Design and Testing of Teacher Professional Development Models Focusing on the Optimization of Teachers' Teaching Ability in the Era of Asean Economic Communities and New Normal

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ABSTRACT

The Covid-19 pandemic, which is still ongoing, has changed the way various sectors work, including the education sector. Teachers are required to carry out online teaching which has affected the teacher's teaching competencies that must be possessed. The ability to teach teachers in various conditions must continue to be developed so that student outcomes also continue to increase. This study aims to examine the model of teacher professional development that focuses on optimizing teacher teaching skills in the era of the ASEAN Economic Community and the new normal. Teachers, school principals, and school supervisors in Malang City, Indonesia, and students at the Universitas Negeri Malang became respondents in this study. The research procedure used is the development steps proposed by Baker and Schutz (1971). Data were collected by open and closed questionnaires. The results conclude that the teacher development model developed is effective in order to improve the teaching ability of teachers. Our findings are discussed in the context of teacher professional development to improve teacher teaching skills.

Keywords: coaching model, teacher teaching ability, ASEAN Economic Community, new normal.

1. INTRODUCTION

Teacher professional development is an activity that can make a positive contribution to the professionalism of teachers, especially related to their ability in learning. The teaching ability of teachers, based on many research results, has been shown to affect student learning outcomes. Rubio [1] categorized teachers' teaching abilities into two: professional abilities and personal abilities. Imron [2] found that there was a significant causal relationship between learning supervision, teacher attitudes towards competency-based curriculum, teacher involvement in subject teacher consultations, and teacher's ability to manage classes, with student learning motivation. The research recommends the need for a strong conceptual building on teacher professional development that can optimize teacher commitment and teaching abilities.

Meanwhile, the teaching ability of teachers, by Glickman [3], [4], begins with a prerequisite ability called the level of abstraction. The abstract level of the teacher is very important in carrying out the duties of the teacher. Glickman [3], [4], his study found that teachers with high levels of cognitive development tend to think more abstractly, imaginatively, creatively, and democratically. They will be more flexible in carrying out tasks [5]–[9]. Such a teacher rarely has distractions. He even has a good relationship with his students and colleagues. Glassbers [3], the results of his study concluded that teachers with high levels of abstraction have appropriate power and relatively flexible teaching styles [10]–[12].

Such teachers are generally more outgoing and able to use a variety of learning models. They are also more effective in overcoming their difficulties. Glickman [3],

[13], through his research concluded that teachers with a high level of abstraction can see various possibilities and are able to use various ways to find alternative teaching models. They are generally more consistent and effective in dealing with their students [14]–[19]. They can see things from many different perspectives. On the other hand, the teacher has a low level of abstraction. He was only able to find one alternative in dealing with his students. They are confused when they face problems in class. They don't know much about what to do. Therefore, he always asks for directions.

The teacher's teaching ability is actually a reflection of the teacher's mastery of his competence [9], [20]–[24]. Joni [25] suggests ten basic competencies that must be mastered by teachers: (1) mastering the material; (2) mastering the educational foundation; (3) develop teaching programs; (4) implement teaching programs; (5) assessing learning processes and outcomes; (6) organize guidance and counseling programs; (7) organize school administration; (8) develop personality; (9) interact with peers and the community; and (10) conducting simple research for teaching purposes. Teachers' teaching abilities must be continuously improved. Only in this way, teachers are ready to compete, collaborate and network in the ASEAN Economic Community (AEC) era and the new normal. One of the strategic alternatives to improve the teaching ability of teachers is by professional development that focuses on the ability to teach teachers on an ongoing basis [26]–[31]. Our study aims to examine a model of teacher professional development that focuses on optimizing teacher teaching skills in the era of the ASEAN Economic Community and the new normal.

2. METHOD

We designed this study with a research development approach. The research development procedure we use is based on the steps proposed by Baker and Schutz [32]: (1) formulating goals, identification of development rationale; (2) specification stage, determination of instructional objectives in specific and operational details; (3) the pilot phase, beginning with the preparation of a test instrument aimed at revealing the validity and reliability of the minimum response level that has been determined in the previous step (specification phase); (4) the product development stage, a flexible product development strategy to accommodate various positive suggestions and allow them to be completed in a short time; (5) product trial phase, addressed to respondents; (6) the product revision stage, improvements to the sample program are carried out on the basis of data obtained from trials and experience gained; and (7) the analysis phase for utilization, concluding a systematic and comprehensive product development system.

The research participants were teachers, principals, and school supervisors in Malang City, Indonesia, and students (bachelor, master, and doctoral) at the Universitas Negeri Malang. Data were collected by means of closed and open questionnaires about the teacher's professional coaching model. Therefore, the qualitative data collected from the open questionnaire were analyzed using the content analysis technique proposed by Mayring [33]. Meanwhile, quantitative data collected from closed questionnaires were analyzed using descriptive statistics (percentages) [34]–[37].

