



RESEARCH ARTICLE

Implementation Of The Nawa Karsa Gresik Cerdas Programme In Improving The Quality Of Primary School Teachers In Gresik District

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ABSTRACT

The Nawa Karsa Gresik Cerdas programme aims to improve the quality of education in Gresik district through developing the competence of primary school teachers. By improving teachers' skills and professionalism, it is expected to create a more effective learning environment and support educational progress. The implementation of this programme is a strategic step to produce the next generation that is smart and ready to face global challenges. The purpose of this study is to analyse the implementation of the Nawa Karsa Gresik Cerdas Program in improving the quality of primary school teachers in Gresik district. This study uses a qualitative research approach. This research was conducted in Gresik District to evaluate the effectiveness of the Nawa Karsa (Gresik Cerdas) Program, including the accuracy of targeting, the implementation of socialisation, the achievement of objectives, and the monitoring process of the program. The results found that the Nawa Karsa Gresik Cerdas programme has had a positive impact on improving the professional competence of primary school teachers in Gresik district through an intensive training approach, continuous mentoring, and the establishment of professional learning communities. Improvements were seen in technological skills, pedagogical abilities and the application of student-centred learning methods, although challenges such as limited infrastructure, senior teacher resistance and administrative burdens remain. To optimise this program, additional support from stakeholders is needed in the form of adequate technology facilities, dedicated time for training, and digitalisation of administration to reduce teachers' workload.

INTRODUCTION

Development in education is an urgent imperative for the government as it is not only a mandate from the 1945 Constitution, but also a crucial foundation for the future of a nation (Jan, 2022). Education is one of the most significant factors that influence the level of progress of a region or country in the future. This is because quality education is able to create superior human resources, which in turn will be the driving force for development in various sectors of life (Edwart & Azhar, 2019). In the context of Gresik District, the local government has set education as one of the top priorities in their development mission. The implementation of this mission is outlined in the big goal of the Gresik District Government which emphasises strengthening the development of new Gresik people with quality and justice based on akhlakul karimah. Thus, education in Gresik is not only focused on academic aspects, but also includes character building and physical and mental health.

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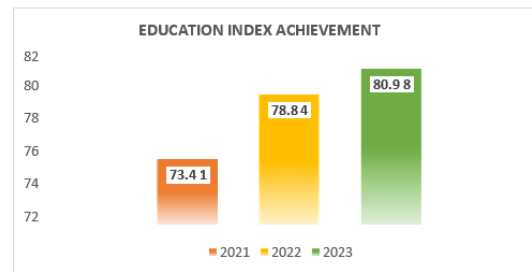


Figure 1: Achievement results of the Gresik district education index

Based on the "Education Index Achievement" graph above, it can be seen that there is an increase in the education index achievement from 2021 to 2023. In 2021, the education index achievement was recorded at 73.41. This figure then increased significantly in 2022 to 78.84, and in 2023 it continued to show an increase until it reached 80.98. This upward trend reflects the continuous efforts to improve the quality of education, which can include various factors such as improving teacher competence, providing better education infrastructure, and supportive education policies. These achievements demonstrate the success of the *nawakarsa* programme, which is focused on improving the quality of education in the Gresik district.

In the context of the Nawa Karsa Gresik Cerdas Programme, training and workshops that encourage teachers to work in groups and learn from each other reflect this theory, strengthening teachers' collaborative skills and social interactions. Teachers are a key pillar in education (Kim et al., 2019). The quality of teachers determines the quality of education in an area, including in Gresik district. Therefore, improving the quality of teachers is key to improving the quality of education in Gresik district. The role of teachers in improving the quality of education in Gresik district is very important. Teachers are not only teachers but also motivators, facilitators and mentors for students. Qualified teachers can create effective and interesting learning so that students can learn optimally.

The Nawa Karsa Gresik Cerdas programme has proven to have a positive impact on improving the quality of primary school teachers in Gresik district. The programme emphasises intensive training, mentoring and the establishment of effective professional learning communities. Through a series of initiatives, teachers can improve their pedagogic, professional, personality and social competencies. One indicator of the programme's success is the Teacher Competency Test (UKG) results, which continue to show improvement. In 2021, the average UKG score for primary school teachers reached 68.79, increased to 72.22 in 2022, and continued to increase to 73.25 in 2023. These scores indicate significant improvements in pedagogic and professional competencies, supported by improvements in teachers' personality and social skills.

