artikel 4

by dodi mulyadi

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Writing Issues

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5	Closing punctuation	
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1	Misuse of quantifiers	
3	Incorrect verb forms	
1	Misuse of modifiers	
1	Pronoun use	
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53	Word choice	
56	**Clarity**	
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artikel 4

Ready to teach in the 21'st Century? -Reflections on a Pre-service and in-service Chemistry teacher using a CoRe and PaP-eR

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Abstract
Science educators in the early 21st century are facing a myriad of issues. To prepare students to face the 21st century, it is necessary to have teachers who can inspire the learning process. This study aims to provide an overview of readiness and advice for pre-service and in-service chemistry teachers to face the 21st century in terms of pedagogical and professional competence. This research is a qualitative research with case study design. To achieve the above objectives, this research is carried out with a qualitative approach with case study design. Information is collected by: (1) documentation, (2) interview, and (3) observation. Information sources are determined from key informants and continued with other informants in snowball. Collected data were analyzed by: (1) data reduction, (2) presentation data, and (3) conclusion. The results of the

study indicate the importance of learning groups for educators and the need of scientific writing training in order to teach well in the 21st century.

Keywords: Teaching and Learning, PCK, CoRe, PaP-eR.

Introduction

To prepare students to face the 21st century, it is necessary to have teachers who can inspire the learning process. The 21st century generation has characteristics of multitasking, multimedia, and online info searching. To create the 21st century generation that has those characteristics, it takes some skills that must be possessed by pre-service teachers and in-service teachers. Pre-service and in-service teachers must have digital skills (know and master the digital world), Agile thinking ability (capable of thinking many scenarios), interpersonal and communication skills (communication skills to give argument), global skills (skills including the ability to speak foreign languages, the ability to mingle with foreigners who have different cultures, and the ability to have sensitivity to cultural values). The characteristics and demands of the 21st century above creates the four 21st century learning characters: (1) Critical Thinking and Problem Solving; (2) Creativity and Innovation; (3) Communication; (4) Collaboration. Therefore, pre-service teachers and in-service teachers are expected to create learning with HOTS (High Order Thinking Skills) output.

In fact, the ability of Indonesian students in the field of science seen from the last PISA score (2015) is still at a low stage which ranks 62 of 69 countries tested (www.oecd.org/pisa). However, there are interesting facts based on PISA result. The pleasure of Indonesian students to learn science is much better than Singapore which has very high science score. Because of that, science

learning with an interesting approach is needed so that students love to learn science and can understand the concept of science well. Educators who master content and pedagogy knowledge is a necessity in order to produce learners who can face the 21st century.

To prepare the educators in the 21st century, Kemendikbud (Minisitry of Education and Culture) perform teacher competence test. The Teacher Competency Test (Uji Kompetensi Guru - UKG) is conducted by the Ministry of Education and Culture which aims to provide an overview of teachers' competency mastery in Indonesia. UKG has been implemented twice in 2014 and 2015 by Ministry of Education and Culture. The results of UKG show that in-service teachers in Indonesia still have low mastery of pedagogical skills and medium mastery of scientific content. The results of research conducted Astuti et al (2017) showed different results on the mastery of content knowledge (CK) which showed in the low category and mastery of pedagogical skills (PCK) is in the medium category.

This study aims to provide an overview of readiness and provide advice for pre-service teachers and in-service chemistry teachers to face the 21st century in terms of pedagogical competence and professional competence..

Method

This research is a qualitative research with case study design. To achieve the above objectives, this research is carried out with qualitative approach with case study design. Information is collected by: (1) documentation, (2) interview, and (3) observation. Determination of information sources started from key informants and continued with other informants in snowball. Collected data were analyzed by: (1) data reduction, (2) data presentation, and (3) conclusion.

The subjects in this study were 20 pre-service and 10 in-service teachers. The informants of in-service teachers were divided into two main groups based on their teaching experience. There were 2 informants of in-service teachers who comes from the 3T area and 8 in-service teachers who come from the north, central and south of Java Island.

The variables in this study are Professional Competence and Pedagogic Competence of pre-service teachers and in-service teachers. The variable indicator of teacher professional competence is Knowledge on Conceptual Difficulties of the Students. Meanwhile, the teacher pedagogic competency indicator which is measured in this research is Orientation to Teaching and Teaching Methods (Educational Activities). The instruments used in this study were CoRe and PaP-eRs (Bertram , (2014), Williams (2012), Shulman, 1987 and 1985).