3. RESULT

3.1 Conceptual Model of Teacher Professional Development for Optimizing Teacher Teaching Ability in AEC and New Normal Era

Based on the results of literature and theory studies, discussions with colleagues and master and doctoral students from the Department of Educational Management, a conceptual model design for teacher professional development for optimizing teacher teaching abilities in the era of AEC and new normal is proposed, as presented in Figure 1.

3.2 Expert Judgment Model for Teacher Professional Development for Optimizing Teacher Teaching Ability in the AEC and New Normal Era.

Based on the results of the review and suggestions from experts in learning supervision and teacher professional development, the conceptual model on teacher professional development for optimizing teacher teaching abilities in the AEC and new normal eras, there are many improvements to the conceptual model designed by researchers. The improvements made by the expert were: (1) the ability to plan learning in the AEC and new normal eras; (2) the ability to compose a syllabus with the integration of AEC material; (3) the ability to develop lesson plans with the integration of AEC materials; (4) the ability to plan the use of learning methods in the new normal era; (5) the ability to develop assessment tools according to the new normal era; (6) the ability to carry out learning according to the new normal era; (7) the ability to deliver learning materials according to the new normal era; (8) the ability to use learning methods and media according to the new normal era; (9) the ability to conduct learning interactions with students according to the new normal era; and (10) the ability to serve students individually, in groups and classically according to the new normal era. The complete refinement of the conceptual model designed by the researcher by the expert becomes an expert judgment model, as illustrated in Figure 2.
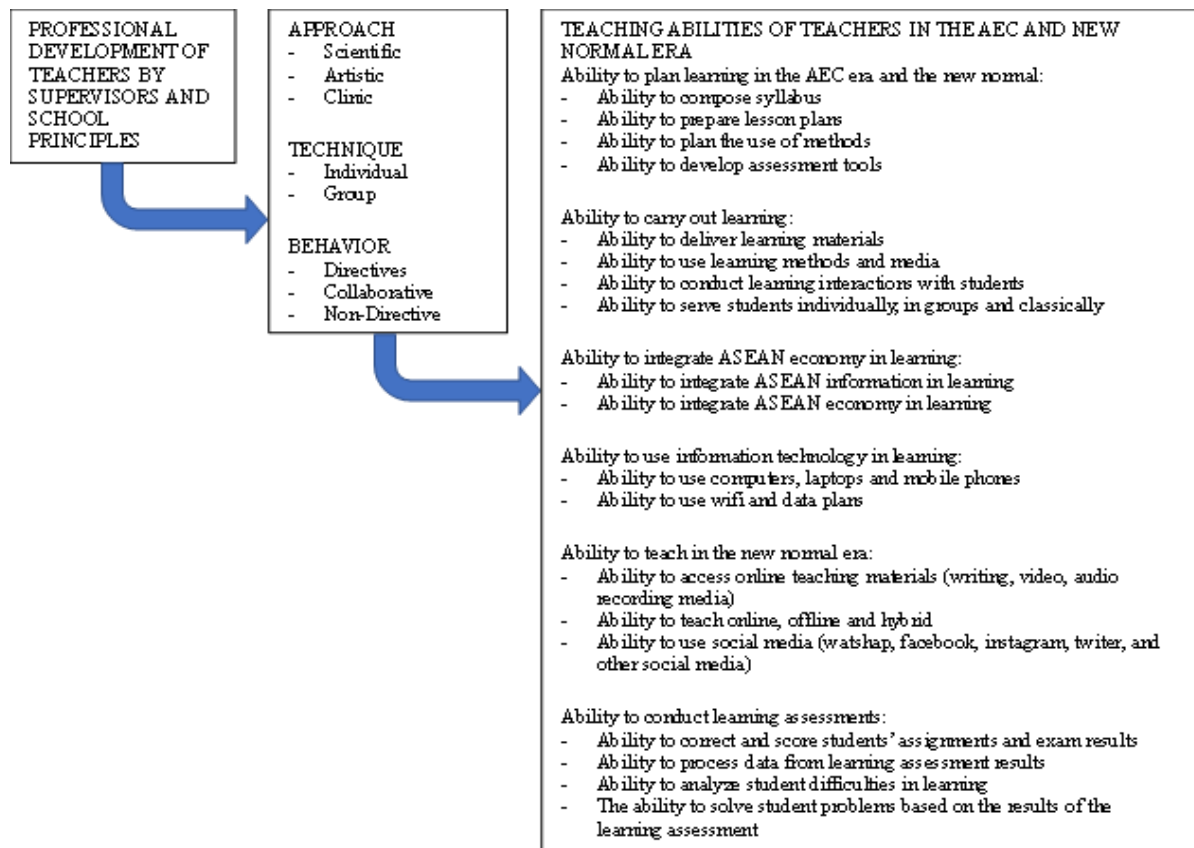
PROFESSIONAL
DEVELOPMENT OF
TEACHERS BY
SUPERVISORS AND
SCHOOL
PRINCIPLES