The year-on-year improvement in UKG results is concrete evidence that the Nawa Karsa Gresik Cerdas Programme is able to create positive changes in the quality of primary school teachers' teaching. The ongoing training not only helps teachers to be more adaptive to changes in learning methods, but also improves their ability to integrate technology and student-centred learning approaches.

RESEARCH METHODS

This study applies a qualitative research approach where data collection is done through words or pictures, rather than involving numerical data. Data sources include interviews, field notes, photographs, video recordings, personal documents, and various other documents (Moleong, 2007). Qualitative research involves the narration of participants' stories without being converted into interpretive notes, which requires less summary and a coarser description of what participants say (Younas, Febregues, & Ali, 2023).

The author utilised direct observation techniques in the field to gather the required information, with the intention that the data collected would have a high level of objectivity and trustworthiness. In addition, researchers validate their arguments by referring to theories and supporting evidence contained in the literature and previous research. This approach was chosen because the researcher wanted to directly observe the effectiveness of the Nawa Karsa (Gresik Cerdas) Program in Gresik Regency, including an evaluation of the accuracy of targeting, the implementation of socialisation, the achievement of goals, and the monitoring process.

This research was conducted in the Gresik Regency area. Gresik Regency is an entity that implements a special programme in the education sector known as Nawa Karsa (Gresik Cerdas). The data collection techniques were observation, interviews, and documentation. Evaluating data obtained from interviews, observations, and documents. The data analysis process is carried out by detailing the research problems identified from the field using language that matches the existing reality, thus providing a clear qualitative picture. Data analysis was carried out simultaneously and continuously throughout the research series.

RESULT AND DISCUSSION

Implementation of the Nawa Karsa Gresik Cerdas Programme in Improving the Quality of Primary School Teachers in Gresik Regency

The implementation of the Nawa Karsa Gresik Cerdas programme involves various stakeholders in the education system, including the education office, school principals, teachers and the surrounding community. The programme is designed to improve the quality of teachers through training, mentoring and capacity building relevant to the needs of teachers in the field. Based on the empirical analysis, the planning and implementation process of this programme went well due to the application of a participatory approach. In line with Smith (2020), each school was actively involved through focus group discussions and intensive consultations, which is in line with the theory of active participation in education that emphasises the importance of stakeholder involvement to ensure the success of education programmes.

This participatory approach allows teachers and principals to contribute to the planning of the programme, creating a sense of ownership of the programme. Teachers who are involved from the initial planning stage tend to have a higher commitment to the success of the programme. This is in line with Fullan's (2019) findings, which state that teachers' involvement in the planning process can increase their motivation to implement the programme effectively. In the context of the Nawa Karsa Gresik Cerdas Programme, this approach allows for interventions that are more contextualised and relevant to the needs of each school, thus increasing the effectiveness of implementation in the field.

In addition to the participatory approach, the programme is also strengthened through intensive training designed to improve teachers' technology skills. Improving technology skills is one of the programme's top priorities, given the importance of technology integration in education in today's digital era. The training covers the use of educational software, online learning platforms and other technological tools designed to create a more interactive and engaging learning experience for students. In line with Garrison and Anderson (2018), the use of technology in the learning process can increase student engagement and help teachers deliver material more dynamically and effectively.

However, limited resources, especially in remote areas, pose a significant challenge. Remote areas in

Gresik district face serious problems with limited technology infrastructure and internet access, which hinders the achievement of some of the programme's objectives, particularly in terms of teachers' mastery of technology. Teachers in these areas often find it difficult to access online training or use technology in learning due to limited internet access. This is in line with the findings of Garrison and Anderson (2018), who emphasise that unequal access to technology in schools can be a major barrier to the implementation of technology-based learning. To overcome this problem, support from the Gresik District Education Office is needed, both in the form of providing adequate technology infrastructure and subsidising internet access for schools in remote areas.

The Nawa Karsa Gresik Cerdas programme also emphasises the importance of ongoing mentoring after training is provided. Mentoring is carried out by a team from the Education Office who regularly visit schools to provide technical guidance and support the implementation of new learning methods. This mentoring is crucial in ensuring that the knowledge gained by teachers during the training is optimally applied in the classroom. Similarly, Darling-Hammond (2020) points out that post-training mentoring is one of the key success factors of teachers' professional development programmes, as it can assist them in overcoming challenges that arise during the implementation of new practices in the school environment.

