reforms initiated by local governments and reforms in small-scale schools in remote areas. Additionally, topics such as democracy education facilitated by BEISTA were also addressed. The sessions aimed to provide foundational theories and explore good practices related to the needs of local governments and ESD.

3.2. Study on the logic model
The project aims to "research, create and implement a logic model 'unique to this project'" in order to "design a system that integrates project and evaluation (systematic design) by introducing recent evidence-based management (EBM) policies and the concept of social impact management" (extracted from the application form). In discussions with the local authorities, the following questions were raised: whether it would be better to create separate logic models for the education policy level and the school management level; if both are created, how should their relationship be positioned? It is suggested that the logic model for educational policy level should involve the mayor's office, departments, board of education, and various committees. Regarding the logic model for school management level, it is being considered how to involve not only administrators but also teachers in the creation process. These points are being discussed as focal points to determine the best approach in the project.

4. ESD and the ETA model as the theoretical background (foundation) of this project
4.1. ESD
ESD is an activity that has been spreading internationally since the 1980s as a means of developing people who will proactively take responsibility for a sustainable society. In Japan, the preamble and general rules of the Courses of Study to be implemented from 2020 onwards include the phrase 'creators of a sustainable society', and the importance of ESD has been recognized. It aims at the acquisition of new values and behavioral change[2]. In order for ESD to develop endogenously, it is important to form a process that accompanies students and teachers in their daily lives through a chain of learning that starts with their interests and questions [4].

Key words that characterize ESD include 'transformative learning' and 'systems thinking'. 'Transformative learning' refers to a learning process that transforms oneself and society by questioning the assumptions and values held by the learner by imagining a new vision of society [5,6]. 'Systems thinking' is also a series of thought processes about the relationship between oneself and society, the connection between the present and the past/future, the positioning and involvement of the individual in the system, and the next step to be taken [6]. **Figure 1** examines the point of contact between individual transformation and social transformation using U-theory, a form of systems thinking, and shows the process of letting go of and breaking down old frameworks on the left side of the U-shape, and the process of re-creation on the right side, where new habits, values, etc. are created while experiencing failure [6].

The project aims to establish a framework that enables teachers in the field to work on actual educational reforms as their own personal matter and to enhance their own expertise. Teachers are required to look back and improve their own practices based on the actual situation of children, without being bound by past customs and past practices. The project also focuses on the concepts of systems thinking and U-theory as a framework for teachers themselves to reflect on what kind of community they want to create in 20- or 30-years' time and what is required of education today to nurture the bearers of that community.

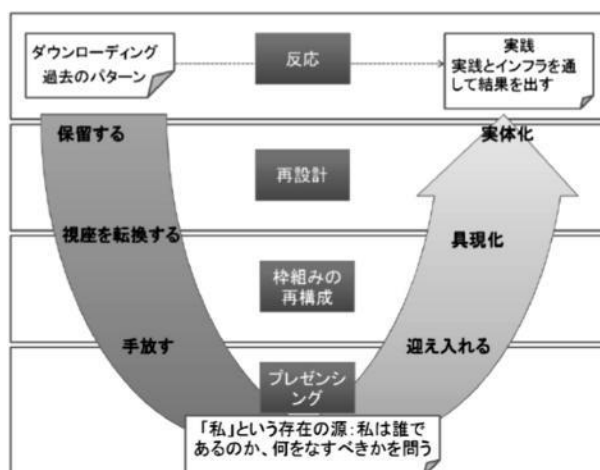[2] https://www.mext.go.jp/unesco/004/1339970.htm (Viewed February 10, 2022)

Figure 1: U-theory in systems thinking (Source: Soga 2013; p. 106) [6].

4.2. ETA model

Another theoretical framework that we are focusing on in this project is the ETA model proposed by Priestley *et al.* [1]. The ETA model models the activities of teachers who actively make decisions and participate in reality in harmony with their environment (p. 136) [1]. According to this model, agency is possible when teachers are able to reflect on their own practice from past and future dimensions, not limited by the immediate situation at hand, and decide which of a variety of options is most appropriate in terms of their larger professional objectives (Leijen *et al.*, 2020, p.302–303) [2].

