

# Collaborative Nested Action Research (C-NAR): Effective Approach Produces Reflective Teachers in Elementary School

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**Abstract.** This study aims to describe a collaborative mentoring model in producing reflective teachers in elementary schools. This type of research is continuous classroom action research with Collaborative Nested Action Research (C-NAR) design. In its implementation, in addition to practitioners conducting classroom action research, lecturers and civil servant teachers conduct mentoring action research. The subjects in the study were 2 students of pre-service teacher professional education (PPG Prajabatan) at the Universitas Negeri Medan. Data collection techniques were carried out through observation and 3-way conferences (lecturers, tutors, and practitioners). The instruments used are observation sheets and reflective journals. Research data were collected and analyzed using a qualitative approach. The results showed that the C-NAR approach was able to produce reflective teachers. In this case, the practitioner continues to make continuous improvements in each lesson based on the shortcomings or failures of previous learning. Based on these findings, C-NAR is said to be effective in facilitating practitioners to become reflective teachers in elementary schools by innovating continuous improvement in each lesson.

**Keywords:** C-NAR, collaborative, reflective teacher, elementary school

## 1 Introduction

Law Number 14 of 2005 concerning Teachers and Lecturers Article 8 explains that teachers are required to have academic qualifications, competencies, educator certificates, physically and mentally healthy, and have the ability to realize national education goals [13]. In response to this, the Ministry of Education, Culture, Research and Technology continues to improve the qualifications and competencies of teachers in Indonesia. In this case, teachers must continuously improve pedagogic competence, professional competence, personality competence, and social competence in order to carry out their roles and duties to the fullest [2], [3], [4], [9].

One of the important elements of increasing educational qualifications for teachers is to have an educator certificate as a professional teacher. Currently, efforts that can be made to obtain an educational certificate as a professional teacher are through professional education. In Law Number 12 of 2012 concerning Higher Education Article 17 paragraph (1) states that professional education is higher education after a bachelor's program that prepares students for jobs that require special skill requirements [12]. Therefore, professional education can be carried

out through Pre-service Teacher Professional Education and In-Service Teacher Professional Education.

The Teacher Professional Education Program in Indonesia is organized by the Education Personnel Education Institute (LPTK) with reference to teacher education standards and national education standards. In this case, it is explained that improving the quality of teachers cannot be separated from the LPTK as the central figure in the implementation of the Teacher Professional Education program. In carrying out its role, LPTKs are given full authority to innovate in preparing professional teachers in Indonesia, especially with regard to the Teacher Professional Education program [1].

One of the important elements in the implementation of the Teacher Professional Education program in Indonesia is the implementation of Field Experience Practices. In this case, the innovation of implementing field experience practices greatly influences the improvement of the competence of professional teachers in Indonesia. The importance of innovation in the practice of field experience can be seen through previous studies, including: (1) Mustaqim (2017) in his research explains that there is a need for an innovation, especially the design of curriculum management for field experience practices through the formulation of success criteria and learning plans for field experience practices so that they become standard guidelines for civil servant teachers and lecturers in educating students [7]; (2) Muhroji (2014) provides an overview and suggestion in the form of innovation in the use of an integrated/collaborative management model in the implementation of field experience practices with partner schools as a place for implementing field experience practices [5]; (3) Mujianto & Sidjalil (2020) explained that classroom management strategy innovation requires the teacher's communicative competence in creating and maintaining a classroom atmosphere (condition) so that learning activities can take place efficiently [6]; (4) Quddus (2019) provides alternative suggestions for the importance of technology-based management and design in learning [10]; and (5) Sunaryo, Zuriah, & Handayani (2020) research illustrates that student readiness in taking PPL is built due to learning factors on campus, teaching experience at home schools, and acceptance of partner schools [11].

Based on the research findings above, the State University of Medan takes part in improving the quality of the implementation of teacher professional education programs in Indonesia. Lecturers and civil servant teachers are assigned to carry out various innovations and new breakthroughs in guiding students of Teacher Professional Education so that they can carry out various activities, especially effective field experience practices at partner schools. With this innovation, it is hoped that it can produce reflective teachers by continuing to make continuous improvements so that they become professional teachers in the future.