In addition to training and mentoring, the programme also facilitates the formation of learning communities among teachers. This learning community serves as a platform for teachers to share experiences, good practices and solutions to the challenges they face. Teachers are encouraged to participate in discussion groups and online platforms provided by the education office to create a collaborative culture. According to Hargreaves and Fullan (2020), professional learning communities can improve the quality of teaching by creating opportunities for teachers to continue learning and developing collectively. In the context of the Nawa Karsa Gresik Cerdas Programme, these learning communities also play a role in maintaining teachers' motivation to continue innovating in teaching.

This learning community also aims to facilitate the exchange of ideas and innovations among teachers. With this community, teachers can give each other feedback on their teaching practices, which encourages a continuous process of reflection. This reflection process contributes to the continuous improvement of teaching quality. In line with Johnson (2021), an effective learning community can create an environment that supports teachers to try new approaches and innovate in learning practices. In the Nawa Karsa Gresik Cerdas programme, this community has been a key element in helping teachers overcome barriers, including difficulties in using technology and adapting to interactive learning methods.

While the programme has many positive aspects, there are a number of challenges that need to be overcome in its implementation. One of the main challenges is the resistance to change from some teachers who are used to conventional teaching methods. These teachers find it difficult to adapt to the use of technology and more interactive learning methods. In line with Kotter (2021), stating that resistance to change is normal in the transformation process, especially when the change requires individuals to get out of their comfort zone. To overcome this resistance, a more personalised approach to mentoring is needed, where teachers who experience difficulties receive special attention and additional support so that they can adapt gradually.

Time constraints are also a significant obstacle. Teachers often feel burdened with administrative tasks that reduce their time to focus on developing learning and implementing new methods. Hargreaves and Fullan (2020) agree that it is important to reduce the administrative burden for teachers so that they can focus more on teaching and professional development. In the context of the Nawa Karsa Gresik Cerdas Program, efforts are needed from the Education Office to reduce this administrative burden, for example by digitalising administrative processes or providing administrative support personnel in schools. Thus, teachers can allocate more of their time and energy to innovate in teaching and improve the quality of learning.

Support from the school principal and the community also plays an important role in the success of this programme. Principals are expected to be leaders who encourage innovation and motivate

teachers to continue to develop. In line with Fullan (2019), effective leadership in schools greatly influences the success of education quality improvement programmes. Principals who are proactive in supporting teachers and creating an environment conducive to learning will increase the chances of programme success. In the Nawa Karsa Gresik Cerdas programme, school principals are also provided with training in transformational leadership so that they can facilitate the expected changes in their schools. Principals are also responsible for ensuring that each teacher has adequate access to the necessary resources to support their teaching.

In addition to the principal, the community, especially parents, also plays an important role in supporting the success of this programme. Community participation in school activities can create a more positive and conducive learning environment. In line with Freire (2020), community involvement in education can increase the effectiveness of the programme because the community has a better understanding of local needs. In the Nawa Karsa Gresik Cerdas programme, the education office seeks to involve community leaders and parents in various school activities, such as parent meetings, workshops and other activities aimed at raising awareness of the importance of education. By involving the community, the programme is expected to be more easily accepted and supported by all parties, so that its implementation can run more smoothly and have a positive impact on schools.

Communities can also play a role in providing additional resources needed by schools, such as learning facilities, technological devices or financial support for specific activities. In line with Robinson (2020), active community involvement in education can help overcome the limited resources that schools often face. In the Nawa Karsa Gresik Cerdas programme, the community not only acts as a supporter but also as a partner in creating an inclusive and quality education environment.

The implementation of the Nawa Karsa Gresik Cerdas programme in improving the quality of primary school teachers in Gresik district has shown positive results, although there are still a number of challenges that need to be overcome. The participatory approach, intensive training, ongoing mentoring and the establishment of learning communities are key elements that support the success of the programme. However, challenges such as limited resources, resistance to change and administrative burdens need to be addressed so that the programme objectives can be achieved optimally.

Increased budget allocation to support technology infrastructure and reduced administrative burden for teachers are important steps that local governments need to take to improve the effectiveness of this programme. In addition, a more personalised approach in providing assistance to teachers who are experiencing difficulties, as well as increased support from school principals and communities, will also go a long way in ensuring the future success of this programme. With a strong commitment from all stakeholders, the Nawa Karsa Gresik Cerdas programme has great potential to bring significant changes in improving the quality of education in Gresik district.

Furthermore, there is a need for ongoing evaluation of the programme implementation to ensure that each intervention has the desired impact. This evaluation can be conducted through surveys, interviews, and direct observation in the schools involved in the programme. According to Brown (2021), systematic and continuous evaluation is essential to identify areas for improvement and ensure that the programme is running according to plan. In the Nawa Karsa Gresik Cerdas Programme, this continuous evaluation will also help in identifying best practices that can be replicated in other schools, so that the positive impact of the programme can be felt more widely.

