

EDUCATIONAL TRANSFORMATION: LEVERAGING KNOWLEDGE MANAGEMENT FOR STUDENT SUCCESS

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Abstract

The high cost needed to hire external tutor caused school to spend extra budget. Therefore, school needed the implementation of knowledge management to improve teacher competence to improve student achievement. The purpose of this study was to analyze knowledge management in improving student achievement. This research was conducted at SD Muhammadiyah Nitikan Yogyakarta. This school was chosen as the object of research to analyze the implementation of knowledge management. This research used qualitative approach. The subject of this research was the teachers. The subjects were determined by purposive sampling technique to obtain accurate information. Data collection techniques were carried out by interview, observation, and documentation methods. The data analysis technique employed the Mules and Huberman model with data display, data reduction, and data verification. Data validity was done by triangulation. The results of this study found that knowledge management can help decreasing the cost to obtain school achievement. It further affects the increased competence of the teachers to maximize school achievement. The school no longer hire external tutor because school teachers' ability is adequate to handle the coaching activities at SD Muhamadiyah Nitikan Yogyakarta, both in academic and non-academic fields. The implication of this research is to improve the quality of schools and increase the confidence of students and parents in sending their children to the school.

Keywords: *knowledge management; improvement of achievement; quality of schools; teachers.*

Abstrak

Tingginya biaya honorer Pembina dari luar menyebabkan anggaran pengeluaran sekolah membengkak. Oleh karenanya sekolah membutuhkan implementasi *knowledge management*, dalam rangka meningkatkan kompetensi guru untuk meningkatkan hasil prestasi siswa. Tujuan penelitian ini untuk menganalisis *knowledge management* dalam meningkatkan hasil prestasi siswa. Penelitian ini dilakukan di SD Muhammadiyah Nitikan Yogyakarta, alasan memilih SD Muhamadiyah Nitikan Yogyakarta sebagai objek penelitian untuk menganalisis implementasi *knowledge management*. Jenis penelitian ini adalah pendekatan kualitatif, subjek penelitian ini adalah guru. Penentuan subjek dilakukan dengan teknik purposive sampling, untuk mendapat informasi yang akurat. Teknik pengumpulan data dilakukan dengan metode wawancara, observasi, dan dokumentasi. Teknik analisis data mengikuti model Mules dan Huberman dengan display data, reduksi data, dan verifikasi data. Keabsahan data dengan triangulasi. Hasil penelitian ini menemukan bahwa *knowledge management* mampu membantu menekan biaya (*cost*) prestasi. Hal tersebut mempengaruhi meningkatnya kompetensi guru untuk memaksimalkan dalam hasil prestasi. Sekolah tidak lagi mengambil Pembina dari luar, karena cukup diminimalisir guru Pembina dari SD Muhamadiyah Nitikan Yogyakarta. Baik dalam peningkatan hasil prestasi yang bersifat akademik dan non akademik. Implikasi penelitian ini meningkatkan kualitas mutu sekolah, dan menambah kepercayaan siswa dan orang tua dalam menyekolahkan anaknya di Sekolah.

Kata kunci: *knowledge management; peningkatan hasil prestasi; mutu sekolah; guru.*

INTRODUCTION

In SD Muhammadiyah Nitikan Yogyakarta, the teachers were the lack of knowledge management. It made the achievement of knowledge management goals at school to be not optimal. From human resources (HR) point of view, actually the teachers have high competence because they went through a strict teacher selection. However, in practice, the concept of knowledge management has not been realized and implemented implicatively at SD Muhammadiyah Nitikan Yogyakarta. Similar theoretical problems have also been studied by Mufti et al. in their preliminary study, stated that there is a lack of understanding of school management, including school principal, in improving knowledge management at Trini Gamping Muhammadiyah Elementary School (Mufti et al., 2019). As for practical problems, Nuryana found in one of her findings that there are some schools that are lack of understanding in knowledge management due to the passive action in seeking information and learning how to improve school management. However, Nuryana specifically strengthened the finding that even though the school has mastered and implemented school management, it also needs to have knowledge management (Nuryana, 2017).