APPROACH
- Scientific
- Artistic
- Clinic

TECHNIQUE
- Individual
- Group

BEHAVIOR
- Directives
- Collaborative
- Non-Directive

TEACHING ABILITIES OF TEACHERS IN THE AEC AND NEW
NORMAL ERA
Ability to plan learning in the AEC era and the new normal:
- Ability to compose syllabus
- Ability to prepare lesson plans
- Ability to plan the use of methods
- Ability to develop assessment tools

Ability to carry out learning:
- Ability to deliver learning materials
- Ability to use learning methods and media
- Ability to conduct learning interactions with students
- Ability to serve students individually, in groups and classically

Ability to integrate ASEAN economy in learning:
- Ability to integrate ASEAN information in learning
- Ability to integrate ASEAN economy in learning

Ability to use information technology in learning:
- Ability to use computers, laptops and mobile phones
- Ability to use wifi and data plans

Ability to teach in the new normal era:
- Ability to access online teaching materials (writing, video, audio recording media)
- Ability to teach online, offline and hybrid
- Ability to use social media (watshap, facebook, instagram, twiter, and other social media)

Ability to conduct learning assessments:
- Ability to correct and score students' assignments and exam results
- Ability to process data from learning assessment results
- Ability to analyze student difficulties in learning
- The ability to solve student problems based on the results of the learning assessment

Figure.1. Conceptual Model of Teacher Professional Development for Optimizing Teacher Teaching Ability in the AEC and New Normal Era

TEACHER
PROFESSIONAL
DEVELOPMENT
BY SUPERVISOR
(SUPERVISOR,
PRINCIPAL,
EXPERT, SENIOR
TEACHER, AND
OTHER
SUPERVISOR)

APPROACH
- Scientific
- Artistic
- Clinic

TECHNIQUE
- Individual
- Group

BEHAVIOR
- Directive Informational
- Directive Control
- Collaborative Direction
- Collaborative Negotiation
- Non-Directive

TEACHING ABILITY TEACHERS IN THE OPTIMIZED AEC AND
NEW NORMAL ERA
Ability to plan learning in the AEC era and the new normal:
- Ability to compose syllabus with integration of AEC material
- Ability to develop lesson plans with the integration of AEC materials
- Ability to plan the use of learning methods according to the new normal era
- Ability to compose assessment tools according to the new normal era

Ability to carry out learning according to the new normal era:
- Ability to deliver learning materials according to the new normal era
- Ability to use learning methods and media according to the new normal era
- Ability to conduct learning interactions with students according to the new normal era
- Ability to serve students individually, in groups and classically according to the new normal era

Ability to integrate ASEAN economy in learning:
- Ability to integrate ASEAN information in learning
- Ability to integrate ASEAN economy in learning

Ability to use information technology in learning:
- Ability to use computers, laptops and mobile phones
- Ability to use wifi and data plans

Ability to teach in the new normal era:
- Ability to access online teaching materials (writing, video, audio recording media)
- Ability to teach online, offline and hybrid
- Ability to use social media (watshap, facebook, instagram, twiter, and other social media)