With the commitment and collaboration of all parties involved, including the Education Office, school principals, teachers, parents and the community, the Nawa Karsa Gresik Cerdas programme can continue to grow and make a real contribution to creating a better quality education system in Gresik district. Continued support, whether in the form of budget, training or mentoring, will be the key to the long-term success of this programme. Through synergy and good cooperation, it is hoped that this programme will not only improve the quality of teachers, but also have a positive impact on students

and the community as a whole.

The Impact of the Nawa Karsa Gresik Cerdas Programme on the Competence of Primary School Teachers in Gresik Regency

The Nawa Karsa Gresik Cerdas programme has had a significant impact in improving the professional competence of teachers, particularly in terms of mastery of information technology, pedagogical skills, and the ability to adopt innovative and student-centred learning methods. Through systematic training and intensive mentoring, the programme equips teachers with relevant skills to face challenges in the context of education in the digital era. In line with Vygotsky (2019) emphasises that teachers' professional development is strongly linked to social support and continuous training, which enables teachers to utilise technology to create a more collaborative and interactive learning environment.

One of the main impacts of this programme is the increased mastery of technology by teachers. Prior to the implementation of the Nawa Karsa Gresik Cerdas Programme, most teachers in Gresik District were still unskilled in utilising technology for learning purposes. However, after receiving comprehensive training, teachers are now better able to integrate technology, such as computers, projectors and e-learning platforms, into their learning process. In line with Garrison and Anderson's (2018) research, it shows that teachers' ability to utilise technology can increase student engagement and overall teaching effectiveness. In the context of this programme, the training covers not only the technical aspects of using technology, but also pedagogical strategies that ensure that technology is used effectively to support teaching and learning.

The programme also impacts on the development of teachers' pedagogical skills. Teachers are encouraged to implement more student-centred learning methods, which provide space for students to be active in the learning process. In this approach, teachers act as facilitators who help students build knowledge through interaction and exploration. Darling-Hammond (2020) emphasises the importance of the teacher's role as a facilitator in the constructivist learning approach, where students are encouraged to develop critical thinking and problem-solving skills. Support from the Nawa Karsa Gresik Cerdas programme enables teachers in Gresik district to adopt this approach effectively, making the learning process more dynamic and focused on students' needs.

In addition to improving technological mastery and pedagogical skills, the programme also contributes to the development of teachers' ability to manage inclusive classrooms. The programme provides specific training on effective classroom management strategies, with a focus on creating an inclusive and conducive learning environment for all students. The diverse backgrounds of students in Gresik district demand flexible teaching approaches that are responsive to individual needs. Hargreaves and Fullan (2020) state that teachers with good classroom management skills are better able to create a positive learning environment and support active student engagement.

Furthermore, the programme raises teachers' awareness of the importance of a student-centred approach, especially for students with special needs. Training on differentiation methods equips teachers with the skills to customise learning materials based on students' individual needs. In line with Tomlinson's (2020) findings show that the application of differentiation methods can significantly improve student engagement and their learning outcomes. In the context of the Nawa Karsa Gresik Cerdas Programme, teachers' ability to implement inclusive learning is one of the important impacts that contribute to the overall success of the programme.

The transformation of teachers' perceptions towards the use of technology is also one of the significant successes of this programme. Many teachers who were previously reluctant to use technology due to lack of confidence in their skills now feel more confident after attending the training and mentoring provided. This transformation is crucial, given that technology has become an integral element of contemporary learning. Zhao (2021) emphasises that changes in teachers' perceptions of technology are one of the main indicators of the success of digital education transformation. Teachers who are able to see technology as an opportunity tend to be more effective

in utilising it to improve the quality of learning.

However, not all teachers can quickly adopt these changes. Senior teachers, who are used to conventional teaching methods, face particular challenges and need more time to adapt to new technologies and methods. In line with Kotter (2021), states that resistance to change is a common phenomenon in any transformation effort, especially in the education sector. To overcome this barrier, the Nawa Karsa Gresik Cerdas programme provides personalised mentoring for teachers who need more support in implementing new technologies and pedagogical approaches, so that they can adapt according to their individual needs.