The main problem in this study was the lack of teacher competence in developing student achievement. It resulted in the minimal level of satisfaction of students and parents in the learning process at SD Muhammadiyah Nitikan Yogyakarta, specifically when student achievement decreased year by year. It affected to the increase of school budget for the improvement of school achievement that were not proportional to the entrance fees paid by the students. The costs spent were expensive because the school hired external tutors to prepare the students to take part in competitions and national examination, one of which the tutors from Gadjah Mada University, Yogyakarta. Besides, the learning activity was less effective for the students because the learning schedules must be adjusted to the schedule of external tutors.

There have been many researches on knowledge management which are provided through Google Scholar, both published in reputable national and international journals. It is known that knowledge management is more directed towards increasing the ability of the learning process, learning outcomes, and student achievement. As for knowledge management, school is focused on supporting the ability of teachers to teach their students. In the previous research has been investigated by Mufti (2019) found that knowledge management improvement is done through the application of Ismuba learning, that has been supported by the use of information technology at SD Muhammadiyah Trini Gamping Sleman DIY (Mufti et al., 2019). The second study by Nuryana (2017) covered the knowledge management which aims to develop a learning organization in Islamic educational institutions. Nuryana (2017), in the research, alluded to the importance of knowledge management in the development of learning organizations in formal and non-formal schools (Nuryana, 2017). Lastly, the knowledge management research is in line with the Pratama research (2018) regarding the application of knowledge management to improve the human resource capabilities of teachers and employees at SMK Diponegoro Depok.

Based on previous research survey in knowledge management topic, some researchers focused on the development of Islamic education and organizational learning in Islamic educational institutions. The researches focused on improving human resources (teachers and employees), that became the limitations of previous researches. There has been no research found on improving student achievement outcomes at school, as well as the novelty in this research that is implementing knowledge management to improve student achievement

outcomes at SD Muhammadiyah Nitikan Yogyakarta. Different from the three previous studies above, this research is more focused on student achievement outcomes in school and to maximize the teacher competence at SD Muhammadiyah Nitikan Yogyakarta to improve student achievement. The purpose of this study is to analyze knowledge management to maximize the teacher competence to improve the student achievement previously that has been decreasing year by year. Therefore, the researchers focus on the implementation of knowledge management at SD Muhammadiyah Nitikan Yogyakarta.

This research is based on relevant arguments, that is the importance of knowledge management in SD Muhammadiyah Nitikan Yogyakarta, especially in providing provision of teacher competency skills to improve student achievement. There are several reasons that affect knowledge management in improving student achievement. Researchers chose knowledge management in the aspect of improving student achievement because the outstanding cases of student achievement that were considered to be very minimal. This is proved by the results of the study and data of the national exam result issued by SD Muhammadiyah Niikan Yogyakarta. The importance of this research lies in addressing the issue of school expenses. On one hand, the school was lack of fund to provide fees for teachers and extracurricular tutor; thus, SD Muhammadiyah Nitikan faced challenges in finding tutors to teach the students to participate in competitions aimed at enhancing student achievements. The focus of this research is to utilize knowledge management to empower students' competencies by the teachers at SD Muhammadiyah Nitikan Giwangan, to avoid hiring external tutors. One of the functions of knowledge management is to enhance teacher competence through workshops, training sessions, curriculum teaching, and school management.

RESEARCH METHOD

The research approach used in this study was qualitative research. This approach was used to understand and describe the implementation of knowledge management to improve teacher competence and students' achievement at SD Muhammadiyah Nitikan Yogyakarta. In this study, the research subjects were students and teachers. From the two subjects, it was expected to gather complete and valid data, namely data on the implementation of knowledge management to improve student achievement. Selection of the research subject was done by sampling the data source with certain considerations, for example choosing the person who was considered the most knowledgeable about what the researcher wanted. The subject of this research is SD Muhammadiyah Nitikan Giwangan Yogyakarta, along with its students, teachers, and the school principal. The researcher involved research subjects focused on gender and the validity of providing information or data. This research was conducted from early February 2022 to the end of May 2022. Therefore, the research duration was 4 months.