The first data gathering technique used documentation method. This documentation method used an instrument in the form of a Content sheet of Representation (CoRe). This stage is called CoRe preparation task design. First, pre-service and in-service chemistry teachers were invited to write individual Co- Re specific themes. They had 1 hour to write CoRe without any books or other material available. They were proctored by the researcher all the time. They were asked to work independently and not to discuss their plans with each other. After the pre-service and in-service teachers make CoRe, then they were asked to teach by using CoRe. Observation techniques were used in this stage.

The second data gathering technique used semi- structured techniques interview. The key informant was the in-service chemistry teacher who was the national instructor. Then, the following information was conducted on the in-service teachers with teaching experience less than 5 years and above 5 years.

The last informant was prospective chemistry teacher education students. The interviewer asked structured questions related to professional competence and teacher pedagogical competence. Then, deeper questions were given one by one to get more information. This interview is based on an unlimited (unbound) question of the answer.

The interviews took place within 1 weeks after the CoRe and PaP-eR preparation, and after CoRe and PaP-eR have been completed. During the interviews, pre-service and in-service chemistry teachers were encouraged to talk about their CoRe and PaP-eR and their difficulties in writing them. The duration of the interviews varied from 25 to 50 minutes depending on how much time student-teachers wanted to have. For this stage, in addition to teacher informants, data from students were also gathered. The researcher acted as the main instrument in this study by using the analytical guide to accommodate the research data.

Results

a). CoRe preparation task.

At this stage, the informants were asked to make CoRe. The CoRe contains eight questions that can explore the Knowledge on Conceptual Difficulties of the Students, Orientation to Teaching , and Teaching Methods (Educational Activities) pre-service and in-service chemistry teachers.

International Journal of xxxxxx[88]

Vol. x, No. x, (20xx)

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International Journal of xxxxxx

Vol. x, No. x, (20xx), pp. xx-xx

ISSN: XXXX-XXXX IJXX

NO

Science Concept: Modern atomic theory

Class/Semester: XI Science Class

Teachers: Atika Sis Rahmawati

Questions

General idea/concept

1

What do you expect to be learned by the students?

Explaining[89] the Bohr Atomic theory and quantum mechanics.

Determining[90] the quantum numbers and orbital shapes.

Explaining shell and sub-shell and their relation with quantum numbers

2

Why is it important[91] for students to know?

Students can explain the existence of atom[92] by studying its atomic structure.

3

Teaching procedures (and the reason of[93] their usage in relation with[94] the existing idea)

Students are divided[95] into several groups (4 students in a group).

Students watch video[96] about atomic[97] model.

Students analyze the similarity and difference[98] in each athomic[99] theory.

Stduents[100] expand their references about atomic[101] model as material to finish their homework.

4

Specific[102] way to ensure the students' understanding or[103] students' confusion about the material.[104]

Giving questions to the students related to the athomic[105] theory and giving homework or assignment to train students in expanding references individually.

5

What do you know more about this concept (What thing that you expect not to be studied by students at the moment)

Atomic structures that are related to the chemical elements in periodic[106] table: (chemical elements that are dangerous in daily life)

6

Difficulties/limits that are related[107,108] in[109] teaching this idea

Students have difficulties in understanding orbital shapes s, p, and d.

7

Knowledge about students' thinking that influences the process of teaching this idea.

Materials of modern atomic theory that contains the word 'atom' is based on the thought that is difficult to understand since the existence of atom is not visible.

8

Other factors that influence the process of teaching this idea.

The limited time to learn the all the materials

Table 1. CoRe dan PaP-eR design

a. Knowledge on Conceptual Difficulties of the Students.

Knowledge of student difficulties can be known from the three columns of questions namely: specific ways to ensure students 'confusion about the subject matter, difficulties or limitations of students in teaching ideas, and knowledge of the students' thinking that influences the process of teaching this idea. The results showed that there were differences between various informants. Of the 20 respondents of pre-service teachers, 12 students have low knowledge of students' learning difficulties. It is in contrast with the in-service teachers. Of the 20 respondents, only one teacher experienced low knowledge about students' learning difficulties. Factors that cause the low ability of the in-service teachers to know the student's learning difficulties is the educational background. In-service teachers who have a low understanding of students' learning difficulties graduated from university with chemistry major not chemical education major. Below are the data about the teacher's

understanding[130] of students' difficulties in understanding the concept of chemistry.