Another positive impact of this programme is the improvement of teachers' ability to conduct more effective learning evaluations. Evaluation is no longer limited to assessing learning outcomes, but also includes evaluating the process and student engagement during learning. Teachers are trained on various formative and summative evaluation techniques that can be used to gain a comprehensive understanding of students' learning progress. Black and Wiliam (2019) emphasise that effective formative evaluation can increase student motivation and engagement in the learning process. In the context of the Nawa Karsa Gresik Cerdas Programme, the application of formative evaluation becomes an integral part of the learning practices adopted by teachers, making the teaching and learning process more adaptive and responsive to students' needs.

The programme also encourages increased collaboration among teachers through the establishment of professional learning communities. Teachers are given space to discuss, share best practices and provide feedback to each other. This community not only serves as a means to improve skills, but also as a social support that keeps teachers motivated and committed to continuous improvement. In line with Johnson (2021), professional learning communities can improve teaching effectiveness by creating an environment where teachers learn from each other and implement best practices in learning.

The formation of these learning communities also allows for horizontal transfer of knowledge, where teachers who are more experienced in an area share their knowledge with their colleagues in need. This process is crucial in creating a collaborative culture in schools, where every teacher feels supported and has the opportunity to learn from each other. As Wenger (2020) underlines, a strong learning community can create a supportive environment for teachers to feel more motivated and empowered in developing their competence.

The Nawa Karsa Gresik Cerdas programme has had a significant impact on improving the competence of primary school teachers in Gresik district, especially in the aspects of technology mastery, pedagogical skills and the application of inclusive learning methods. The programme not only helps teachers master technology, but also develop pedagogical skills that are oriented towards students' needs and create an inclusive learning environment. Although there are still challenges, especially in terms of senior teachers' adaptation to change, the programme has shown significant success in improving teaching quality and creating a better learning environment for students.

Ongoing support in the form of training, mentoring and the establishment of learning communities are key elements that need to be maintained to ensure the positive impact of the programme continues and grows. In addition, the evaluation and feedback aspects need to be strengthened so that the programme can be continuously improved and adapted to the needs of teachers and students. Thus, the Nawa Karsa Gresik Cerdas programme is expected to continue to be a key driver in improving the quality of education in Gresik district.

Continuous evaluation of the implementation of the program is needed to ensure that each intervention has the expected impact. Evaluations can be conducted through surveys, interviews, and direct observations in the schools involved. In line with Brown (2021), a systematic and continuous evaluation is essential to identify areas for improvement and ensure that the program is running as planned. In the context of the Nawa Karsa Gresik Cerdas Programme, this ongoing evaluation will also help identify best practices that can be replicated in other schools, so that the positive impact of the

program can be felt more widely.

With the commitment and collaboration of all parties involved, including the Education Office, school principals, teachers, parents and the community, the Nawa Karsa Gresik Cerdas program can continue to grow and make a real contribution to creating a better quality education system in Gresik district. Continued support in the form of budget, training and mentoring will be key to the long-term success of this program. Through synergy and good cooperation, it is hoped that this program will not only improve the quality of teachers but also have a positive impact on students and the community as a whole.

Perceptions of Primary School Teachers in Gresik Regency towards the Nawa Karsa Gresik Cerdas Programme

To evaluate the effectiveness of the Nawa Karsa Gresik Cerdas programme, it is important to understand the perceptions of primary school teachers in Gresik district towards the programme. Teachers' perceptions are a critical component that can determine the success of a professional development programme, given that these perceptions greatly influence the level of involvement, participation and commitment of teachers in its implementation. In general, the perceptions of primary school teachers in Gresik District towards the Nawa Karsa Gresik Cerdas Program can be analysed through several main dimensions: program relevance, support received, challenges faced, and the impact felt in learning activities.

First, in terms of the relevance of the programme, most teachers considered the programme to be highly relevant to improving their professional competencies. The training provided is considered to be in line with the real needs in the field, especially in terms of mastering technology and implementing innovative and student-centred learning methods. According to Fullan (2019), the relevance of a professional development programme strongly influences teachers' motivation to participate and apply the training results in learning practices. Teachers highly appreciate training related to the use of technology in learning, given that technology has now become an integral part of the education process. This training is considered capable of bridging the technology skills gap that exists among teachers, especially for those who have no experience in utilising technology in the teaching and learning process.

However, despite the relevance of the programme, there were variations in the level of enthusiasm of teachers for the programme. Younger teachers tend to show more enthusiasm for technology-focused training, while more senior teachers often express concerns about their ability to adapt to the changes. This is in line with Kotter's (2021) research, which shows that resistance to change often arises from individuals who feel less confident in their ability to deal with new things. Therefore, although most teachers understand the importance of using technology, additional specific support for senior teachers is needed to increase their confidence in implementing technology in teaching.