Ability to conduct learning assessments:
- Ability to correct and score students' assignments and exam results
- Ability to process data from learning assessment results
- Ability to analyze student difficulties in learning according to the new normal era
- The ability to solve student problems based on the results of learning assessments according to the new normal era
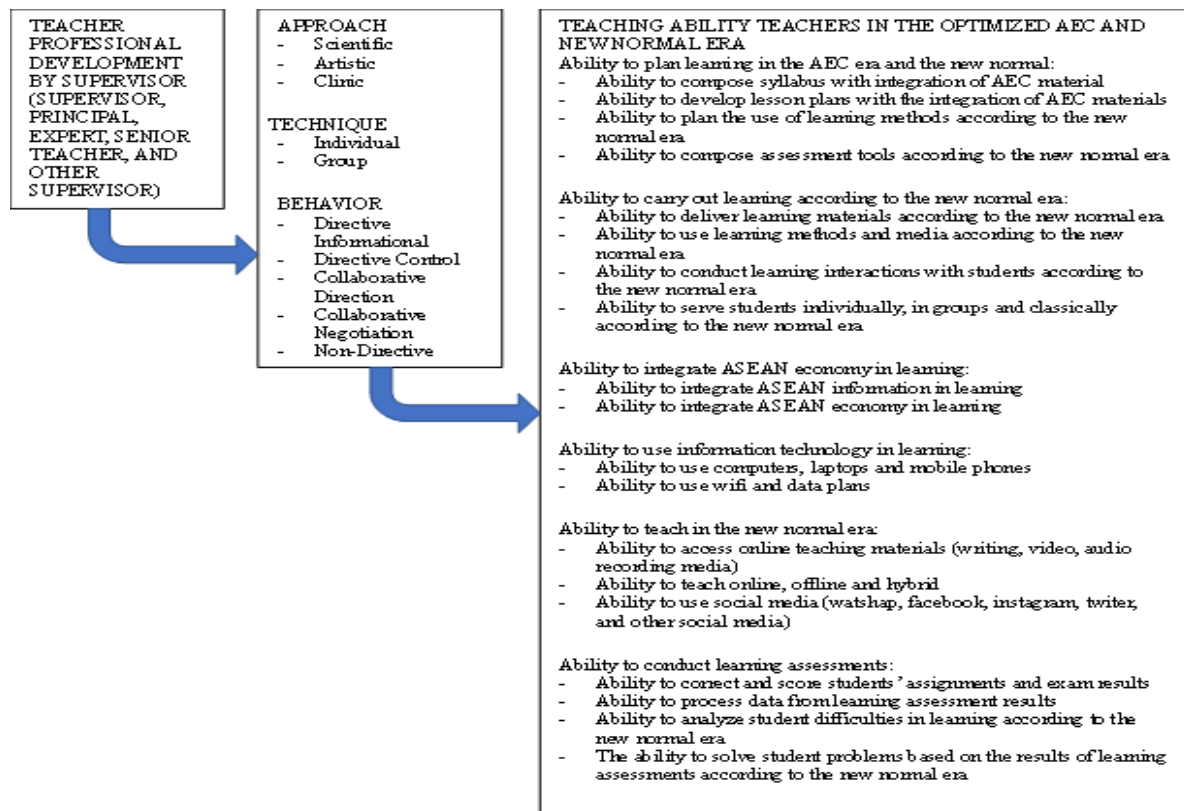
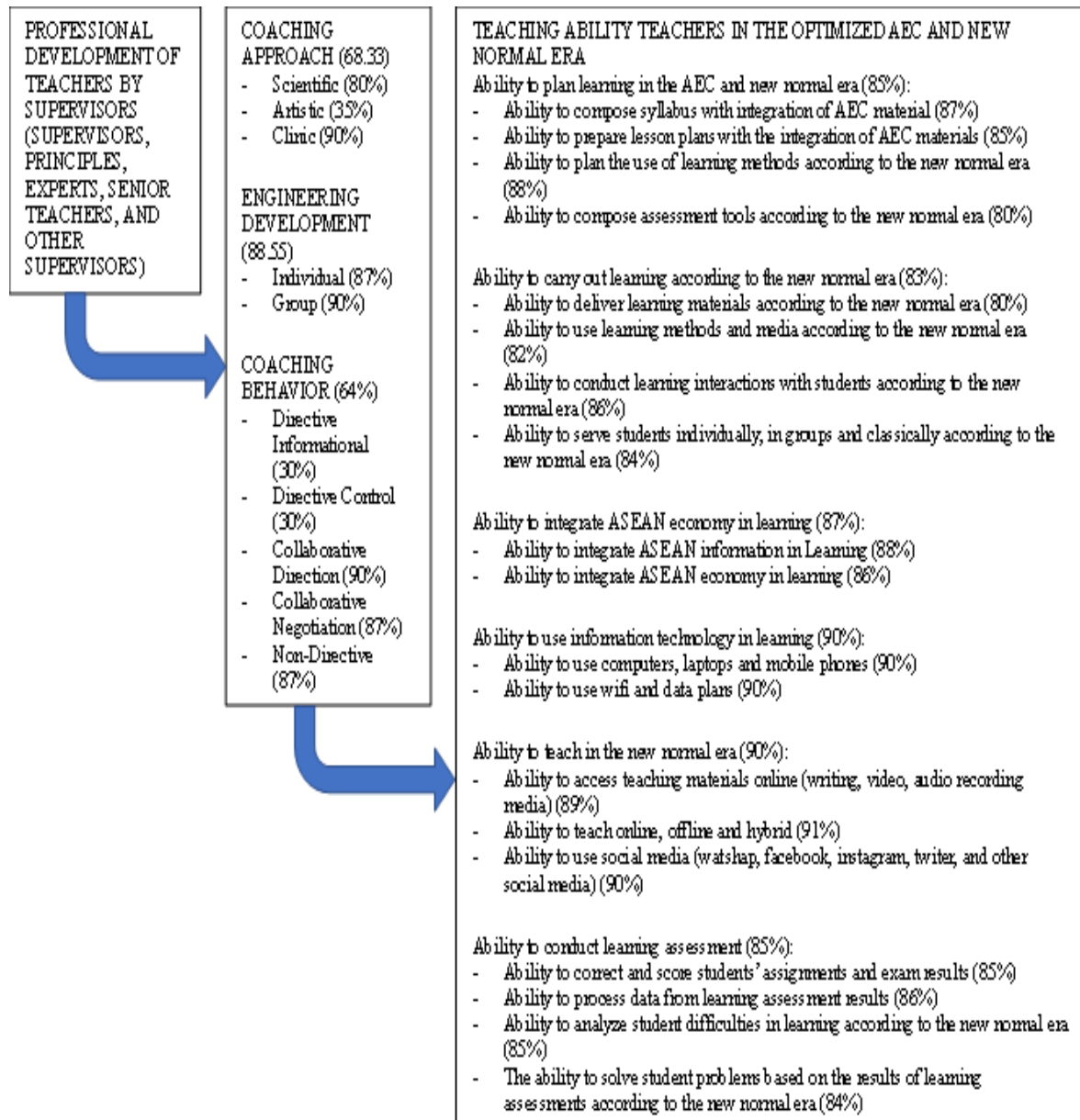**Figure.2.** Expert Judgment Model for Teacher Professional Development for Optimizing Teacher Teaching Ability in the AEC and New Normal Era