Figure 2. Knowledge Pre- service Teacher on Conceptual Difficulties of the Students

Figure 3. Knowledge in-service Teacher on Conceptual Difficulties of the Students

b. Orientation to Teaching.

The orientation of teaching chemistry itself includes concepts, contexts, representations and procedures (Sunal, et al., 2014). This orientation of chemistry teaching is one of the teacher pedagogic competence indicators that can be analyzed using CoRe, teacher teaching observation, and teacher teaching reflection answers (PaP-eR). According to Bertram (2014), Loughran (2004). CoRe and PaP-eRefetif is used effectively to reveal pedagogic content knowledge of educators. The results show two contradictory results between pre-service and in-service teachers. The in-service teachers state that their orientation to teach is that students understand the concept and are able to apply it in everyday life. This means that the teacher's orientation is both concept and context. Unlike the pre-service chemistry teachers, their main orientation is procedural and conceptual. According to them, learning chemistry is related to activity of minds on and hands on. Here are the results of research on the orientation of teaching for pr service and in-service chemistry teachers.

Figure 4. Orientation in-service Teacher to Teaching Chemistry.

Figure 5. Orientation pre-service Teacher to Teaching Chemistry.

c. Teaching Methods (Educational Activities).

Teaching method is one of indicators of teacher pedagogic competence. These indicators include teacher's knowledge of learning models, the application of varied learning models, and the use of varied learning media. In this indicator, the results are obtained by interview, observation, and documentation. The results show that pre-service chemistry teachers have better knowledge of teaching models compared with the in-service teacher. Similarly, the application of varied learning models, in-service teachers apply less learning models than pre-service chemistry teachers. However, both in-service and pre-service chemistry teachers have good knowledge of the use of varied learning media. The difference is the in-service teachers use learning media that utilize the natural resources available around the students. As for pre-service chemistry teachers, they use more technology-based learning media. Even, some of the pre-service teachers can create media applications that support the virtual lab. The following is the result of research data about teaching methods on pre-service and in-service chemistry teachers.

Figure 6. Teaching methods in-service Teacher to Teaching Chemistry.

Figure 7. Teaching methods pre-service Teacher to Teaching Chemistry

Discussion

The 21st century is a very complex century[154]. It has a very rapid technological change. It also the era of free[155] market[156] that demands the adaptive[157] human resources, especially in the field of science. Some of the issues that becomes[158] science global[159] issues includes[160] climate change, lack of food, and the development and implementation of alternative energy use which[161] demands to be solved immediately. For that reason, school as one of the institutions that

are given the mandate to educate the younger generation to face the challenges need to address this issue seriously.

One of the elements of education in the school is educators and learners. Learners in every region in Indonesia have the same initial capital of "brain" to think to solve the problems. This problem-solving ability is part of high-level thinking skills. High-level thinking skills are absolutely necessary to survive and compete in the 21st century. To be able to create learners who are able to have this skill, it is important to have educators who can be adaptive to the progress of time. In other words, educators who have professional teacher competence.

Competence means proficiency and ability. Usman (2011) explains that "competence is the ability or authority of the teacher in performing its professional task." According to Law no. 14 Article 1 Paragraph 10 Year of 2005 on Teachers and Lecturers, it explains that competence is a set knowledge, skills, and behavior that must be possessed, lived, and controlled by teachers or lecturers in performing its professional task. Competence is ability of someone who covers knowledge, skills, and attitude that can be realized in the real working result which is beneficial for him/hers self and environment (Musfah, 2011). The teachers' competence includes professional competence, pedagogical competence, social competence, and personality competence Competence that is related tightly with the success of learning in the classroom is pedagogical competence and professional competence. Pedagogical competence is an ability related to students' understanding and educational and dialogical learning managers (Suprihatiningrum, 2013). Professional competence is the ability of mastering the material broadly and in depth which allows teachers to guide the students in mastering the education or skills optimally, so they can meet the competence standard that have been

set in National Education Standard (Payong, 2011). Professional competence is a set ability to be possessed by teachers in order to be able to perform their teaching task succesfully (Uno, 2010).