Secondly, in terms of the support received, teachers' perceptions indicate that the success of this programme is highly dependent on the support provided by the school and local government. Teachers felt that both financial and technical support were essential to the successful implementation of the training they received. Support in the form of providing technology facilities, internet access, and time allocation to attend training are aspects that are highly appreciated by teachers. According to Darling-Hammond (2020), institutional support is a key factor influencing the effectiveness of professional development programs. Teachers also considered that the principal's role as a leader in the school greatly influenced the success of this program. Principals who actively support and encourage teachers to participate in training can create a conducive environment for improving the quality of learning in schools.

However, some teachers revealed that technical support and facilities are not always evenly distributed in all schools, especially in schools located in remote areas. Infrastructure limitations such as unstable internet connections and lack of technological devices often hamper teachers' efforts to implement the knowledge gained during training. Similarly, Zhao (2021) asserts that infrastructure

readiness is a key prerequisite in achieving the success of digital-based education transformation. Therefore, there is a need for special attention from local governments to ensure that all schools have equal access to the necessary infrastructure and facilities. This inequality in support could result in gaps in programme implementation, ultimately affecting the overall quality of education.

Third, in terms of challenges faced, teachers also identified some obstacles in implementing the training outcomes into daily practice. One of the main challenges often mentioned is time constraints, where the administrative tasks they have to do often take up time that could have been used to develop learning or implement new methods. Hargreaves and Fullan (2020) emphasise that administrative overload can reduce the effectiveness of professional development programmes as teachers do not have enough time to focus on improving teaching quality. Therefore, policies are needed that can reduce teachers' administrative burden, so that they have more time and energy to innovate in learning.

In addition, teachers also face challenges in terms of student engagement during technology-based learning. Some teachers feel that not all students have adequate access to technology devices at home, which makes the implementation of technology-based learning less effective. This is especially true during the distance learning period, where the gap in technology access between students becomes very visible. Vygotsky (2019) underlines the importance of equal access for all students in the learning process, as unequal access can create gaps in the achievement of learning outcomes. Therefore, a joint effort from the school, government and community is needed to address this access issue, so that all students can benefit from technology-based learning programmes. This collaborative effort is not only important to improve the quality of learning, but also to ensure social inclusion and equality of opportunity for all students.

Fourth, in terms of perceived impact, most teachers revealed that the Nawa Karsa Gresik Cerdas Programme had a positive impact on improving their competence. They feel more confident in using technology and more able to adopt more interactive and student-centred learning methods. According to Johnson (2021), teachers' confidence in teaching is an important factor that affects the quality of learning provided. The teachers also perceived improvements in their pedagogical skills, especially in terms of creating a more inclusive learning environment and encouraging active student engagement. Teachers involved in the programme reported significant improvements in their ability to design and implement learning strategies that are engaging and responsive to students' needs.

However, this positive impact was not felt equally by all teachers. Some teachers who received less technical support and facilities felt that their competency improvement was not as optimal as expected. This suggests that consistent and equitable support from schools and local governments is essential to ensure that all teachers benefit from the programme. Wenger (2020) states that a supportive and collaborative learning environment is necessary to achieve success in professional development programmes, as without sufficient support, efforts to improve teacher competence will not yield optimal results. In this context, the collaborative role of the principal, school community, and local government is crucial in creating an ecosystem that supports the success of this program.

In addition, teachers' perceptions of the program's impact were also influenced by their ability to overcome barriers that arose during the implementation process. Teachers who successfully overcame infrastructure challenges and received full support from school authorities tended to report more positive outcomes compared to those who still faced these obstacles. The strengthening of professional learning communities among teachers in the Gresik district also plays an important role in improving the effectiveness of program implementation. These learning communities allow teachers to share experiences and best practices so that they can learn from the successes and challenges faced by their peers.

Furthermore, teachers' perceptions of the program's impact were also related to their improved ability to adapt their learning methods based on feedback from students. Teachers who were more open to student input and endeavored to adapt their teaching methods to student needs reported greater improvements in student engagement. This is in line with Tomlinson's (2020) view, which

emphasizes the importance of differentiation in learning to meet the unique needs of each student. With improved competence in adapting learning methods, teachers in Gresik district can create a more inclusive learning environment and facilitate students' active engagement in the learning process.