3.3 Empirical Model of Teacher Professional Development for Optimizing Teacher Teaching Ability in the AEC and New Normal Era

After producing an expert model on teacher professional development for optimizing teacher teaching skills in the AEC and new normal eras, an empirical test was conducted in the field. Empirical test targeting school supervisors; principal; teacher; undergraduate students participating in Education Supervision and Learning Supervision courses; master students participating in the Education Supervision Matriculation course, and doctoral students who have taken the Education and Learning Supervision course. After the empirical test, respondents' answers to the instrument, the results of the percentage calculation are presented in Figure 3.

PROFESSIONAL DEVELOPMENT OF TEACHERS BY SUPERVISORS (SUPERVISORS, PRINCIPLES, EXPERTS, SENIOR TEACHERS, AND OTHER SUPERVISORS)

COACHING APPROACH (68.33)
- Scientific (80%)
- Artistic (35%)
- Clinic (90%)

ENGINEERING DEVELOPMENT (88.55)
- Individual (87%)
- Group (90%)

COACHING BEHAVIOR (64%)
- Directive Informational (30%)
- Directive Control (30%)
- Collaborative Direction (90%)
- Collaborative Negotiation (87%)
- Non-Directive (87%)

TEACHING ABILITY TEACHERS IN THE OPTIMIZED AEC AND NEW NORMAL ERA

Ability to plan learning in the AEC and new normal era (85%):
- Ability to compose syllabus with integration of AEC material (87%)
- Ability to prepare lesson plans with the integration of AEC materials (85%)
- Ability to plan the use of learning methods according to the new normal era (88%)
- Ability to compose assessment tools according to the new normal era (80%)

Ability to carry out learning according to the new normal era (83%):
- Ability to deliver learning materials according to the new normal era (80%)
- Ability to use learning methods and media according to the new normal era (82%)
- Ability to conduct learning interactions with students according to the new normal era (86%)
- Ability to serve students individually, in groups and classically according to the new normal era (84%)

Ability to integrate ASEAN economy in learning (87%):
- Ability to integrate ASEAN information in Learning (88%)
- Ability to integrate ASEAN economy in learning (86%)

Ability to use information technology in learning (90%):
- Ability to use computers, laptops and mobile phones (90%)
- Ability to use wifi and data plans (90%)

Ability to teach in the new normal era (90%):
- Ability to access teaching materials online (writing, video, audio recording media) (89%)
- Ability to teach online, offline and hybrid (91%)
- Ability to use social media (watshap, facebook, instagram, twiter, and other social media) (90%)

Ability to conduct learning assessment (85%):
- Ability to correct and score students' assignments and exam results (85%)
- Ability to process data from learning assessment results (86%)
- Ability to analyze student difficulties in learning according to the new normal era (85%)
- The ability to solve student problems based on the results of learning assessments according to the new normal era (84%)