The results show that the professional competence of teachers that is related to the ability to master the concept develops well in accordance with the length of teaching experience of a teacher. However, it is different with teacher pedagogical competence. Teacher pedagogical competences, especially on the indicators of knowledge about the various models of learning and application of varied learning models, is actually lower than the pre-service teacher. Based on the results of interviews, this is because the teachers feel comfortable with certain models and teaching methods. Here is one quote of the interview with one of the teacher respondents:

"The changing curriculum that is seen by the government is more on the administrative part, but if it comes to the implementation of learning in the classroom, the government did not supervise directly. If we want to use a varied learning model, but the students don't understand or we have limited time to finish the material, the teacher will be overwhelmed. The most important thing according to the government and parents is the students understand the concept and have good score, isn't it? "

The results of the interview of in-service teachers according to the research conducted by Marble, finley and Ferguson (2000) stated that the way teachers teach in the classroom depend on the teaching experience of each teacher and their orientation (which one is more important: concepts, context, procedures or representation) even though in-service teachers continue to follow the administrative demands of each curriculum change.

In contrast to the in-service teacher, for pre-service teachers who was born in the millennial age, they experienced firsthand the rapid technological changes.

For them, the ability to think critically and creatively, and to solve the problem (HOTS) is very important[197] to be implemented[198] in classroom learning. Thus, for pre-service teachers, it is important[199] to use a varied learning model so[200] the learners are interested in the material and active during the learning process. Their knowledge of learning models is much better than that of in-service teachers. Here are the results of interviews with pre-service teachers.

" We should know learning models[201] Ma'am, so the students are easily conditioned[202] and[203] the class is more active. I like to use jigsaw[204] model[205] , STAD, TSTS and[206] talking stick[207] . I think with this learning model, the students who never give answers in the class are more communicative. Moreover, with the application of learning models, the ability to communicate and cooperate as required by the 21st century can be trained[208] "

Student[209] response was similar to what was conveyed by the teacher. Here are the results of interviews with students who join the learning of one of the teachers and pre-service teachers.

" I like it ma'am,[210] actually,[211] if there are learning models like those done by the teachers[212] trainee, but sometimes I personally just do not understand with what they delivered. My actual teacher teaches me better, my notes are more complete[213] and[214] the learning time is also more effective. I am able to[215] answer the questions given by the teacher and my grades are better when using the lecturing method[216] "

The responses of the learners themselves provide an overview for the government and those who concerned to[217] the world of education that,[218] these learners also have a culture of taking notes and direct-copying knowledge from teachers.[219] They are more comfortable taking notes,[220] and working on a problem. They are satisfied just by being able to work on a problem[221] and get a good grade.

An equally good competency indicator between pre-service and in-service teachers is the ability to use varied[222] learning media. For the abstract chemical concepts, in-service teachers use learning media that is easy to find. For example, below is the media[223] used to explain the concept of electrolyte and non-electrolyte solutions.

Figure 8. Electrolite in fruits

Unlike the in-service teachers, pre-service teachers also use varied[224] learning media. But, the media they use is related to technology. Below is the example of the learning media they use to explain the concept of the Periodic Elements System (PES).

Figure 9. Aplication of concept PES

Competencies that must be improved on pre-service teachers are professional competence. Based on the results of the research, it indicates that pre-service teachers have difficulty to recognize the learning needs of the students. This difficulty is closely related to the mastery of content of the pre-service teachers. For in-service teachers, although nationally the results of the Teachers' Commitment Test (UKG) are still low, they have no difficulty in recognizing the learning needs of the stduents. For example, below is interview result:

"The difficult material in eastern Indonesia, especially in flore,s is the chemical matter which is related to the counting and the abstract theory, ma'am. If for the abstract material or materail that requires practicum, we learn in the field. (here the laboratory facilities are available only in schools in the capital district). So, for the calculation topic, I provide less allocation time. Because, here, if the students are frustrated, they do not understand the material, the next day they do not want to go to school. For me, the important thing is they know the function of subject material they learn. Because, in flores, their orientation is not grade, ma'am.. "

The answer illustrates that in-service teachers in eastern Indonesia have difficulty in getting adequate infrastructure, they understand the learning needs of their students.