In addition to the impact on individual teacher competencies, the Nawa Karsa Gresik Cerdas programme also has a wider impact on school culture. Teachers who participate in the programme become agents of change in their schools, encouraging their colleagues to also innovate and implement more interactive learning methods. Principals who support the programme also play an important role in facilitating the spread of good practices throughout the school. Thus, the programme not only has an impact on improving teachers' individual competencies, but also contributes to a change in school culture towards more collaborative and student-centred learning.

Overall, the perceptions of primary school teachers in Gresik district towards the Nawa Karsa Gresik Cerdas programme indicate that the programme has great potential to improve the quality of teaching, provided it is supported by adequate infrastructure, continuous mentoring, and the reduction of barriers faced by teachers in the implementation of technology-based learning. To ensure the success of this programme, there needs to be a strong commitment from all parties involved, including the local government, school principals, teachers and the community. With adequate support, the Nawa Karsa Gresik Cerdas programme is expected to continue to make a real contribution to improving the quality of education in Gresik district.

Recommendations for Improving the Effectiveness of the Nawa Karsa Gresik Cerdas Programme in Improving the Quality of Primary School Teachers in Gresik Regency

While the Nawa Karsa Gresik Cerdas programme has had a significant impact in improving the quality of primary school teachers in Gresik district, there is still room for improvement to ensure the sustainability and effectiveness of the programme. Several recommendations can be made to further maximise the effectiveness of the programme in supporting overall teacher quality, with a focus on continuous development, infrastructure improvement, collaboration and systematic evaluation.

Firstly, the system of continuous mentoring for teachers needs to be strengthened, especially for senior teachers who still face challenges in adopting new learning technologies and methods. More intensive and personalised mentoring can help these teachers adapt gradually and feel more comfortable with the changes they face. Guskey's (2020) research confirms that the success of professional development programmes relies heavily on the quality of mentoring, especially in helping teachers implement new practices in the classroom environment. Therefore, providing specialised mentors or facilitators who have a deep understanding of educational technology and constructivist pedagogy would be very beneficial in supporting teachers' adaptation. These mentors not only need to understand the technology technically, but should also have the interpersonal skills to guide and motivate teachers to continue developing their capacity.

In addition to personalised mentoring, a structured mentoring system also needs to involve practical classroom-based training. This approach allows teachers to gain hands-on experience in applying innovative learning technologies and methods. Similarly, Darling-Hammond (2020) emphasises that training that integrates field practice can increase teachers' confidence in adopting new methods. This training program should be conducted on an ongoing basis, with full support from the school and local government to ensure that every teacher has equal opportunities to access the necessary resources and guidance. In addition, it is also important to actively involve school principals in the mentoring process, so that they can role as facilitators of internal supporting teachers' professional development in their respective schools.

Secondly, it is important to improve accessibility to technology infrastructure, especially in remote areas. Some schools in Gresik district still face limitations in terms of adequate technology infrastructure and internet access. To address this gap, collaboration with relevant parties, including local governments and the private sector, is needed to provide the necessary facilities and

infrastructure. According to Zhao (2021), the success of digital transformation in education is strongly influenced by the readiness of technological infrastructure. Support from the government and other institutions can ensure that all schools, including those in remote areas, have equal access to education technology so that the programme can be implemented equitably. Furthermore, the provision of technology infrastructure needs to be accompanied by technical training for teachers and school staff so that they can optimally utilise these technologies in the learning process.

Third, the strengthening of professional learning communities among teachers must continue. These learning communities play an important role in creating an environment where teachers can share knowledge, experiences and best practices. Hargreaves and Fullan (2020) assert that strong professional learning communities can increase teachers' involvement in the professional development process and encourage innovation in teaching. Therefore, efforts are needed to facilitate regular meetings between teachers, both face-to-face and online, to discuss challenges faced and possible solutions. In addition, the use of online platforms as a means of sharing good practices can increase the accessibility and involvement of all teachers in this community. To further improve the effectiveness of learning communities, local governments and schools need to provide incentives for teachers who are active in sharing knowledge and contributing to the community, so as to encourage more teachers to be actively involved.

In addition, strengthening learning communities can also involve cross-school collaboration, where teachers from different schools can learn from each other and exchange ideas. This cross-school collaboration can widen the scope of good practices and provide teachers with new perspectives on approaches that can be adapted to each school's context. Wenger (2020) states that effective learning communities are able to create an environment where continuous knowledge transfer occurs, which ultimately improves the overall quality of teaching.

