Vol 3 No 2 June 2022 e-ISSN 2722-7790



# The Objectives, Roles, and Functions of Technical Guidance (TG) for Strengthening the Competence of Teachers of Computer-Based Written Examination Subjects

# Sudiyo Widodo<sup>1</sup>; Sri Budiyono<sup>2</sup>; Pujo Darmo<sup>3</sup>

<sup>1,2,3</sup>Faculty Teacher Training and Education, Widya Dharma University, Indonesia <sup>2</sup>Corresponding Email: <a href="mailto:sribudiyono15@gmail.com">sribudiyono15@gmail.com</a>, Phone Number: 0813 xxxx xxxx

## **Article History:**

Received: Jan 06, 2022 Revised: Jan 27, 2022 Accepted: Feb 02, 2022 Online First: Feb 06, 2022

### **Keywords:**

Computer-based, Technical guidance, Strengthening Competence, Writing Exam

### Kata Kunci:

Berbasis Komputer, Bimbingan Teknis, Penguatan Kompetensi, Ujian Tulis

## How to cite:

Widodo, S., Budiyono, S., & Darmo, P. (2022). The Objectives, Roles, and Functions of Technical Guidance (TG) for Strengthening the Competence of Teachers of Computer-Based Written Examination Subjects. *Edunesia: Jurnal Ilmiah Pendidikan*, 3 (2): 99-110.

This is an open-access article under the CC-BY-NC-ND license



Abstract: This study aims to explore the role, objectives, and functions of technical guidance for teachers in charge of written exams in preparation for entrance exams to state universities. This research activity was conducted in Sulawesi. Sampling was carried out at the Golden Tulip Essential Makassar Hotel, Jalan Sultan Hasanudin, number 43, Sawerigading, Ujung Pandang District, Makassar City, South Sulawesi. The main objective of this research is to find out the initial results before being given training and after being given training (technical guidance) on ways to answer questions about the Joint Selection for State Higher Education Entrance (SBMPTN). The method used in this research is the comparative method. The results of the trial before the training and after the training showed a significant difference. In other words, teachers can get pretty good grades after being guided, fostered, and specifically tested in training activities designed by the organizing committee for technical guidance to strengthen the competence of teachers in computerbased written exams.

Abstrak: Penelitian ini bertujuan menggali peran, tujuan, dan fungsi bimbingan teknis untuk para guru penanggung jawab ujian tulis persiapan ujian masuk ke perguruan tinggi negeri. Kegiatan penelitian ini dilakukan di Sulawesi. Pengambilan sampel dilakukan di Hotel Golden Tulip Essential Makassar, Jalan Sultan Hasanudin, nomor 43, Sawerigading, Kecamatan Ujung Pandang, Kota Makassar, Sulawesi Selatan ini. Tujuan pokok penelitian ini adalah mencari tahu hasil awal sebelum diberikan pelatihan dan sesudah diberikan pelatihan (bimbingan teknis) tentang cara-cara menjawab soal temntang Seleksi Bersama Masuk Perguruan Tinggi Negeri (SBMPTN). Metode yang dipakai dalam penelitian ini adalah netode komparatif. Hasil uji coba sebelum diadakan pelatihan dan setelah diadakannya pelatihan menunjukkan perbedaan yang cukup signifikan. Dengan kata lain para guru dapat mendapatkan nilai yang cukup bagus setelah dibimbing, dibina, dan diuji secara khusus dalam kegiatan pelatihan yang dirancang oleh panitia penyelengara bimbingan teknis penguatan komtetensi guru mata pelajaran ujian tulis berbasis komputer.