Growing the 4C Character in Learning

Based on the results of this study, it can be seen that Indonesia still has many new tasks to complete to face of the 21st era, especially in the field of education. The four 21st century learning characters are: (1) Critical Thinking and Problem Solving ; (2) Creativity and Innovation ; (3) Communication ; (4) Collaboration . Here are suggestions that can be given to educators. These suggestions are used to help grow the 4C character in learning so that students and educators in Indonesia are ready to face the 21st century

Critical Thinking and Problem Solving

This character leans more to the character of learners who seek reasonable reasoning in understanding and making complex choices, understanding the interconnection between systems in order to solve the problems that exist in society. Therefore, the theme of learning is associated with the strengths and weaknesses of potential areas of learners first, and then increased in the area of Indonesia and global issues. For example, when teaching acid-base chemicals in eastern Indonesia, it is not just about mixing HCN solution with NaOH with concentration and fixed volume , but it should be acossiated with acid bases in farming. The benefits of an acids and a base in improving crops and livestock are closer to learners, so they are more challenged to solve problems with reasonable thinking. This suggestion is in accordance with the results of Nind, Kilburn, and Luff, R (2015) research which states that

pedagogical hooks for connecting students to research methods, getting them interested and confident.

Creativity and Innovation.

These characters encourage the formation of the character[262] of the students to have the ability to develop, implement, and provide new ideas to others, as well as being open and responsive to different new perspectives.

Sternberg (2006) writes that creativity is the key to science / innovation[263] discoveries. To be able to improve the creative thinking skills of learners, the connection between learning styles with the condition of geography and culture that exist around the students is needed. That means,[264] learners are not only asked[265] to just solve the problems in order to[266] get good grades. However, to enhance these skills, work product associated with teaching materials and the environment they live is required. This[267] is in accordance with[268] the results of the study (Sternberg ,[269] 2006).

Communication

The image of communication[270] character is learners and educators are required to understand, manage, and create effective communication in various forms and content orally, written, and in form[271] of multimedia.

Learners in Indonesia have weaknesses in the field of scientific communication. Scientific communication consists of oral communication and scientific writing.

Oral communication can be enhanced using participatory[272] collaborative learning models (cooperative learning). For example, educators can use one of the easiest[273] and most applicable learning models of Jigsaw (Slavin ,[274] 1995). In the Jigsaw learning model ,[275] each member in[276] the group must be an " expert ".[277] As an

expert , students must explain the concepts they have learned to their peers in one group.

For communication in the form of scientific papers, learners can be trained to write joint scientific work reports in one group. For example, after a simple practicum, learners are required to collect research reports with scientific article formats. To be able to improve this character, teaching specific strategies and skills, structuring the environment to be conducive to writing , and encouraging students to learn to write in collaboration with peers (Graham, 2006).

However, to grow the character of communication in the field of scientific writing, it is necessary that educators can write scientific article. In fact, the scientific publication of in-service teachers is still relatively low. Scientific writing is still a problem for educators. This is because educators, especially in-service teachers have a lack of training on how to write effectively.

Collaboration

Collaboration provides an overview where learners demonstrate their ability in teamwork and leadership, adapt in various roles and responsibilities, work productively with others, place empathy in place, and respect for different perspectives. To grow this character, the learners must be accustomed to work in teams.

Conclusion

The results of the study indicate the importance of learning groups for educators and the need of scientific writing training in order to teach well in the 21st century.

Acknowledgment

This publication was produced wholly, or in part, with funds from the Ministry of Research, Technology, & Higher Education (Kemristek Dikti), under contract 037/UNIMUS.J/PJ/PG/2018. The content herein does not necessarily reflect the views of KEMRISTEKDIKTI, the Department, any other agency of the Indonesia Government, or any other source.

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1.	' st	Improper Formatting	Correctness
2.	*To prepare students to face the 21st century*	Misplaced Words or Phrases	Correctness
3.	~~a~~ qualitative	Determiner Use (a/an/the/this, etc.)	Correctness
4.	*To achieve the above objectives*	Misplaced Words or Phrases	Correctness
5.	*is carried*	Passive Voice Misuse	Clarity
6.	a case	Determiner Use (a/an/the/this, etc.)	Correctness
7.	by:	Misuse of Semicolons, Quotation Marks, etc.	Correctness
8.	~~from~~ → by	Wrong or Missing Prepositions	Correctness
9.	the snowball, or a snowball	Determiner Use (a/an/the/this, etc.)	Correctness
10.	by:	Misuse of Semicolons, Quotation Marks, etc.	Correctness
11.	~~of~~ → for	Wrong or Missing Prepositions	Correctness
12.	~~in order to~~ → to	Wordy Sentences	Clarity
13.	*To prepare students to face the 21st century*	Misplaced Words or Phrases	Correctness
14.	~~21st century~~ → 21st-century	Misspelled Words	Correctness
15.	*To create the 21st century generation that has those characteristics*	Misplaced Words or Phrases	Correctness
16.	~~must have~~ → must-have	Misspelled Words	Correctness
17.	*Pre-service and in-service teachers must have digital skills (know and master the digital world), Agile thinking ability*	Hard-to-read text	Clarity

