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What Are the Necessary Elements for A Group of Teachers Who Continue to Learn Proactively?

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Abstract

In Japan, changes in the environment surrounding school education include the recent mass retirement and hiring of teachers. In the past, young teachers have been able to improve their qualifications and abilities by passing on their knowledge and skills from older, more experienced teachers to younger, less experienced teachers in the practice of school education, but it has been pointed out that this transfer is not functioning well due to changes in the age balance. According to the "Interim Summary of the Training, Recruitment, and Training of Teachers for 'Japanese-Style School Education'" [1], "Teachers, as highly qualified professionals, are expected to Teachers, as highly qualified professionals, are deeply aware of their noble mission, and are obligated to strive to fulfill their professional responsibilities through continuous study and training.
In this paper, we examined what elements are necessary for a group of teachers who continue to learn proactively by analyzing the efforts of core science teachers (CSTs) in Kochi Prefecture. As a result, four elements (understanding of management, autonomy of CSTs, content of training, and networking of CSTs) were extracted as keywords.

Keywords: *Teacher Training, Core Science Teachers*

I. Purpose of the Study

According to the "Interim Summary of the Training, Recruitment, and Training of Teachers for '2021 Japanese-Style School Education'", "The image of teachers who continue to learn independently is an important role model for students. In order to realize "2021 Japanese-style school education," it is necessary to change the way children learn as well as the way teachers themselves learn (their view of training). It is stated as follows. This paper explores what is required for a group of teachers who continue to learn independently in the future, and examines the elements of such a group, focusing on the efforts of core science teachers (hereafter CSTs) in Kochi Prefecture.

2. Research Methods

The CST project (sponsored by the Japan Science and Technology Agency), which began in 2009, has been actively conducted mainly by universities and boards of education in 16 prefectures in Japan. Although public support ended at the end of FY 2015, many universities and boards of education have continued the CST project on a voluntary basis, which can be inferred to be an initiative that meets the needs of the field. We analyzed the CST questionnaire and interviews with supervisors in Kochi Prefecture, a prefecture where universities, administration, and the field are working together to make the project self-sustaining, and where there are opportunities to directly participate in CST training and to obtain the cooperation of the supervisors in charge of the project.

3. Results

3.1 Results of Main Questionnaire to Kochi CSTs

Years of teaching	What is rewarding as a CST and what you want to do as a CST
1	I would like to see the students thinking and generating various ideas from natural phenomena. I would like to develop teaching materials and think about questions to ask in class. If I am not able to ask the right questions at the right time because I do not have a deep understanding of the intent of the textbook, I will lose the students' chance to learn.
5	Interaction across schools. There are things we can understand each other because we have the same

	science education. Development of science education Proposal of teaching materials.
8	I am glad that through the many training programs I have been able to meet and discuss with various people and become even more powerful than I was before. I am really happy when students are moved and understand what I am teaching.
9	It is always stimulating to be involved with so many other faculty members. I feel that I am always able to make changes (better things) without being proud of what I am doing.
10	I can research with my peers to improve my science classes. I can be a teacher who keeps learning. I have lots of tips for communicating the excitement of science to my students. Practice what you are learning with your students. Use of local teaching materials. Teaching young science teachers Sharing the materials they have researched.
18	I would like to serve as a consultant to younger teachers as a middle generation rather than as a CST, and create connections between schools. We would also like to build connections among teachers. In the county area, there is one science teacher per junior high school.
22	To get together with elementary and junior high school science teachers in the school district and consider valuable lessons for the children through trial and error. The members will reflect on the results of these efforts, and then discuss classes that have undergone further improvement. To open classes to the public from time to time, based on daily research of teaching materials and classroom practice. We want children to acquire the foundation (attitude) to learn throughout their lives through science classes. We want children to be able to pursue their dreams and pursue their potential.
25	Opportunities to learn together with teachers and staff, and to be inspired by each other to create lessons. The ability to connect with local science teachers. We would like to continue to think together with teachers in various situations to promote local (science) education and spread our efforts in the future.
31	To create a place where science teachers around them can enjoy being science teachers. We want to create a place where teachers who are reluctant to participate in the science I am making an effort to make it a place where science teachers can enjoy being science teachers. For this reason, I am also making efforts to make it enjoyable for me.