One of the mentoring innovations carried out is applying the C-NAR (Collaborative Nested Action Research) approach in mentoring. In this case, in addition to students conducting classroom action research, lecturers and tutors carry out ongoing mentoring actions. Through the C-NAR approach, students will become reflective teachers because they continue to make learning improvements. Meanwhile, lecturers and tutors will become reflective mentors because they continue to improve their mentoring.

## **2 Research Methods**

This type of research is continuous classroom action research with a Collaborative Nested Action Research approach or commonly abbreviated as C-NAR. This type of research was introduced by the Tanoto Foundation (TF) Smart Program. In its implementation, in addition to guiding and directly involved in Classroom Action Research by practitioners, lecturers and

tutors also conduct Guidance Action Research to find the best and sustainable ways or innovations in carrying out mentoring. With this approach, students, lecturers, and tutors are expected to become reflective teachers and mentors so as to produce continuous improvement both in each lesson and in every mentoring.

This research procedure was carried out in 4 stages, namely: Design (D), Implementation (I), Observation (O), and Reflection (R) or commonly abbreviated as DIOR. (1) Design phase, students design learning based on student analysis, readiness of facilities and infrastructure, and current conditions of learning in schools implementing field experience practices. Meanwhile, the tutors and tutors design the mentoring pattern that will be carried out in the mentoring process, both during guided teaching and in independent learning. (2) Implementation, students carry out the learning process in accordance with the previously prepared learning design. Meanwhile, lecturers and tutors carry out the mentoring process according to the previous plan. (3) Observation, students note the suitability of the implementation of learning with the lesson plans that have been prepared. At the same time, lecturers and civil servant teachers observe and record the success of the previous mentoring which is associated with the success of the practitioner in teaching. (4) Reflection, students, lecturers, and civil servants conduct joint reflections related to the success of the learning process carried out.

The time of the research was carried out in the even semester of the 2020/2021 Academic Year starting from January to June 2021. The location of the research was carried out at SD Negeri 023891 Binjai, Binjai City, and SD Negeri 165717 Padang Hulu, Tebing Tinggi City, North Sumatra Province.

The data used in this study is qualitative data from the continuous mentoring process. Data were collected using observation sheets, interview guidelines, and documentation. Data collection techniques were carried out through observation, interviews, and documentation. The data analysis used is qualitative data analysis with the stages of data collection, data reduction, data presentation, and drawing conclusions.

### 3 Results and Discussion

#### 3.1 Results

The research was carried out for 3 cycles with the stages of Design (D), Implementation (I), Observation (O), and Reflection (R). An overview of the implementation of the D-I-O-R cycle I to cycle III can be seen in the following description:

In simple terms, the implementation of D-I-O-R cycle I can be seen in Table 1 below.

**Table 1. D-I-O-R 1**

<b>Problem</b>	:	The tutor teacher is not from a partner school
<b>Design (D)</b>	:	Carry out guided teaching with the help of Partner Teachers & design blended learning (some face-to-face limited, part online learning)
<b>Implementation (I)</b>	:	Carry out guided teaching practices with the help of Partner Teachers & carry out guided teaching practices with their respective styles and characters that are tailored to the school's carrying capacity
<b>Observation (O)</b>	:	Guided teaching learning I went according to plan, but there were obstacles because the tutor teacher was not present in the lesson so that it

was not in accordance with the reinforcements in the guidance. Another problem is that the division of the roles of civil servant teachers (75%) and students (25%) cannot be achieved.

**Reflection (R)** : It is necessary to improve the pattern of guided teaching practice I by involving the tutor teacher in direct learning

A simple description of the implementation of Cycle I learning can be seen in Figure 1 below.



**Fig.1.** Implementation of Learning Cycle I

The implementation of D-I-O-R Cycle II can be seen in detail in Table 2 below.