	(capable of thinking many scenarios), interpersonal and communication skills (communication skills to give argument), global skills (skills including the ability to speak foreign...		
18.	~~creates~~ → create	Faulty Subject-Verb Agreement	Correctness
19.	~~Problem Solving~~ → Problem-Solving	Misspelled Words	Correctness
20.	~~Innovation;~~ → Innovation,	Punctuation in Compound/Complex Sentences	Correctness
21.	~~Communication;~~ → Communication,	Punctuation in Compound/Complex Sentences	Correctness
22.	*are expected*	Passive Voice Misuse	Clarity
23.	~~In fact,~~ the	Wordy Sentences	Clarity
24.	, which	Punctuation in Compound/Complex Sentences	Correctness
25.	the PISA	Determiner Use (a/an/the/this, etc.)	Correctness
26.	, which	Punctuation in Compound/Complex Sentences	Correctness
27.	a very	Determiner Use (a/an/the/this, etc.)	Correctness
28.	~~interesting~~ → exciting	Word Choice	Engagement
29.	*is needed*	Passive Voice Misuse	Clarity
30.	~~in order to~~ → to	Wordy Sentences	Clarity

31.	~~Minisitry~~ → Ministry	Misspelled Words	Correctness
32.	~~competence~~ → competency	Confused Words	Correctness
33.	, which	Punctuation in Compound/Complex Sentences	Correctness
34.	the Ministry	Determiner Use (a/an/the/this, etc.)	Correctness
35.	~~mastery~~ → ability	Word Choice	Engagement
36.	by Astuti	Wrong or Missing Prepositions	Correctness
37.	~~et al~~ → et al.	Comma Misuse within Clauses	Correctness
38.	~~results~~ → effects	Word Choice	Engagement
39.	~~mastery~~ → ability	Word Choice	Engagement
40.	, which	Punctuation in Compound/Complex Sentences	Correctness
41.	~~mastery~~ → proficiency, ability	Word Choice	Engagement
42.	~~..~~ → ., ...	Closing Punctuation	Correctness
43.	~~a~~ qualitative	Determiner Use (a/an/the/this, etc.)	Correctness
44.	*To achieve the above objectives*	Misplaced Words or Phrases	Correctness
45.	*is carried*	Passive Voice Misuse	Clarity
46.	a qualitative	Determiner Use (a/an/the/this, etc.)	Correctness
47.	a case	Determiner Use (a/an/the/this, etc.)	Correctness
48.	by:	Misuse of Semicolons,	Correctness

		Quotation Marks, etc.	
49.	~~Determination~~ → The determination	Determiner Use (a/an/the/this, etc.)	Correctness
50.	~~key~~ → critical, crucial	Word Choice	Engagement
51.	the snowball, or a snowball	Determiner Use (a/an/the/this, etc.)	Correctness
52.	by:	Misuse of Semicolons, Quotation Marks, etc.	Correctness
53.	~~10~~ → ten	Improper Formatting	Correctness
54.	*were divided*	Passive Voice Misuse	Clarity
55.	~~2~~ → two	Improper Formatting	Correctness
56.	~~comes~~ → come	Faulty Subject-Verb Agreement	Correctness
57.	~~8~~ → eight	Improper Formatting	Correctness
58.	, and	Punctuation in Compound/Complex Sentences	Correctness
59.	~~on~~ → of	Wrong or Missing Prepositions	Correctness
60.	, which	Punctuation in Compound/Complex Sentences	Correctness
61.	*is measured*	Passive Voice Misuse	Clarity
62.	research,	Punctuation in Compound/Complex Sentences	Correctness
63.	Bertram ,	Improper Formatting	Correctness