### A. Introduction

The main objective of this study was to determine the purpose, role, and function of the technical guidance activities for strengthening subject teacher competencies for MA Insan Cendekia teachers from all over the archipelago (Indonesia). The main orientation of this activity is to score their students to Favorite State Universities so that the main material tends to be UMPTN/SBMPTN/UTBK materials. This research is intended/aimed at teachers in Indonesian Muslim Intellectuals. The target subjects were the teachers of MAN Insan Indonesian Muslim Intellectuals throughout Indonesia. This activity is initiated/planned by the teacher, followed by the teacher, the teacher feels the problem, and it is planned that there are repeated corrective actions carried out in the classroom by the teacher. The final results will benefit the teacher and be enjoyed directly by the class (students directly). This is of course by the Regulation of the Ministry of Cultural Education in 2013, which states or emphasizes the dignity of teachers to be able (read also: educators) to always improve the quality and equity of educators, be able to implement an integrated thematic curriculum, and at the same time be able to provide educational facilities and infrastructure by National Education Standard (Dedikbud, 2013 b, Dedikbud 2013 c; Dedikbud 2013 d; Dedikbud 2013 e; Dedikbud 2013 f; Dedikbud 2013 g; Dedikbud 2013 h; Dedikbud 2013 i; Dedikbud 2013 j; UU RI 2003, No: 20; dan UU RI, 2005, No: 14).

The hope of this research is of course: 1) Can find out the shortcomings that exist in the mastery of the material they have; 2) Assisting teachers in improving learning; 3) Helping teachers develop professionally; 4) Increase the confidence of teachers, and 5) Enable teachers to actively develop their knowledge and skills, based on an active, innovative, creative, effective, fun, enthusiastic, optimistic, conducive, happy, and meaningful learning process (compare to Ismawati, 2013), hereinafter abbreviated as PAIKEM SEMOK GEMBROT (Isjoni, 2009; Salis 2008; Djaali & Pudji, 2008; Genesee & Upshur, 1997; & Sanjaya, 2012).

Based on the statement above, the reality proves that many teachers are still having difficulties, especially in understanding the problems that students find difficult and confusing. Success in learning is indeed not only based on theory, which teachers generally think: it doesn't matter. It turns out that from a survey that has been carried out by several institutions (especially lecturers) it turns out that other factors must or may even be said to be mandatory to convey to the teachers and students to be able to understand and implement learning with theories. practical Terri in solving problems to be able to reflect on the material he delivered whether it was understood by the students. Everything must be considered, observed, lived, and even applied so that more introspection and self-improvement to improve teaching achievement.

One way to overcome difficulties and to increase the understanding of these teachers is by having workshops, and others of the same kind. For this reason, there is nothing bad if the teachers/educational teachers are not tired of taking the time to be able to discuss together to solve practical ways so that they are easy to learn and understand by their

students. No less important than the statement above is the provision of motivation and giving tricks or tips to solve problems that exist in the sub-subjects of each subject.

Based on the problems above, as educative staff and resource persons at the university level, we, as lecturers at Widya Dharma University, want to take part in assisting government programs, especially through the realm of education to devote ourselves and at the same time carry out research activities on the goals, roles, and functions provide capital and provisions to the teachers at the Madrasah Aliyah Negeri of Indonesian Muslim Intellectuals in Sulawesi. It is like being the spearhead of delivering the future success of the students towards the future dreams they hope for.

## B. Method

This research is qualitative. The data analysis technique uses triangulation, which includes: interviews, observation (observing and going directly to dig up data), and documentation. After everything is obtained, the information obtained from the field is compiled by selecting and simplifying the data. After these stages are completed, the next step is to select and process the data so that a conclusion can be drawn.