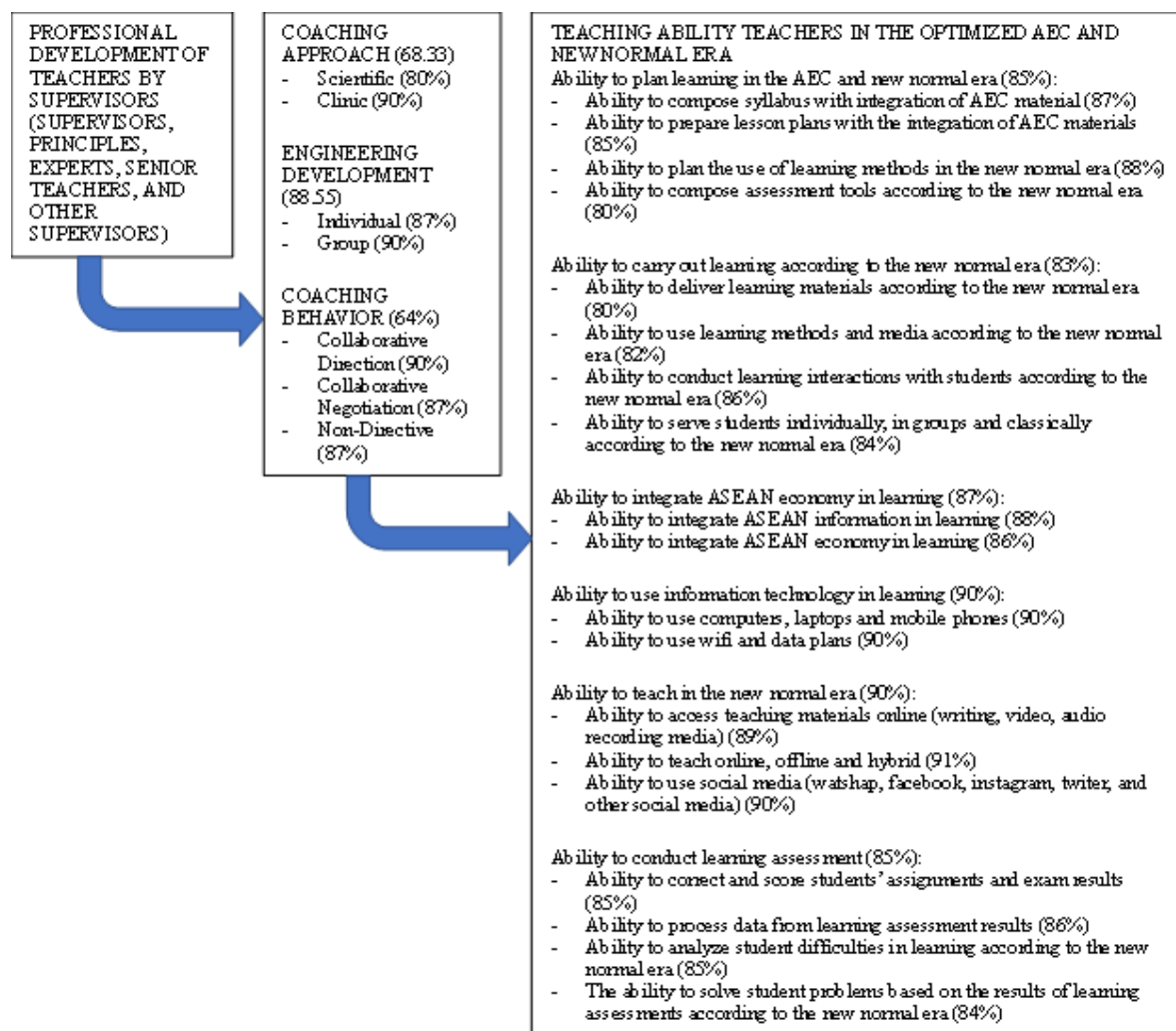**Figure.3.** Empirical Model of Teacher Professional Development for Optimizing Teacher Teaching Ability in the AEC and New Normal Era

3.4 Recommended Model of Teacher Professional Development for Optimizing Teacher Teaching Ability in the AEC and New Normal Era

After producing an empirical model on teacher professional development to optimize teacher teaching abilities in the AEC and new normal eras, an analysis was carried out which elements of the model were feasible to be maintained and used as elements of the recommended model. If the average value of the percentage value is

above 50%, then these elements are maintained or used as elements of the recommendation model. On the other hand, if it is less or equal to 50%, it will be rejected as a recommendation model. Based on the observation of the empirical model, several things that are reduced from the elements of the model are: (1) artistic development approach (35%); (2) an integrative coaching approach (30%); (3) directive informational coaching behavior (30%); and (4) directive control coaching behavior (30%).

Meanwhile, for the teaching ability of teachers in the AEC era and the new normal, there was absolutely no revision, because all of them were found to be in the percentage above 50%. In other words, all elements of the teacher's teaching ability model in the new normal era are maintained as elements of the recommendation model. After an in-depth analysis, the recommended model of teacher professional development for optimizing teacher teaching abilities in the AEC and new normal eras is illustrated in Figure 4.