64.	, and	Punctuation in Compound/Complex Sentences	Correctness
65.	~~data gathering~~ → data-gathering	Misspelled Words	Correctness
66.	the documentation	Determiner Use (a/an/the/this, etc.)	Correctness
67.	the CoRe	Determiner Use (a/an/the/this, etc.)	Correctness
68.	*were invited*	Passive Voice Misuse	Clarity
69.	*were used*	Passive Voice Misuse	Clarity
70.	~~data gathering~~ → data-gathering	Misspelled Words	Correctness
71.	~~semi- structure~~ → semi-structured	Misspelled Words	Correctness
72.	~~key~~ → critical	Word Choice	Engagement
73.	~~5~~ → five	Improper Formatting	Correctness
74.	~~5~~ → five	Improper Formatting	Correctness
75.	~~deeper~~ → more profound	Word Choice	Engagement
76.	~~questions~~ → issues	Word Choice	Engagement
77.	*is based*	Passive Voice Misuse	Clarity
78.	~~question~~ → issue, subject, item, problem	Word Choice	Engagement
79.	~~1~~ → one	Improper Formatting	Correctness
80.	~~weeks~~ → week	Incorrect Noun Number	Correctness
81.	~~interviews~~ → meetings, discussions	Word Choice	Engagement
82.	~~interviews~~ → meetings	Word Choice	Engagement

83.	, depending	Punctuation in Compound/Complex Sentences	Correctness
84.	*were asked*	Passive Voice Misuse	Clarity
85.	~~on~~ → of	Wrong or Missing Prepositions	Correctness
86.	Teaching ,	Improper Formatting	Correctness
87.	*xxxxxx*	Unknown Words	Correctness
88.	*xxxxxx*	Unknown Words	Correctness
89.	I was explaining, or She was explaining	Incomplete Sentences	Correctness
90.	We are determining, or They are determining	Incomplete Sentences	Correctness
91.	~~important~~ → essential	Word Choice	Engagement
92.	the atom	Determiner Use (a/an/the/this, etc.)	Correctness
93.	~~of~~ → for	Wrong or Missing Prepositions	Correctness
94.	~~with~~ → to	Wrong or Missing Prepositions	Correctness
95.	*are divided*	Passive Voice Misuse	Clarity
96.	a video, or the video	Determiner Use (a/an/the/this, etc.)	Correctness
97.	the atomic	Determiner Use (a/an/the/this, etc.)	Correctness
98.	~~difference~~ → differences	Incorrect Noun Number	Correctness
99.	~~athomic~~ → atomic	Misspelled Words	Correctness
100.	~~Stduents~~ → Students	Misspelled Words	Correctness

101.	the atomic	Determiner Use (a/an/the/this, etc.)	Correctness
102.	A specific, or The specific	Determiner Use (a/an/the/this, etc.)	Correctness
103.	~~or~~ → of	Confused Words	Correctness
104.	~~material~~ → content, article	Word Choice	Engagement
105.	~~athomic~~ → atomic	Misspelled Words	Correctness
106.	the periodic, or a periodic	Determiner Use (a/an/the/this, etc.)	Correctness
107.	*are related*	Passive Voice Misuse	Clarity
108.	~~related~~ → described	Word Choice	Engagement
109.	~~in~~ → to	Wrong or Missing Prepositions	Correctness
110.	~~teaching~~ → preparing	Word Choice	Engagement
111.	the modern, or a modern	Determiner Use (a/an/the/this, etc.)	Correctness
112.	~~is~~ → are	Faulty Subject-Verb Agreement	Correctness
113.	*is based*	Passive Voice Misuse	Clarity
114.	it is	Incomplete Sentences	Correctness
115.	~~the~~ all	Determiner Use (a/an/the/this, etc.)	Correctness
116.	~~on~~ → of	Wrong or Missing Prepositions	Correctness
117.	*be known*	Passive Voice Misuse	Clarity
118.	, namely	Punctuation in Compound/Complex	Correctness

		Sentences	
119.	~~difficulties~~ → problems, challenges	Word Choice	Engagement
120.	~~teaching~~ → preparing	Word Choice	Engagement
121.	~~low~~ → profound, deep	Word Choice	Engagement
122.	~~low~~ → little	Word Choice	Engagement
123.	~~low~~ → profound, deep	Word Choice	Engagement
124.	~~low~~ → little	Word Choice	Engagement
125.	~~is~~ → are	Faulty Subject-Verb Agreement	Correctness
126.	*Factors that cause the low ability of the in-service teachers to know the student's learning difficulties is the educational background*	Incomplete Sentences	Correctness
127.	~~a low~~ → a deep, a profound	Word Choice	Engagement
128.	~~low~~ → little, small, weak, moderate	Word Choice	Engagement
129.	, not	Comma Misuse within Clauses	Correctness
130.	~~understanding~~ → knowledge	Word Choice	Engagement
131.	, and	Comma Misuse within Clauses	Correctness
132.	Sunal,	Comma Misuse within Clauses	Correctness
133.	~~is~~ → are	Faulty Subject-Verb Agreement	Correctness
134.	*is used*	Passive Voice Misuse	Clarity
135.	~~pedagogic~~ → academic	Word Choice	Clarity
136.	~~teach~~ → teaching	Incorrect Verb Forms	Correctness