Fourth, ongoing program evaluation needs to be improved. Evaluations should be conducted systematically to ensure that the program is actually having the expected impact and to identify areas that require improvement. Evaluation can include teacher satisfaction surveys, analyses of student learning outcomes, and in-depth interviews with teachers and principals on the effectiveness of the training and mentoring provided. In accordance with Brown (2021), ongoing evaluation is key in ensuring the relevance and effectiveness of professional development programs. By conducting regular evaluations, the program can be continuously updated and adapted to the needs of teachers and students, so that the results achieved are more optimal. In addition to formal evaluation, self-reflection by teachers is also necessary as part of the continuous evaluation process. This reflection can help teachers to better understand their strengths and weaknesses in teaching and how they can improve the quality of learning.

A more adaptive approach to the needs of individual schools and teachers should also be adopted. Each school has different characteristics and challenges, so a uniform approach may not be effective for all contexts. The programme needs to be more flexible in adjusting training and mentoring strategies according to the specific needs of each school. According to Tomlinson (2020), differentiation in professional development approaches can increase engagement and programme effectiveness, as each teacher gets support that is relevant to their needs and conditions. Therefore, an evaluation of the specific needs of each school should be conducted prior to programme implementation so that the most appropriate strategies can be developed according to the local context.

Fifth, collaboration with parents and communities should be strengthened. Support from parents and the community is crucial in creating an enabling environment for the implementation of this programme. As Freire (2020) emphasises, education cannot be separated from its social context, and the involvement of parents and communities is an important factor in the success of education programmes. By involving parents in school activities and providing them with an understanding of the importance of technology-based learning, it is hoped that a better synergy between school and home will be created in supporting student development. In addition, active community participation

in providing additional resources, such as infrastructure support or training, can strengthen the success of this programme. Involving local community leaders can also help in building wider support and reducing resistance to change, especially in more conservative communities.

In addition, there needs to be initiatives to integrate innovative learning practices that are appropriate to the local context. The Nawa Karsa Gresik Cerdas programme should ensure that the methods and technologies used are relevant to the local conditions in Gresik, both in terms of culture, language and existing limitations. Learning innovation should not only focus on the use of advanced technology, but also on developing practices that can be easily implemented in various learning environments. In line with Vygotsky (2019) emphasises that effective learning is one that can be contextualised according to students' social and cultural environment. Therefore, the development of contextualised teaching materials and pedagogical approaches will be crucial to ensure the long-term success of this programme.

Overall, to improve the effectiveness of the Nawa Karsa Gresik Cerdas Programme in improving the quality of primary school teachers in Gresik District, ongoing efforts are needed to strengthen mentoring, improve access to technology, build professional learning communities and conduct regular programme evaluations. In addition, an adaptive approach to the needs of each school, strengthening collaboration with parents and communities, and integrating locally relevant learning practices are also essential. With the commitment of all parties involved, the Nawa Karsa Gresik Cerdas programme has great potential to continue to contribute to creating quality and inclusive education in Gresik district.

Continuous evaluation of the implementation of the programme is needed to ensure that each intervention has the expected impact. Evaluations can be conducted through surveys, interviews, and direct observations in the schools involved. In line with Brown (2021), a systematic and continuous evaluation is essential to identify areas for improvement and ensure that the programme is running as planned. In the context of the Nawa Karsa Gresik Cerdas Programme, this ongoing evaluation will also help identify best practices that can be replicated in other schools, so that the positive impact of the programme can be felt more widely.

With the commitment and collaboration of all parties involved, including the Education Office, school principals, teachers, parents and the community, the Nawa Karsa Gresik Cerdas programme can continue to grow and make a real contribution to creating a better quality education system in Gresik district. Continued support in the form of budget, training and mentoring will be key to the long-term success of this programme. Through synergy and good cooperation, it is hoped that this programme will not only improve the quality of teachers but also have a positive impact on students and the community as a whole.

CONCLUSIONS

The Nawa Karsa Gresik Cerdas programme has successfully improved the professional competence of primary school teachers in Gresik district through intensive training, ongoing mentoring and the establishment of professional learning communities. Teachers experienced improved technological skills, pedagogical abilities and adaptation of student-centred learning methods, with training relevant to local needs such as the use of technology in learning and participatory approaches. However, the program faces challenges such as limited infrastructure in remote areas, resistance to change from senior teachers, and administrative burdens that hinder professional development. Therefore, further support from stakeholders, including the education office and school principals, is needed, in the form of improved technology facilities, dedicated time for training, and reduced administrative burden through digitalization.

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