Data collection techniques were carried out by using interview, observation, and documentation methods. First, in-depth interviews data were used as the primary data. Interviews were intended to obtain data by asking questions to the informants about knowledge management to improve student achievement at SD Muhammadiyah Nitikan Yogyakarta. The informants were the teachers and students. Second, observation was done by obtaining information about knowledge management at SD Muhammadiyah Nitikan Yogyakarta. The observations were carried out both formally and informally. Third, the documentation method studied the texts and photos of students and teachers during their

participating in competitions, training session, weekly sharing session on knowledge management in school, and winning moments in the competition. The data in a form of text and photo of knowledge management records provided information on student achievement at SD Muhammadiyah Nitikan Yogyakarta.

The data analysis technique used in this study followed the Miles and Huberman model (1994), that activities in qualitative data analysis are carried out interactively and take place continuously until it is complete so that the data is saturated. Data analysis included data reduction, data display, and data conclusion drawing or verification. Three main interrelated activities occurred simultaneously, namely: data reduction, data display, and providing conclusions or data verification.

RESULTS AND DISCUSSION

The results of this study are presented based on the topics generated during the research process while collecting the data at SD Muhammadiyah Nitikan Yogyakarta as well as answering the problem formulation variables for the questions above. Based on the data analysis, there are several topics that affects the results of this study, they are:

Knowledge Management

Knowledge management is a technique for building a learning environment, where the people in it are continuously motivated to learn, take advantage of existing information, and ultimately want to share the new knowledge they produce (Nugroho, nd). Knowledge management can also be defined as planning, collecting and organizing, leading, as well as controlling data and information that has been combined with various forms of thinking and analysis from various competent sources (Kurniawan, 2020).

Knowledge management implementation requires technical policy support and knowledge management implementation processes that include people (human resources), processes, technology and knowledge sharing in implementing knowledge management in educational institutions. As Petrides & Nguyen stated:

“Implementing knowledge management strategies and practices requires these educational institutions to examine the larger context information sharing within the organization, specifically how their people, processes, and technology functions within it.”

Polanyi (Winson et al, 2009) distinguished knowledge into explicit knowledge and tacit knowledge. Explicit knowledge is a form of knowledge that has been documented or formalized, easy to store, reproduce, disseminate and learn. The examples are manuals, books, reports, documents, letters, electronic files, etc. Explicit knowledge can be expressed in words and numbers, distributed in the form of data, formulas, specifications, and manuals. On the other hand, tacit knowledge is a form of knowledge that is still stored in the human mind, and is very personal (Nawawi et al., 2020). The examples are ideas, perceptions, ways of thinking, insights, skills, and so on (Rubbo et al., 2021). Tacit knowledge is the same as intangible knowledge, while explicit knowledge is the same as tangible knowledge. Tacit knowledge can be converted into explicit knowledge (Jones et al., 2021).

The process of changing or converting tacit and explicit knowledge, by Nonaka, is described as a process that becomes a cycle, which includes the stages of socialization, externalization, combination, and internalization, that is explained as follows:

1) *Socialization (from tacit to tacit)*. This change in knowledge can occur from person to person. This tacit knowledge can be transferred from one person to another without going through a verbal processor written document but through storytelling and experiences shared activities –such as living together, spending time together, observation, on-the-job training, mentoring, meetings, and working with a team on a project. It has a lot to do with communicating and collaborating with people.

2) *Externalization (from tacit to explicit)*. Externalization refers to the process of articulation and coding of tacit knowledge, in order to convert it to explicit knowledge. In practice, externalization is supported by two key factors; the first is the articulation of tacit knowledge—that is conversion from tacit to explicit—as in team dialogue, and the second is translating tacit knowledge from experts into understandable forms, such as documents, etc.