Figure.4. The Recommended Model of Teacher Professional Development for Optimizing Teacher Teaching Ability in the AEC and New Normal Era

3.5 Results of Comparative Constant Analysis between Conceptual Models, Expert Judgment Models, Empirical Models and Recommended Models on Professional Development of Teachers' Teaching Ability in the AEC and New Normal Era

Based on the observation and analysis of conceptual models, expert judgment models, empirical models and recommended models of professional development of teachers' teaching ability in the AEC and New Normal Era, it was found that there are aspects that are the same and there are different aspects of the four models. the. These differences can be stated as follows: (1) there are those that are narrowed to the addition of the substantive aspects of the model; (2) there are those who are converging on the editorial refinement of the substantive aspects of the model; and (3) there is a reduction in the substantive aspect of the model. The results of the comparative constant analysis can be presented as in Table 1.

Table.1 Results of Comparative Constant Analysis between Conceptual Models, Expert Judgment Model Empirical Models and Recommended Models on Professional Development of Teachers' Teaching Ability in the AEC and New Normal Era

No	Conceptual model	Expert judgement model	Empirical model	Rocommended model
1	Professional development of teachers by supervisors and principals	Teacher professional development by supervisors (supervisors, principals, experts, senior teachers, and other supervisors)	Teacher professional development by supervisors (supervisors, principals, experts, senior teachers, and other supervisors) (95%)	Teacher professional development by supervisors (supervisors, principals, experts, senior teachers, and other supervisors) (95%)
2	APPROACH - Scientific - Artistic - Clinic	APPROACH - Scientific - Artistic - Clinic - integrative	COACHING APPROACH (68.33) - Scientific (80%) - Artistic (35%) - Clinic (90%)	APPROACH - Scientific (87%) - Clinic (90%)
3	TECHNIQUE - Individual - Group	TECHNIQUE - Individual - Group	ENGINEERING DEVELOPMENT (88.55) - Individual (87%) - Group (90%)	TECHNIQUE - Individual (90%) - Group (87%)
4	BEHAVIOR - Directives - Collaborative - Non-Directive	BEHAVIOR - Directive Informational - Directive Control - Collaborative Direction - Collaborative Negotiation - Non-Directive	COACHING BEHAVIOR (64%) - Directive Informational (30%) - Directive Control (30%) - Collaborative Direction (90%) - Collaborative Negotiation (87%) - Non-Directive (87%)	BEHAVIOR - Collaborative Direction (90%) - Collaborative Negotiation (87%) - Non-Directive (87%)

3.6 Results of Comparative Constant Analysis between the Substance of Conceptual Models, Expert Judgment Models, Empirical Models and Recommended Models of Teachers' Teaching Ability in the AEC Era and New Normal

After conducting a series of comparative constant analyzes, it was found that there are differences between the conceptual model and the expert judgment model regarding the teaching ability of teachers in the AEC and new normal eras. Meanwhile, there is no difference between the expert judgment model with the empirical model and the recommended model. Therefore, Table 2 presents the differences between conceptual models, expert judgment models, empirical models and recommended models.

Table.2 Results of Comparative Constant Analysis between the Substance of Conceptual Models, Expert Judgment Models, Empirical Models and Recommended Models of Teacher Teaching Ability in the AEC and New Normal Era