Therefore, the authors would like to consider the current situation of teachers and the image of teachers that should be developed in the future, based on the assumption that agency is manifested when teachers proactively and intrinsically engage in school and educational reform, and that the decision-making behind the observed behavior is as shown in **Figure 2**. The idea is to understand the current situation of teachers and to consider the image of teachers that should be developed in the future.
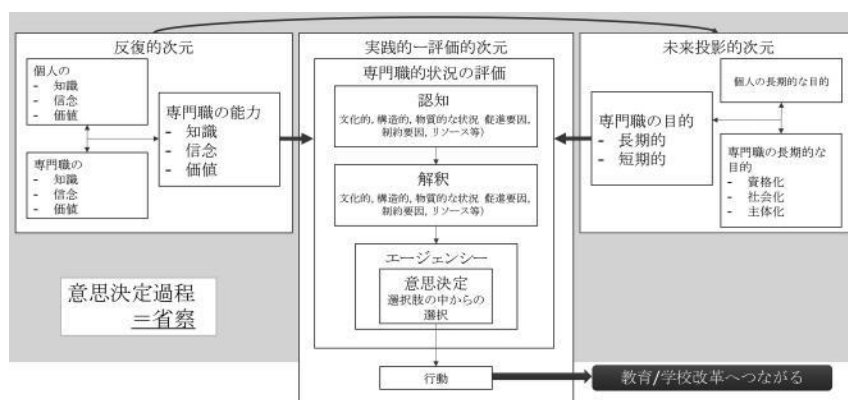

Figure 2: Teachers' decision-making model for reform

(Source: Author's translation based on Leijen *et al.* 2020, p.297 [2], with some additions)

5. Future prospects

As a research study, a participatory observation and interview survey based on the ETA model is planned in elementary and junior high schools in Nanto. The analysis will question the teachers' perceptions and interpretations of the present in terms of the iterative dimension, the future-projective dimension (also referring to transformative learning and systems thinking), and the practical and evaluative dimensions. In addition, we will also investigate policy interventions by local authorities, the human and material environment of schools and the impact of interventions by the authors. Furthermore, the project plans to

support the creation of a logic model for the municipality, reflecting teachers' views, and to organize workshops and training sessions to promote systemic thinking among teachers for the school board and schools in Kawane Hommachi.

It should be noted that the intervention is considered to be an important part of the project. The authors aim to construct a framework that will enable teachers in the field to develop their own expertise in actual educational reforms, while tackling them as their own personal matter. As an effective framework for this, they focus on transformative learning in the field of ESD, systems thinking, and the ETA model proposed by Priestly *et al.* [1]. They seek to create a system where teachers, transcending the boundaries of educational boards and schools, become agents of change who proactively transform their schools. For this purpose, teacher reflection and subsequent actions based on that reflection play a crucial role.

Furthermore, in the dimension of future projection, it is particularly relevant for teachers to utilize a logic model approach to share and align their visions and aspirations for the desired state of education in schools and local communities. It is important to not just view the logic model as a framework for outcome evaluation but to leverage it as a tool for educational policy. Therefore, the exploration is underway to determine what proposals can be made or how collaboration can be fostered to develop a logic model specifically for educational policy.

6. Discussion points

There are three main issues to consider for the future. Firstly, what are the approaches to enable reflection based on the ETA model? Specifically, how can we design the workshops and training sessions for teachers conducted by ESD Hooripu, or how can we create learning opportunities among teachers to enable educational/school reform through endogenous teacher practice? At present, our direct involvement is limited to working with school boards and talking to school administrators. It is necessary to consider whether we should leave it to spontaneous action, with minimal external intervention, or whether it is preferable to involve teachers in creating an environment in schools where they can learn from each other themselves.

Second, it is necessary to create a mechanism to ensure that the logic model does not become an 'unabridged corpus.' A mechanism needs to be created to re-examine the logic model. Logic models need to be revised as necessary by those involved, based on the results of trial and error, but such a review is not often carried out in education policy. It is necessary to consider who, when, and how the initiative to review a logic model once it has been created should be initiated or should be initiated.

Third, there is a need for ongoing consideration of the concept of outcome indicators for the logic model. Although the outcome indicators of the logic model are often presented numerically as objective indicators, such numerical indicators are often conceived as being unsuitable for education, and in fact there is a strong sense of aversion to easy numericalization. It is also important to bear in mind that figures are only a slice of reality. It is important to consider through future research whether there is such a thing as a qualitative outcome indicator for education, and if qualitative indicators are used, what should be done to ensure that they do not fall into the category of formal evaluation. Furthermore, if education professionals create evaluation indicators for education, it will be necessary to consider what processes need to be followed in order to ensure that these indicators include an educational perspective that everyone can agree on.

Disclosure statement

The author declares no conflict of interest.

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