3) *Combination (from explicit to explicit)*. Combination refers to the process of converting explicit knowledge to more complex explicit knowledge. In practice, the combination phase depends on the following three processes; first, the capture and integration of new explicit knowledge including the collection of external data from inside or outside the institution and then combining these data; second, the dissemination of explicit knowledge through presentations or face-to-face meetings; and third, processing explicit knowledge so that it is easier to reuse, for example into plan documents, reports, market data, etc.

4) *Internalization (from explicit to tacit)*. Internalization is related to the process of using explicit knowledge. Internalization of new knowledge is the conversion of explicit knowledge into organizational tacit knowledge. Individuals must identify knowledge that is relevant to their needs in the organizational knowledge. In practice, internalization can be done in two dimensions. First, the application of explicit knowledge in action and direct practice, for example through training programs. Second, mastery of explicit knowledge through simulation, experimentation, or learning by doing. From the application of explicit knowledge by individuals, there is a process of tacit knowledge within the individual that may be developed by the individual (Primary, 2019).

According to McShane & Von Glinow (2008), the knowledge management process includes 1) knowledge acquisition, 2) knowledge sharing, and 3) knowledge use. Knowledge acquisition is where knowledge can be obtained through gathering information and ideas from the external environment, including when employees learn from external sources. To gain knowledge, it requires the ability to appreciate the value of new information, accept it, and apply it. The second process is knowledge sharing process that can be done through digital knowledge repositories (Wang et al., 2021). Another strategy is to provide opportunities for employees to communicate face-to-face such as discussion groups, workgroups to share expertise and experience. Next, knowledge use is the knowledge that has been obtained and shared needs to be used effectively (Janna, 2021). For this, it is necessary to provide sufficient knowledge and freedom for employees to apply it. This requires a culture that supports learning from experience (Sumarno, 2010).

Profile of SD Muhammadiyah Nitikan

Geographically, SD Muhammadiyah Nitikan is located in the southeastern part of Yogyakarta City, precisely at Jalan Kranon Nitikan No. UH 6, RT. 45/ RW. 11, Sorosutan, Umbulharjo district. Not far from this school is Banguntapan district which is the border between Yogyakarta City and Bantul Regency. This school has 5 buildings, which each building is located surrounded the central building. Campus 1 (central building) is located at RT 45 Kranon Nitikan, Campus 2 is located at the Sulthanain Mosque Complex RT 43 Nitikan, Campus 3 is located at the Al-Islah Mosque Complex, Campus 4 is located at the Muhajirin Mosque Complex, and Campus 5 is located at Ponggalan Giwangan. Historically, SD Muhammadiyah Nitikan is part of SD Muhammadiyah Sapen Yogyakarta as SD Muhammadiyah Sapen in Nitikan. This school was founded in 2000 and became independent in 2015. SD Muhammadiyah Nitikan is a school that excels both in academic and non-academic fields, so that school achievement is a fixed price that should not be negotiable. The buildings of the school are physically less attractive, but having certain achievements will have a higher selling value than the schools that are physically good but do not have achievements.

Implementation of Knowledge Management at SD Muhammadiyah Nitikan

The primary issue in this study was the teachers' lack of competence in fostering student achievement at SD Muhammadiyah Nitikan Yogyakarta. This has led to minimal satisfaction among both students and parents regarding the learning process, specifically because the student achievement has been consistently decreasing year by year. It gave impact to the school's financial situation because the spending was mostly spent on preparing and training students for competitions and national exams that surpassed the school income. These expenses included hiring external tutor such as regular tutors from Gadjah Mada University. Consequently, the learning process became less effective, and the students were required to adjust their schedules to accommodate the external tutors.

So far, the school used classic or conventional development management, that largely influenced by the limited budget to compensate external tutors or speakers. Unfortunately, the experience of using internal tutors from the school teachers (teachers of SD Muhammadiyah Nitikan, Giwangan, Yogyakarta) revealed that many of the teachers were not fully competent yet. It affected the school's managerial development and curriculum. As a result, the school no longer gained trust from parents.