The Substance of Conceptual Models and Expert Judgment of Teachers' Teaching Ability in the AEC and New Normal Era	Empirical Model Substance and Recommended Teacher Teaching Ability in the AEC and New Normal Era
Ability to plan learning in the AEC era and the new normal: 1. Ability to compose syllabus with integration of AEC material 2. Ability to develop lesson plans with the integration of AEC materials 3. Ability to plan the use of learning methods in the new normal era 4. Ability to compose assessment tools according to the new normal era	Ability to plan learning in the AEC and new normal era (85%): 1. Ability to compose syllabus with integration of AEC material (87%) 2. Ability to prepare lesson plans with the integration of AEC materials (85%) 3. Ability to plan the use of learning methods in the new normal era (88%) 4. Ability to compose assessment tools according to the new normal era (80%)
Ability to carry out learning according to the new normal era: 1. Ability to deliver learning materials according to the new normal era 2. Ability to use learning methods and media according to the new normal era 3. Ability to conduct learning interactions with students according to the new normal era 4. Ability to serve students individually, in groups and classically according to the new normal era 5. Ability to integrate ASEAN economy in learning 6. Ability to integrate ASEAN information in learning 7. Ability to integrate ASEAN economy in learning	Ability to carry out learning according to the new normal era (83%): 1. Ability to deliver learning materials according to the new normal era (80%) 2. Ability to use learning methods and media according to the new normal era (82%) 3. Ability to conduct learning interactions with students according to the new normal era (86%) 4. Ability to serve students individually, in groups and classically according to the new normal era (84%) 5. Ability to integrate ASEAN economy in learning (87%) 6. Ability to integrate ASEAN information in learning (88%) 7. Ability to integrate ASEAN economy in learning (86%)
Ability to use information technology in learning: 1. Ability to use computers, laptops and mobile phones 2. Ability to use wifi and data plans	Ability to use information technology in learning (90%): 1. Ability to use computers, laptops and mobile phones (90%) 2. Ability to use wifi and data plans (90%)
Ability to teach in the new normal era: 1. Ability to access online teaching materials (writing, video, audio recording media) 2. Ability to teach online, offline and hybrid 3. Ability to use social media (watshap, facebook, instagram, twiter, and other social media)	Ability to teach in the new normal era (90%): 1. Ability to access teaching materials online (writing, video, audio recording media) (89%) 2. Ability to teach online, offline and hybrid (91%) 3. Ability to use social media (watshap, facebook, instagram, twiter, and other social media) (90%)
Ability to conduct learning assessments: 1. Ability to correct and score students' assignments and exam results 2. Ability to process data from learning assessment results 3. Ability to analyze student difficulties in learning according to the new normal era 4. The ability to solve student problems based on the results of learning assessments according to the new normal era	Ability to conduct learning assessment (85%): 1. Ability to correct and score students' assignments and exam results (85%) 2. Ability to process data from learning assessment results (86%) 3. Ability to analyze student difficulties in learning according to the new normal era (85%) 4. The ability to solve student problems based on the results of learning assessments according to the new normal era (84%)

4. DISCUSSION

The ability to teach is an essential ability that must be possessed by a teacher, because the main task of the teacher is to teach. The thing faced by teachers is dynamic students, both as a result of internal dynamics that come from students and as a result of environmental dynamics that more or less affect students [38]–[44]. Therefore, the teaching ability of teachers must be dynamic as well, as a result of the inevitable demands of student dynamics [45]–[48]. Imron [25] discusses various models of teacher professional development: (1) directive models; (2) collaborative models; and (3) non-directive models. The model was originally developed by

Glickman [3]. In recent developments, the model has changed into four: (1) directive informational model; (2) directive control models; (3) collaborative models; and (4) non-directive models. Although, both the teacher professional development models in 1981 and 1996 both categorize the collaborative model with: collaborative with direction and collaborative with negotiation [3], [13].

Supervisors in providing professional guidance to teachers are recommended to use the directive model, when faced with teachers who drop out (low level of commitment and level of abstraction). If the teacher works unfocused (unfocused woker), i.e. high level of commitment and low level of abstraction, it is recommended to use a collaborative model combined with direction. Facing a teacher whose analytical observer is a high level of abstraction but low level of commitment, it is recommended to use a collaborative model with an emphasis on negotiation. Professional teachers, who have a high level of commitment and high level of abstraction, are recommended to use a non-directive model.

In order to provide professional coaching to the right teachers, Dreyfus and Rabinow [49] recommend the need to rely on the level of teacher maturity and ability development. First, the novice level is when the teacher feels that practical personal experience is more valuable than information given verbally. Teachers at this level are taught the meaning of certain terms and concepts, school rules, and the goals and characteristics of situations [50]–[55]. Second, the late advanced level is when the teacher has gained some experience, ranging from influencing behavior in a meaningful way. At this level, teachers do not feel a sense of independence/autonomy regarding their work. Teachers still don't feel fully responsible for their actions. Third, Competent level is when the teacher has moved on and has had enough experience and motivation to succeed. Fourth, the proficient level is when the teacher begins to recognize formulas and equations in a comprehensive way. Fifth, the expert level is when the teacher has demonstrated the appearance and intuition of decision making. They present in a qualitatively different way to other teachers [56]–[60].

Research by Garet et al. [61] showed that learning supervision should focus on subject matter content, provide opportunities for teachers to play an active role in learning, integrate with everyday school life, and produce more knowledge and skills. This study also suggests the importance of collective participation and coherence of activities in the supervision of learning, guiding professional communication activities among teachers to support changing ways of making the learning process more effective. Green and Allen's [62] found that the quality of teacher professional development (learning supervision) designed with professional learning

elements contributed to higher student achievement [39], [63]–[67].

5. CONCLUSION

Our study found that the teacher coaching model developed was effective in order to improve the teaching ability of teachers. Teacher training is an important factor in school organization. It is undeniable that teachers are the spearhead of schools in providing instructional services to students. Principals as educational leaders in schools have the responsibility to provide professional coaching services to teachers so that teacher professionalism continues to develop in a sustainable manner, and is able to respond to the challenges of various changes in society.

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