There were 18 questionnaires distributed to 18 representative teachers from all MAN ICMI throughout Indonesia, which were then used as samples to determine the nature of the objectives, roles, and functions of providing technical guidance to strengthen the competence of teachers in this computer-based written exam. This study refers to the indicators for assessing the personality of a teacher that they should have, such as being able to always improve the quality and equity of educators, being able to implement an integrated thematic curriculum, and at the same time being able to provide educational facilities and infrastructure by National Education Standards (developed from Dedikbud, 2013 b, Dedikbud 2013 c; Dedikbud 2013 d; Dedikbud 2013 e; Dedikbud 2013 f; Dedikbud 2013 g; Dedikbud 2013 h; Dedikbud 2013 i; Dedikbud 2013 j; RI Law 2003, No: 20; & RI Law, 2005, No: 14). The questionnaire in the form of suggestions (read: things that students idealize in learning) includes (1) A Good relations with teachers/teachers; (2) There is emotional closeness; (3) The need for motivation; (4) The need for public lectures; (5) Providing drilling (repeated training); (6) Moving class (changing classes to find a fresh or comfortable atmosphere); (7) The need for special tricks to answer questions quickly and precisely; and (8) Periodic evaluation.

Because the teacher/educator's questionnaire is important to measure the feasibility of the teacher/educator based on the idealism of the students, the indicators for the assessment are as follows.

- 1. A good relationship with teachers/teachers;
- 2. There is emotional closeness;
- 3. The need for motivation;
- 4. The need for public lectures;
- 5. Providing drilling (repetitive training);
- 6. Moving class (moving class to find a fresh or comfortable atmosphere);

- 7. The need for special tricks to answer questions quickly and accurately;
- 8. Periodic evaluation

### C. Result and Discussion

The results of the study obtained from the data on the first day (Monday, March 8, 2021, to Thursday, March 11, 2021) were the results of the pretest and posttest of teachers from representatives of MAN ICMI throughout Indonesia. The results of the pretest and posttest presented are in the form of assessment test results before the use of the learning method by using a brilliant solution (one of the tricks used by the instructor) or with a similar statement, namely "PAIKEM SEMOK GEMBROT" (*Pembelajaran yang aktif*/active learning, *Inovatif*/innovative, *kreatif*/creative, *efektif*/effective, and *menyenangkan*/plesant), *semangat*/spirit, optimis/optimistic, *kondusif*/conducive, *gembira*/fun, and *berbobot*/weighty/valuable).

## 1. Pretest Moment

At the pretest moment, the measurement of the understanding of the mastery of the UAS and UMPTN/SBMPTN/UTBK teachers is by giving a test to understand the questions that have been specifically formulated to the teachers without using the PAIKEM SEMOK GEMBROT learning method (Active, Innovative, Creative, Effective Learning), Fun, Enthusiastic, Optimistic, Conducive, Happy and Weighty). In this case, it means that the resource persons have not done anything, in the sense that they have not taken any training action. The test results at the pretest stage are used to determine the initial state before the Technical Guidance (Bimtek) or debriefing activities are carried out.

The form of the test used is to understand a question related to working on language skills, to do some questions about mastery of spelling, phonology, morphology, semantics, and syntax, as well as language skills.

The results of this trial were given to eighteen (18) teachers who were in charge of UAS, SMNPTN/SBMPTN/UTBK questions which should have been mastered by these persons in charge. With the presence, enthusiasm, seriousness, the teachers are awake and conducive. This is clear and proven that the training from 08.00 WIB to 16.00 WIT, no one was late and no one was allowed to leave the training room. Attendance filling and consultation are also active. The feedback forum is also active. The eighteen participants (specifically in the field of Indonesian Language and Literature studies) are: 1) Aliyah (MAN IC Kota Batam); 2) Lisna sari (MAN IC Kendari City); 3) Nurbaiti (MAN IC East Aceh); 4) Caliph Annisa (MAN IC Gowa); 5) Rafiqa (MAN IC Gowa); 6) Muhammad Alfian (MAN IC Palu); 7) Ratih (MAN IC Serpong); 8) Rafig (MAN IC Serpong); 9) Arfiansyah (MAN IC DKI); 10) Usuf (MAN IC Lombok Timur); 11) Sulaiman Siregar (MAN IC Tapanuli Selatan); 12) Ratih Kirana (MAN IC Paser); 13) Cici Mulia Sari (MAN IC Bengkulu Tengah); 14) Ulandari Saibi (MAN IC Halmahera Barat); 15) Sri Helda Herawati (MAN IC Tanah Laut); 16) Matsalim (MAN IC Kota Pekalongan); 17) Khalifah Annisa (MAN IC Gowa); and 18) Raviqa (MAN IC Gowa).