According to Leung (2010), there are three main reasons why adopting knowledge management in education (schools). First, being able to use the expertise of experienced teachers and share them with others, especially new teachers. Thus, best practices can be obtained and shared among teachers. Second, it can increase the effectiveness of school teaching and learning performance. It provides a work plan and gives teachers competitive intelligence (Yanto et al., 2021). For education, an important competitive factor is to achieve outcomes and improve student learning outcomes. Third, knowledge management supports the development of a knowledge community in schools and puts a learning organizational culture in place. It will improve learning process and legally manage the school's intellectual property (Sumarno, 2010).

The following is the result of the interview with the school principal regarding the importance of implementing knowledge management at SD Muhammadiyah Nitikan Yogyakarta: *“Before we implemented the policies and programs for knowledge management in this elementary school, there were many problems and cases starting from low trust of students and parents, huge school cost needed, to student learning problems. It has an impact on increasing student achievement at school.”*

The above was a conversation with school principal regarding the background of knowledge management implementation at SD Muhammadiyah Nitikan Yogyakarta. With these problems, the school principal looked for ideas, did comparative studies to some favorite schools, and made advancement at schools. The principal continued his interview with the researcher, *“There is no other way, one of which is the concept of school management policies, especially in terms of increasing student achievement by implementing knowledge management. The knowledge management has been implemented in many good schools and gave good result. This school is only 7 years old and have implemented and applied it in the aspect of improving student learning and student achievement. One of them is to maximize teacher competence.”*

It can be inferred that from the results of the interview above, the school principal supports the existence of knowledge management. According to the results of the interview above, it turns out that SD Muhammadiyah Yogyakarta has long implemented and developed this program in the aspect of improving student achievement outcomes.

The results of interviews with teachers at SD Muhammadiyah Nitikan Yogyakarta were in line with the information obtained from the school principal, as follows:

"Yes, because there was a crucial problem and one of the alternatives was the implementation of knowledge management for strengthening school budgets with the help of school knowledge management. The examples were like when it came to preparation for competition, preparation of national examination and training, the schools usually hired external tutor. Just imagine how huge the budget allocated for hiring external tutors if the fee for each session reached Rp. 250,000. That's why the school principal implemented this policy (knowledge management), Sir".

With the existence of interesting and lively communication during the interview, it can be inferred that the teachers and school stakeholders support the implementation of knowledge management especially those related to improving learning outcomes and improving student achievement outcomes. Then, the teacher continued the interview with the researcher.

“Fellow teachers are benefited (because of this program), because the school members are allowed to take part in various workshops. The teachers are allowed to expand their network with colleagues and take part in national and international competitions. What's even better is it gives benefit to the school and saves on school budget. Previously, the school hired external tutors from other institutions. After the implementation of knowledge management, the school no longer hire external tutors to maximize the teachers' skills within the school.”

In sum, after the knowledge management has been applied at SD Muhammadiyah Yogyakarta, the school was very profitable especially on the issue of huge budget needed to hire external tutor. The school program has been tutored and trained by the teachers from SD Muhammadiyah Nitikan Yogyakarta itself.

SD Muhammadiyah Nitikan has long implemented knowledge management to improve and create quality human resources. The program is defined as follows:

1. Knowledge acquisition.

There are many programs at SD Muhammadiyah Nitikan to improve the competence of teachers and employees to gain and or increase teacher's knowledge. These programs include:

a. Training and workshop

The training and workshop that have been carried out by SD Muhammadiyah Nitikan include curriculum training, training in making learning videos, etc.

b. Comparative study

To increase the knowledge of teachers and students, SD Muhammadiyah Nitikan has a comparative study program to other favorite schools. Some examples of schools that have been used as reference for comparative studies were SD Muhammadiyah Sapen, SD Muhammadiyah Wirosaban 3, and SD Muhammadiyah 5 Jakarta.

c. Allowance for higher education and equalization program

SD Muhammadiyah Nitikan is very supportive of teachers who are pursuing higher education in Postgraduate School or participating in the equalization program of Primary Teacher School Education by providing educational allowances.