**Table 2.** D-I-O-R 2

<b>Problem</b>	: (1) The civil servant teacher does not come from a partner school; (2) The teaching practice of Cycle I was less than optimal because the practice was not in accordance with the previous guidance; and (3) The division of the roles of civil servant teachers (75%) and students (25%) did not work.
<b>Design (D)</b>	: Designing learning by presenting tutors through learning videos. Matters related to assignments (Student Worksheets and Assessments) are assisted by students in learning.
<b>Implementation (I)</b>	: Blended learning is carried out by showing video tutoring tutors through infocus so that the division of roles of civil servant teachers (50%) and students (50%) can be achieved.
<b>Observation (O)</b>	: Guided teaching and learning with the blended learning pattern went well, but there were problems related to the interaction of the tutor with students and the level of understanding of the students based on the explanation of the tutor teacher because it was only through learning videos.

**Reflection (R)** : It is necessary to bring the tutor teacher directly in learning so that there is a two-way interaction.

The portrait of the implementation of Cycle II learning can be seen in Figure 2 below.



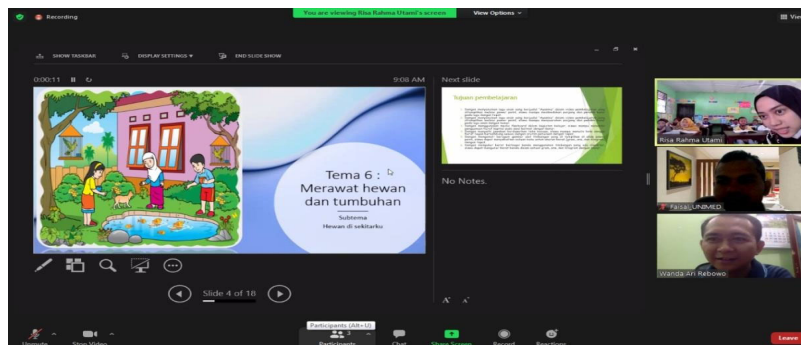
**Fig.2.** Implementation of Cycle II Learning

The implementation of D-I-O-R Cycle III can be seen in detail in Table 3 below.

**Table 3.** D-I-O-R 3

<b>Problem</b>	: (1) The civil servant teacher does not come from a partner school; (2) Two-way interaction between tutors and students cannot be carried out.
<b>Design (D)</b>	: Designing guided teaching learning by presenting virtual tutors and broadcasting through infocus.
<b>Implementation (I)</b>	: Implementing guided teaching practice by presenting tutors and lecturers virtually and broadcasting through infocus so that they can interact directly with students and students
<b>Observation (O)</b>	: The 3rd guided teaching learning goes according to plan, although sometimes 2-way communication is felt to be delayed because the network conditions are less stable.
<b>Reflection (R)</b>	: The pattern of presenting tutors and lecturers virtually is felt to be an effective pattern in guided learning in partner elementary schools at this time.

A simple description of the implementation of Cycle III learning can be seen in Figure 3 below.



**Fig.3.** Implementation of Cycle III Learning  
(Virtually Presenting Tutors and Lecturers)

### **3.2 Discussion**

Research with the C-NAR approach has produced teachers who are reflective in implementing field experience practices in the Teacher Professional Education program at the State University of Medan. The success of the C-NAR carried out can be described as follows.

#### **D-I-O-R 1:**

The problem experienced is that the tutor teachers do not come from partner schools. This problem is carried out by learning innovations in the form of carrying out learning with the help of partner teachers at schools where field experience practices are carried out. This learning pattern creates a problem where the distribution of tutors and students according to the plan is not implemented. Thus, learning innovation is carried out by involving the civil servant teacher directly in learning.

#### **D-I-O-R 2:**

In Cycle II, learning was carried out by involving the civil servant teacher directly. Efforts are being made to present learning videos for civil servant teachers that are broadcast through infocus. As a result, learning goes according to plan. However, the process of student interaction with the civil servant teacher did not occur so that they were unable to communicate directly with the tutor teacher. In this case, the next cycle of learning innovation is carried out by presenting the tutor directly.

#### **D-I-O-R 3:**

Learning is done by presenting virtual tutors through infocus shows. In this way, students, students, and tutors and lecturers can interact directly, even though virtually. This is seen as one of the effective efforts in guided learning in the current pandemic era. Based on several continuous improvements made above, a comprehensive picture of the field experience practice with the C-NAR approach is obtained. Where, in addition to students making improvements to learning, lecturers and tutors continue to improve mentoring. Thus, it can be concluded that the implementation of learning in the teacher professional education program can run as expected, especially in producing reflective teachers by making continuous improvements in accordance with the problems encountered in learning.