3.2 Results of Interview with Kochi Prefectural Board of Education Supervisor

Interview Summary
In 2020, there were 125, but 536 elementary school teachers and 233 middle school teachers participated.Some things CSTs do individually, and some things CSTs do as a team are more effective. It is easier to give advice to teachers when there are several CSTs who are leaders in training sessions and observation practices.
The CST is also in charge of training another school across the municipality, just like a supervisor. I feel like I learn and spread what I have learned to others. We also do larger scale trainings during the summer vacation; I have even planned and managed one with just the CSTs. The content of the training is thought up by the CST and nothing special is done by the school board.
CST is motivated. I think it is important to have colleagues. Right now, we have 71 CSTs in the prefecture, and there is someone nearby who is a CST. There are 86 CSTs and supervisors combined, and more and more supervisors are coming from CST backgrounds.
I feel that CST teachers also need to learn because they are being asked. I felt that they are being trained every day in the environment.
When a municipality wants to hold a science workshop, they can use CST. CSTs are asked to participate as instructors and presenters in these workshops.

4. Considerations

"As a middle generation teacher rather than a CST, I would like to serve as a consultant to younger teachers and create connections between schools. We would also like to build connections among teachers. In the county area, there is one science teacher per junior high school. " This suggests that the training sessions function as a place where students can output what they have learned, and where they are close to each other both psychologically and physically. The following is an example of a training course that functions as a place that is both distant and psychologically close to the students: "Create a place where the science teachers around you can enjoy being a science teacher. The teachers who are reluctant to participate in the science subject network (science) will say, "I want to go...". For this purpose, I am also making efforts to make it fun for me. Another important feature of the CSTs is that they are close to the teachers, and their physical and psychological proximity, which allows them to ask questions immediately when they have problems, supports education in the local community and helps to foster young teachers.

The interview with the chief instructor of the Kochi Prefectural Board of Education, who is continuing the CST program in 2022, also examined the elements necessary for a group of teachers who continue to learn proactively. what is necessary for CSTs to be active and lively is to set up a place where they can apply what they have learned. In Kochi Prefecture, there are 71 CSTs, so they are close to the teachers and can grasp the training needs of teachers in the field. The CSTs play a major role in fostering teachers who continue to learn independently by planning and organizing training

programs. The presence of fellow CSTs encourages them to learn and helps them to build a network among CSTs.

5. Conclusion

The following elements can be extracted from the Kochi Model that are necessary for training that allows CSTs to continue to learn independently.
(1) A place where CSTs can practice what they have learned and realize their own learning.
(2) The training should be a place where CSTs are proactive in their efforts.
(3) The training is often held in each region and meets the detailed needs of the field.
(4) Because the lecturers are teachers who are close to the participants, they can easily ask about problems they are having in their daily lives.
(5) Networking among CSTs is established, and the presence of fellow CSTs is a motivating factor.
(6) A good balance of small-scale and large-scale training programs is set up in response to the needs of the field.
(7) The training is based on class creation, and the system allows participants to immediately apply what they have learned in the training to their practice.
(8) Flexible time slots depending on the content of the training, making it easy for teachers to participate in the training.
(9) CST associations that unite universities, administration, and the field have been established and a forum for sharing information has been set up.
(10) The administration shares information with managers to create an environment in which it is easy to gain their understanding.
Elements that make it a proactive effort for learners are suggested from various angles.
In categorizing the above, the following keywords emerge: (1) (2) is the initiative of CSTs, (3) (4) (7) (8) is the content of training, (5) (6) is the establishment of a CST network, and (9) (10) is the understanding of managers. It is important to incorporate the necessary elements of each of these into training programs in order to develop the qualities and abilities of teachers that will be required in the future.

References

[1] The ideal state of training, recruitment, and training of teachers who will take charge of "Japanese-style school education in 2022" (interim summary) (2022)