2. Knowledge sharing

Sharing knowledge is something that must be done for SD Muhammadiyah Nitikan for equal distribution of human resources competencies, especially to improve the quality of teaching and learning activities so that learning achievement can be increased regularly. The following is the interpretation of the implementation of knowledge management in knowledge sharing:



Figure 1. Knowledge Sharing

Figure 1 above showed the implementation of weekly knowledge sharing. The teachers discussed the development and improvement of student achievement results in 2021, including looking for ideas for improving achievement of the students in the Pious Children Festival organized by the Yogyakarta City Service. Finally, the knowledge sharing above was closed with an evaluation of the policies and efforts that have been achieved by SD Muhammadiyah Nitikan Yogyakarta.

Some of the knowledge sharing activities that take place at SD Muhammadiyah Nitikan are as follows:

a. Wednesday regular meeting

b. Class parallel discussion

- c. Sharing experience
 - d. Intern teacher assistance
3. Knowledge use

The implementation of the knowledge by teachers and employees becomes an important element in improving the quality of education, especially in improving student achievement.

The forms of knowledge implementation carried out by SD Muhammadiyah Nitikan include:

1. Developing textbooks
2. Using of Websites and social media
3. Developing set of questions used for Grade 6
4. Making learning videos
5. Making teaching aids and learning media
6. Making learning tools
7. Utilizing of IT in the learning process
8. Increasing academic and non-academic achievements

The implications of knowledge management on student achievement at SD Muhammadiyah Nitikan Yogyakarta

The implementation of knowledge management at SD Muhammadiyah Nitikan have a positive effect in increasing student achievement, both academic and non-academic. It can be seen from the results of the Regional Education Standardization Assessment (*Asesmen Standarisasi Pendidikan Daerah or ASPD*) of Grade 6 examination which is a benchmark for academic achievement, or it can be known through competitive events.

The researcher interviewed the student about how do they feel to be the student of SD Muhammadiyah Nitikan Yogyakarta, and it shows as follow:

" We are happy to study here because there are many facilities and that makes us happy and comfortable, Sir. Especially, we are motivated by participating in prestigious competitions and events both on a national and international scale. And we won (in the first place), or at least in the second place, rarely got third place when participating in the competition. And our parents at home are proud to send us to SD Muhammadiyah Nitikan Yogyakarta".

From the interview above, students of SD Muhammadiyah Nitikan Yogyakarta feel very happy. They are satisfied with the guidance and good treatment given in the trainings for several events such as *Pildacil*, Al-Qur'an recitation, and other religious competition. The researcher continued the interview with the student:

"There is an increase in the achievement in the competitions. There is also training related to the national exam, Sir. What we are very happy about is that our grades are very good, Sir, especially in the general subjects tested such as mathematics, Indonesian language, and science."

From the discussion with the students, the researcher underlined that the students are enthusiastic about the implementation of knowledge management. One of the supporting factors is the implication of knowledge management being able to help student activities outside academic activities in the classroom, such as in non-academic training for national exams and training for summative exams. It is known that the results of the minimum score

(KKM) and the level of student achievement on the delegation of the exam, SD Muhammadiyah Nitikan Yogyakarta was crowned as one the most favorite schools. The following tabulation results related to the achievement of student ASPD results and student achievement results at SD Muhamamdiyah Nitikan Yogyakarta:

Table 1. ASPD 2021 Results for Yogyakarta City Elementary School

No	School	ASPD Average Score
1.	SD Muhammadiyah Sapen 1	247.96
2.	SD Negeri Ungaran 1	240,50
3.	SD Muhammadiyah Suronatan	231.03
4.	SD Muhammadiyah Nitikan	227.82
5.	SD Muhammadiyah Sokonandi 2	224.85
6.	SD Muhammadiyah Sapen 2	224.29
7.	SD Bopkri Gondolayu	222.84
8.	SD Muhammadiyah Sokonandi 1	222.68
9.	Lukman Hakim Integrated Islamic Elementary School	221.80
10.	SD Muhammadiyah Wirobrajan 3	220.99