The eighteen teachers in charge of UAS and SBMPTN/UMPTN/UTBK in the field of Indonesian Language and Literature studies are also the same as other teachers, namely they both undergo a pretest before the implementation of Technical Guidance (Bimtek) begins. It can be said that before the implementation of Technical Guidance (Bimtek) the results of the value during the implementation of the training were not satisfactory. A detailed description of the unsuccessful implementation of the training can be seen in the table below.

The active activity of doing the test is aimed at the process of training development. The tendency is to compare whether there is a significant difference between being given the training and before the Technical Guidance (Bimtek) was held. The pretest activities can be seen in the activities documented in Figure 1 below.



Figure 1. Participants of technical guidance do a pretest

The picture above shows some of the technical guidance participants who took part in the initial test (pretest) activity. Furthermore, the results of the pretest activities were carefully and observantly corrected by the resource persons. More details, relating to the results of the pretest are presented in the following table 1 below.

<b>Table 1.</b> Pretest results	of technical	guidance	participants

Number	Name	School	Score
1	Kusen	IC SERPONG	8,0
2	Rapiq	IC SERPONG	7,333
3	Matsalim	IC PEKALONGAN	5,333
4	Khalifah Annisa	IC GOWA	2,666
5	Rafiqa	IC GOWA	4,666
6	Sri Helda Herawati	IC TANAH LOT KALSEL	2,666
7	Ratih Kirana	IC PASER	3,333
8	Nurbaiti	IC ACEH TIMUR	5,333
9	Aliyah	IC KOTA BATAM	5,333
10	Sulaiman Siregar	IC TAPANANULI SELATAN	3,666
11	Lisnasari	IC KENDARI	4,666
12	Ulandari Saibi	IC HALMAHERA BARAT	2,0
13	Masfufa Affriyanti	IC PASURUAN	2,0
14	Muhammad Alfian	IC KOTA PALU	2,0

Number	Name	School	Score
15	Usup.	IC LOMBOK TIMUR	4,666
16	Rahmita	IC SIAK	4,666
17	Afriyansyah	IC DKI	4,666
18	Cici Muliasari	IC BENGKULU TENGAH	4,666

Based on the table above, it appears that the highest score was obtained by a participant from the Madrasah Aliyah Negeri IC Serpong, named Kusen. The results obtained were 8.9. Meanwhile, the lowest score was Ulandari Saibi, from MAN IC Halmahera Barat, with a score of 2.0, followed by Masfufa Afrianti, with the same score, namely 2.0, and the last one was Muhamad Alfian, from MAN IC Palu City, with a score of 2.0 as well. If it is concluded that the average result obtained by the teachers in charge of UTBK (trainees) is 4,314. The conclusions obtained by the participants did not meet the criteria for either in this pretest. An overview of the achievements of the trainees can be illustrated in Figure 2 below.

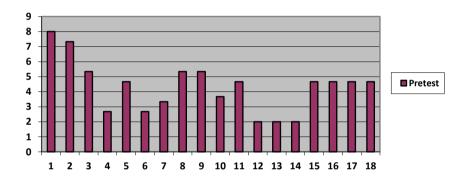


Figure 2. Pretest results of technical guidance participants

## 2. Posttest Moment

Starting from the case mentioned above, actions, observations, and reflections were carried out to get to the implementation stage of giving posttest questions. The explanation and the results of the post-test continuation of the image above are as follows.