## **4 Conclusion**

The C-NAR approach in guiding the practical experience of the teacher professional education program has been successfully carried out. The mentoring process is carried out through 3 cycles of activities, namely DIOR 1, DIOR 2, and DIOR 3. Based on the research findings it can be concluded that the C-NAR approach requires students to improve learning in the form of continuous classroom action research and requires lecturers and tutors to improve mentoring in form of continuous mentoring action research. With the C-NAR approach, reflective teachers and mentors are produced by making continuous improvements from time to time.

## **References**

- [1] Faisal, F. (2021). C-NAR: Best Practice Tindakan Pembimbingan Berkelanjutan PPL PPG Prajabatan Universitas Negeri Medan. *Jurnal Inovasi Pendidikan dan Pembelajaran Sekolah Dasar*, 5(1), 1-11.

- [2] Handayani, T., Nurmalisa, Y., & Halim, A. (2019). Persepsi Mahasiswa Program Studi PPKn Universitas Lampung terhadap Program Pendidikan Profesi Guru (PPG) Prajabatan. *Jurnal Kultur Demokrasi*, 8(2).
- [3] Hotimah, H. (2017). Strategi Pendidikan Profesi Guru (PPG) UNESA dalam Mengembangkan Kompetensi Pedagogik dan Profesional Peserta PPG Pasca SM-3T. *Kajian Moral dan Kewarganegaraan*, 5(01).
- [4] Mariati, M. (2021, March). Analisis Faktor Penghambat dan Penunjang Pelaksanaan Pembelajaran dalam Jaringan (Daring) pada Mahasiswa PPG dalam Jabatan Mapel Akuntansi dan Keuangan Universitas Muhammadiyah Sumatera Utara. In *Scenario (Seminar of Social Sciences Engineering and Humaniora)* (pp. 348-359).
- [5] Muhroji, M. (2014). Model Pengelolaan Program Pengalaman Lapangan Program Studi Guru Sekolah Dasar Fakultas Keguruan dan Ilmu Pendidikan Universitas Muhammadiyah Surakarta (Doctoral Dissertation, Universitas Muhammadiyah Surakarta).
- [6] Mujianto, G., & Sudjalil, S. (2020). Pengelolaan kelas pada Praktik Pengalaman Lapangan (PPL) Pendidikan Profesi Guru (PPG) Prajabatan Bidang Studi Bahasa Indonesia di SMA Negeri 7 Malang. *KEMBARA: Jurnal Keilmuan Bahasa, Sastra, dan Pengajarannya (e-Journal)*, 6(2).
- [7] Mustaqim, M. (2017). Restorasi Praktek Pengalaman Lapangan (Studi Inovasi Manajemen Kurikulum PPL melalui Kolaborasi Pendekatan Craft, Competency, dan Reflective Model). *EduTech*, 16(2), 170188.
- [8] Pangestika, R. R., & Alfarisa, F. (2015). Pendidikan Profesi Guru (PPG): Strategi Pengembangan Profesionalitas Guru dan Peningkatan Mutu Pendidikan Indonesia. In *Makalah Prosiding Seminar Nasional (Vol. 9)*.
- [9] Peraturan Pemerintah Nomor 19 Tahun 2017 tentang Perubahan atas Peraturan Pemerintah Nomor 74 Tahun 2008 tentang Guru.
- [10] Quddus, A. (2019). Implementasi Technological Pedagogical Content Knowledge (TPACK) dalam Pendidikan Profesi Guru (PPG) PAI LPTK UIN Mataram. *Jurnal Tatsqif*, 17(2), 213-230.
- [11] Sunaryo, H., Zuriah, N., & Handayani, T. (2020). Kesiapan Mahasiswa Pendidikan Profesi Guru (PPG) Dalam-Jabatan untuk Menempuh Program Praktik Pengalaman Lapangan. *Jurnal Pendidikan Profesi Guru*, 1(1), 29-38.
- [12] Undang-undang Nomor 12 Tahun 2012 tentang Pendidikan Tinggi.
- [13] Undang-undang Nomor 14 Tahun 2005 tentang Guru dan Dosen.