Table 2. ASPD 2021 Results for SD Muhammadiyah Yogyakarta City

No	School	ASPD Average Score
1.	SD Muhammadiyah Sapen 1	247.96
2.	SD Muhammadiyah Suronatan	231.03
3.	SD Muhammadiyah Nitikan	227.82
4.	SD Muhammadiyah Sokonandi 2	224.85
5.	SD Muhammadiyah Sapen 2	224.29
6.	SD Muhammadiyah Sokonandi 1	222.68
7.	SD Muhammadiyah Wirobrajan 3	220.99
8.	SD Muhammadiyah Ngupasan 1	212.67
9.	SD Muhammadiyah Sagan	211.54
10.	SD Muhammadiyah Pakel	208.81

Table 3. Yogyakarta City Level Student Achievement in 2021

No	Name of Student	Competition Field	Competition	Champion
1.	Naufal Adrian Maulana Aurelia Bilqis Az-Zahra	Pantomime	FLS2N	1
2.	Aqila Qoni'ah Najwa Atira Rizkiya Tristrantri Zahrani Putri	CCA	Student MTQ	2
3.	Hauzan Abyan	MHQ	Student MTQ	3

Table 4. DIY Provincial Level Student Achievement in 2021

No	Name of Student	Competition Field	Competition	Champion
1.	Dhia Sharafana Setya Giri	Story telling	Story Telling Contest PE English Course	1
2.	Muhammad Yaqutunnafis	<i>Tartil</i>	Introductory Activity III Madrasah Mu'allimat	1
3.	Gavin Wicaksana	Song Cover	Introductory	2

Activity III
 Madrasah
 Mu'allimat

Table 5. Student Achievement at DIY Central Java Regional Level in 2021

No	Name of Student	Competition Field	Competition	Champion
1.	Alby Daryl Ghifari	Mathematics	Indonesian Math Science English Competition	Silver
2.	Muhammad Hafiz FA.	IPA	Indonesian Math Science English Competition	Silver
3.	Nazifa Salwaa K.	Mathematics	Indonesian Math Science English Competition	Silver
4.	Orchida Enwiera R.	English	Indonesian Math Science English Competition	Bronze
5.	Aisel Maera Tristandy	Mathematics	Indonesian Math Science English Competition	Bronze
6.	Dhia Sharafana Setya Giri	English	Indonesian Math Science English Competition	Bronze

Table 6. 2021 National Level Student Achievements

No	Name of Student	Competition Field	Competition	Champion
1.	Adinda Naura Saafina	Science Level 2	Smart Education Management	1
2.	Muhammad Hafiz FA.	Science Level 2	Smart Education Management	3
3.	Dastan Arsyah Rovino	Science Level 2	Smart Education Management	5

Table 7. International Student Achievement in 2021

No	Name of Student	Competition Field	Competition	Champion
1.	Watch the Children's Choir	Choir	Bali International Choir Festival 2021	Gold

The tabulation results above were the results of academic and non-academic achievements in 2021, which coaching process cannot be separated from the role of knowledge management. For about 80% of the improvement of the achievements in the competitions and National exam results meet the requirements as to quality improvement in SD Muhammadiyah Nitikan Yogyakarta. The following are the results of the documentation obtained from the archival document, that is related to the improvement of achievement of SD Muhammadiyah Nitikan Yogyakarta:



Figure 2. Students got second place, accompanied by the coaching teacher.

Figure 2 above was the result of the achievements of students who won *Pildacil*, Al-Qur'an recitation, and religious competition who have been trained and guided by internal teachers. The technique used and the model applied by the supervising teacher for a long period before the day of the competition by involving the students in a series of previous competitions related to competitions. School also prepared everything including the budget, food costs, transportation, and adequate supplies. The students were also selected from the students who mastered the skills and have a persistency for the competition. This is inseparable from the concept and implementation of knowledge management.