The following is an analysis of the results of obtaining posttest scores based on the highest scores followed by the next lower ranking. The results were 1) Kusen (MAN IC Serpong) got a pretest score of 9.333; 2); Rapiq (MAN IC Serpong) got a score of 8.0; 3) Mastsalim from Man IC Pekalongan, got a score of 9, 333; 4) Khalifah Annisa from MAN IC Gowa got a score of 7.666; 5) Rafiqa from MAN IC Gowa got a score of 9.0; 6) Sri Helda Herawati from MAN IC Tanah Lot, South Kalimantan got a score of 9.666; 7) Ratih Kirana from MAN AC Paser got a score of 9.666; 8) Nurbaiti from MANM AC Aceh Timur scored 9.666; 9) Aliyah from MAN IC Mota Batam got a score of 9,666; 10) Sulaiman Siregar from MAN IC Tapanulis Selatan got a score of 7.0; 11) Lisnasari from MAN IC Kendari got a score of 9.666); 12) Ulandari Saibi from MAN IC Halmahera Barat scored 9.666; 13) Massfufa Affrianti from MAN IC Pasuruan scored 9.666; 14) Muhammad Alfian from MAN IC Paliu

18

Cici Muliasari

City got a score of 9.666; 15) Usup from MAN IC Lombok Timur got a score of 8.0; 16) Rahmita from MAN IC Siak got a score of 9,333; 17) Afriansyah from MAN IC DKI got a score of 7.0; while 18) Cici Muliasari from MAN IC Bengkulu Tengah got a score of 8.666.

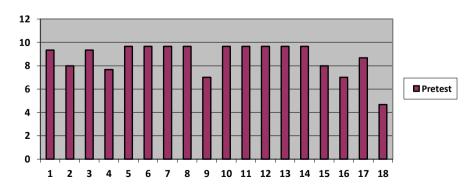
The description or explanation of the post-test results of the participants of the Technical Guidance for Strengthening the Competency of the Computer-Based Writing Exam Subjects can be seen in Table 2 below.

Number Name School Value 1 **IC SERPONG** 9,333 Kusen 2 **IC SERPONG** Rapiq 8,0 3 Matsalim **IC PEKALONGAN** 9,333 4 Khalifah Annisa **IC GOWA** 7,666 5 Rafiga **IC GOWA** 9,0 6 Sri Helda Herawati IC TANAH LOT KALSEL 9,666 7 Ratih Kirana IC PASER 9,666 8 Nurbaiti IC ACEH TIMUR 9,666 9 IC KOTA BATAM Alivah 9,666 10 Sulaiman Siregar IC TAPANANULI SELATAN 7,0 IC KENDARI 11 Lisnasari 9,666 12 Ulandari Saibi IC HALMAHERA BARAT 9,666 13 Masfufa Affriyanti **IC PASURUAN** 9,666 14 Muhammad Alfian IC KOTA PALU 9,666 15 IC LOMBOK TIMUR Usup. 8,0 16 Rahmita **IC SIAK** 9,333 17 Afriyansyah IC DKI 7,0

Table 2. Posttest results of technical guidance participants

From the post-test description above, it appears that none of the participants' scores dropped. On the contrary, the participants experienced a significant increase in scores. For more details, regarding the description of table 2, it can also be seen the final results of who is the highest and who is the lowest through the exposure of Figure 3 below.

IC BENGKULU TENGAH



**Figure 3.** Results of the posttest test of technical guidance participants

8,666

From the statement above, a conclusion can be drawn that all participants experienced a very significant increase. There is nothing that does not increase in value. The highest score of 9,666 was obtained by eight participants, namely: Sri Helda Herawati, Ratih Kirana, Nurbaiti, Aliyah, Lisnasari, Ulandari Saibi, Masfufa Affrianti, Muhammad Alfian, and Rahmita. Meanwhile, the participants who got the lowest score were two, namely: Sulaiman Siregar and Afriansyah. They get a score of 7.0. To see a comparison of the results of the pre-test and post-test of the teachers participating in the In House Training, it can be seen in Figure 4 below.

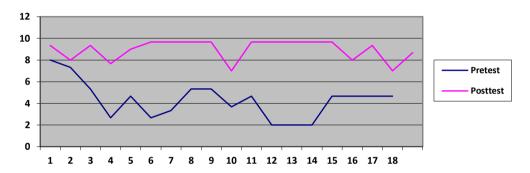


Figure 4. Comparison of pretest and posttest results of mentoring participants

# 3. Questionnaire Analysis Results

The results of the data in the form of filling out teacher/educator questionnaires can be seen in Table 3 below.

Score Number Criteria Percentage 5 4 1 3 2 1 A good relationship with 18 100% teachers/teachers 2 **Emotional closeness** 16 2 88,888% 3 Motivation 17 1 84,444% 4 Publis Lecturer 18 100% 5 2 Drilling (repetitive 16 84,444% training) Moving class 100% 6 18 7 100% Giving trick (practical 18 formula) 8 Evaluation 18 100%

Table 3. Questionnaire results for technical guidance participants

# Description

- 1. Very unimportant
- 2. Not important
- 3. Enough
- 4. Important

## 5. Very important

From the data statement above, it can be concluded that in the learning process, several things are needed that can support the success/smoothness of the learning. To be able to increase the desired achievement, it is necessary to have emotional closeness between teachers and students, good communication relationships, need motivation, public lectures, repeated training, changing classes to cool the atmosphere, giving practical formulas, and needing tests to measure the success of their achievements.

## D. Conclusion

This research activity on the objectives, roles, and functions of technical guidance contains procedures for compiling, observing, and at the same time answering questions quickly and accurately. Indonesian intellectuals in general. In addition, the speakers provided several suggestions that could be taken into consideration by school principals and branch office heads, the Director of PDGK of the Ministry of Religion, and even readers to always be able to improve their knowledge, both as a discourse of additional knowledge (added value) and transfer of knowledge.

The main objectives of providing technical guidance for the subject teachers in charge of the Computer-Based Written Examination or better known as the 12th-grade teacher in charge are 1) to increase the professionalism and competence of these teachers so that they can play an active role in the methodological-didactic process; 2) educate their students to think strategically or tactically and practically; 3) encouraging to work hard, enthusiastic, and not easily slack; 4) establish a good relationship or cooperation between the teachers in charge of grade 12 at Madrasah Aliyah Negeri, the Indonesian Muslim Intellectuals Association.

The role of the teacher as a mentor can guide children so that they can achieve and carry out their tasks in learning so that with this achievement they (students/learners) can grow and develop as independent and productive human beings. Every learning community (student) has its uniqueness. For this reason, the relationship between teachers and students (citizens of learning) is to be able to communicate more closely. Therefore, the role of the teacher must be able to recognize and at the same time be able to solve the difficulties of their students. Can play an active role in developing every potential, interest, and talent of their students.

As managers in the world of education, especially in the learning process, teachers have various functions in general. The teacher's functions are 1) as a planner, that is, in principle, he has a special plan for starting his learning; 2) organizer (manager) that can manage the class well. It means that the teacher can integrate the lesson plan with the existing class conditions. 3) Leader (leader). Teachers are leaders for themselves, their students, and at the same time their environment. Because in principle, either directly or indirectly the teacher is considered as a reference in all things (especially from his actions/behavior). 4) Supervisor. Teachers in public life are directly or indirectly seen as supervisors (supervisors). Supervisor in all things and all fields. The responsibility for

behavior that exists in students needs special attention and special supervision for teachers. That is why it is often referred to as a supervisor.