Education is one of the important sectors in development in every country. According to Law no. 20 of 2003, to achieve the goals of national education, it is necessary to have good, intelligent, and competitive education management that is rational, future-oriented, open, respects time, creative, independent, and innovative (Achmat, 2018). The information society is characterized by mastery of information technology, able to compete, curiosity, imagination, able to turn challenges into opportunities and master various methods of solving problems (Solong et al., 2020) & (Irawan, et al., 2023).

The development of information technology does play an important role in the concept of knowledge management (Rahman et al., 2021). Almost all activities of human life are marked by mastery of information technology, so teachers need to be equipped and supported by increasing the development of their competencies (Perawironegoro, 2019), specifically on the development of abilities in improving student learning outcomes and student achievement results. Unfortunately, in reality, in many cases, teachers have not been able to improve and develop their competencies because there is no support and policy from schools to help teachers improve their abilities (Abdulmuhsin et al., 2021).

Knowledge management is the management of information in an organization by implementing the strategy, structure, culture, system, and capacity as well as attitude of individuals in the organization related to knowledge (Crupi et al., 2020). Knowledge management as a concept is a strategy that transforms an organization's intellectual assets, both recorded information and the talents of its members, into higher productivity, new values, and increased competitiveness. The concept of knowledge management includes the management of human resources, and information technology, to achieve quality improvement (Wang et al., 2021).

According to John M. Echols and Hasan Shadily, management comes from the root word to manage which means to regulate, implement, and treat. From this word, comes the noun management, and manager for people who carry out management activities. Finally, management is translated into Indonesian language that is *manajemen*, meaning the process of using resources effectively to achieve predetermined goals or using resources effectively to achieve goals (Alhumsi et al., 2021).

According to Parker, management is the art of getting things done through people. The meaning of management in a broad sense is planning, organizing, directing, and controlling (P4) organizational resources to achieve goals effectively and efficiently (Ricciardi et al., 2021). Ramayulis stated that the same understanding of the nature of management is *al-tadbir* (regulation) (Camacho et al., 2021). This word is a derivation of the word *dadbara* (to regulate) which is widely found in the Qur'an, for example in one verse that stated: "He manages all affairs from the heavens to the earth, then (affairs) it ascends to Him in one day whose duration is a thousand years according to your reckoning" (Surat As-Sajadah: 5).

SD Muhammadiyah Nitikan Yogyakarta does not recognize the term 'knowledge management'. It seems that the term 'knowledge sharing' is more often heard among teachers than the term 'knowledge management' (Mesiono et al., 2021). The knowledge sharing established in this school is not yet fully based on real concepts and theories regarding knowledge sharing. Existing knowledge sharing is formed by itself based on the creative ideas of school principals and teachers.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results and discussion above, that knowledge management is needed in educational institutions to improve the quality of schools, especially to improve teacher competence and student achievement, both in academic and non-academic field. In addition, increasing teacher competence is an effective way to reduce the cost of education for fostering student achievement. The implications of implementing knowledge management in educational institutions is the improvement of student achievement, both academic and non-academic. This is proved from the implementation of knowledge management that has been carried out by SD Muhammadiyah Nitikan Yogyakarta.

This research has limitations and shortcomings, both in terms of content and substance. The researchers did not analyze and interpret knowledge management on aspects of improving learning process, as well as knowledge management on aspects of strengthening and improving school management. This study focuses on aspects of improving student outcomes by maximizing and utilizing knowledge management of teacher competencies. The contribution of this research can be used as an alternative to stabilize school budgets in increasing teacher competence while increasing parent's trust and student interest in learning at SD Muhammadiyah Nitikan Yogyakarta. There are recommendations to further researches to study knowledge management in the aspect of learning and knowledge management in the aspect of strengthening school organizations, which has implications for formal schools and non-formal institutions of Islamic boarding schools. The limitation of this research is solely focused on managerial management to improve student achievement outcomes. The researchers have not yet extensively focused on the scope of enhancing teachers' knowledge or quality management. This implies that there is an opportunity for future researchers to further develop and continue this study. The researchers recommend and expect for other researchers to study deeper on knowledge management concerning the development of teachers and quality management or religious moderation aspects in Yogyakarta.

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