# Acknowledgment

The researcher would like to thank all those who have helped and provided the opportunity to research with the title The Objectives, Roles, and Functions of Technical Guidance (TG) for Strengthening the Competence of Teachers of Computer-Based Written Examination Subjects. We respectfully express our gratitude to:

- 1. Dr. Muhammad Zain, S. Ag., M. Ag., as Director of GTK Madrasah Director General of Islamic Education Ministry of Religion;
- 2. Dra. Hj. Supiana, M. Pd.Si., Ph. D., Head of Madrasah Aliyah Negeri Gowa Scholar, Jl Pendidikan Belapun Raya Village, Parangloe District, Gowa Regency, South Sulawesi. Postal Code 90244;
- 3. Andri Adi Mustika, S. Pd., M. Pd., chairman of the committee for the implementation of Technical Guidance (TG) for Strengthening Competency of Teachers of Computer-Based Written Examination Subjects.

## References

Depo	Perbukuan Departemen Pendidikan Nasional.
	2003b. Undang-undang Republik Indonesia No.20 tentang Sistem Pendidikan Nasional. Jakarta: Depbiknas.
	2004. Pedoman Umum Pemilihan dan Pemanfaatan Bahan Ajar. Jakarta: Depbiknas.
	2006a. <i>Panduan Pengembangan Silabus Bahasa Indoenesia</i> . Jakarta: Depbiknas Direktorat Pendidikan Dasar dan Menengah.
	2006b. Kumpulan Permendiknas tentang Standar Nasional Pendidikan (SNP) dan Panduan KTSP.: Panduan Penyusunan tingkat Satuan Pendidikan Jenjang Pendidikan Dasar dan Menengah Sekolah Menengah. Jakarta: Depbiknas Direktorat Pendidikan Dasar dan Menengah Direktorat Pembinaan Sekolah Menengah Atas.
	2013a. <i>Desain Induk Kurikulum 2013</i> . Jakarta: Depbiknas.
	2013b. Pengembangan Kurikulum 2013. Jakarta: Depbiknas.
	2013c. Bahan Pelatihan Implementasi Kurikulum 2013. (Lembar Kerja Pengelolaan Pembelajaran Berdasarkan Peminatan) Jakarta: Pusat Pengembangan Tenaga Kependidikan, Badan Pengembangan Sumber Daya Manusia Pendidikan dan Kebudayaan dan Penjaminan Mutu Pendidikan, Departemen Pendidikan dan Kebudayaan 2013.



- Djaali., & Pudji, M. (2008). Pengukuran dalam Bidang Pendidikan. Jakarta: Grasindo.
- Genesee., Freed., & John E. U. (1997). *Classroom-Based Evaluation in Second Language*. Cambridge: Cambridge University Press.
- Isjoni. (2009). Pembelajaran Kooperatif. Yogyakarta: Pustaka Pelajar.
- Kunandar. (2008). Langkah Mudah Penelitian Tindakan Kelas sebagai Pengembangan Profesi Guru. Jakarta: PT Raja Grafindo Perkasa.
- Salis, E (Diterjemahkan oleh Ahmad Ali Riyadi dan Fahrurrosi). (2008). Total Quality Management in Educatio (Manajemen Mutu Terpadu). Jogjakarta: IRCiSoD.
- Samani., Muchlas., & Hariyanto. (2013). Konsep dan Model Pendidikan Karakter. Bandung: PT. Remaja Rosdakarya.

- Sanjaya, W. (2012). Strategi Pembelajaran Berorientasi Standar Proses Pendidikan. Jakarta: Kencana.
- Tim Puslitjaknov. (2008). Metode Penelitian Pengembangan. Jakarta: Depdikbud.
- Undang-Undang Republik Indonesia Nomor 20 Tahun 2003 Tentang Sistem Pendidikan Nasional.
- Undang-Undang Republik Indonesia Nomor 14 Tahun 2005 Tentang Guru dan Dosen.
- Uno, H. B., Nina, L., & Satria, K. (2010). Desain Pembelajaran. Bandung: MQS Publising.
- Wardhani, I. & Kuswaya, W. (2014). *Penelitian Tindakan Kelas*. Tangerang Selatan: Universitas Terbuka.
- Yuliantoro, A. (2015). Penelitian Tindakan Kelas dengan Metode Mutakhir. Yogyakjarta: Andi Offset.