137.	~~are able to~~ → can	Wordy Sentences	Clarity
138.	*This*	Intricate Text	Clarity
139.	~~orientation~~ → direction	Word Choice	Engagement
140.	~~main~~ → primary	Word Choice	Engagement
141.	~~orientation~~ → direction	Word Choice	Engagement
142.	the activity	Determiner Use (a/an/the/this, etc.)	Correctness
143.	~~hands on~~ → hands-on	Misspelled Words	Correctness
144.	The teaching	Determiner Use (a/an/the/this, etc.)	Correctness
145.	the indicators	Determiner Use (a/an/the/this, etc.)	Correctness
146.	~~varied~~ → various, diverse, mixed	Word Choice	Engagement
147.	~~varied~~ → different, various	Word Choice	Engagement
148.	*are obtained*	Passive Voice Misuse	Clarity
149.	a better	Determiner Use (a/an/the/this, etc.)	Correctness
150.	in the	Wrong or Missing Prepositions	Correctness
151.	~~less~~ → fewer	Misuse of Quantifiers	Correctness
152.	~~varied~~ → different, various	Word Choice	Engagement
153.	Even,	Punctuation in Compound/Complex Sentences	Correctness
154.	very complex	Wordy Sentences	Clarity

155.	the free, or a free	Determiner Use (a/an/the/this, etc.)	Correctness
156.	~~free market~~ → free-market	Misspelled Words	Correctness
157.	~~the~~ adaptive	Determiner Use (a/an/the/this, etc.)	Correctness
158.	~~becomes~~ → become	Faulty Subject-Verb Agreement	Correctness
159.	~~science global~~ → global science	Misplaced Words or Phrases	Correctness
160.	~~includes~~ → include	Faulty Subject-Verb Agreement	Correctness
161.	, which	Punctuation in Compound/Complex Sentences	Correctness
162.	*are given*	Passive Voice Misuse	Clarity
163.	~~need~~ → needs	Faulty Subject-Verb Agreement	Correctness
164.	~~absolutely~~	Wordy Sentences	Clarity
165.	~~are able to~~ → can	Wordy Sentences	Clarity
166.	~~important~~ → essential	Word Choice	Engagement
167.	the Year	Determiner Use (a/an/the/this, etc.)	Correctness
168.	~~Competence~~ → Power, Expertise, Capability	Word Choice	Engagement
169.	the ability	Determiner Use (a/an/the/this, etc.)	Correctness
170.	*be realized*	Passive Voice Misuse	Clarity

171.	, which	Punctuation in Compound/Complex Sentences	Correctness
172.	~~hers~~ → her	Confused Words	Correctness
173.	~~hers~~ → her	Pronoun Use	Correctness
174.	the environment	Determiner Use (a/an/the/this, etc.)	Correctness
175.	competencecompetencecompetence Power, Expertise, Skill	Word Choice	Engagement
176.	~~competence~~ → skill, expertise	Word Choice	Engagement
177.	~~of mastering~~ → to master	Wrong or Missing Prepositions	Correctness
178.	~~in depth~~ → in-depth	Misspelled Words	Correctness
179.	, which	Punctuation in Compound/Complex Sentences	Correctness
180.	~~mastering~~ → learning	Word Choice	Engagement
181.	~~have~~ → has	Faulty Subject-Verb Agreement	Correctness
182.	*been set*	Passive Voice Misuse	Clarity
183.	~~in order to~~ → to	Wordy Sentences	Clarity
184.	~~succesfully~~ → successfully	Misspelled Words	Correctness
185.	~~in accordance with~~ → by, following, per, under	Wordy Sentences	Clarity
186.	~~with~~ → from	Wrong or Missing Prepositions	Correctness
187.	~~actually~~	Wordy Sentences	Clarity

188.	~~certain~~ → specific	Word Choice	Engagement
189.	, or	Punctuation in Compound/Complex Sentences	Correctness
190.	, according	Punctuation in Compound/Complex Sentences	Correctness
191.	parents,	Punctuation in Compound/Complex Sentences	Correctness
192.	a good	Determiner Use (a/an/the/this, etc.)	Correctness
193.	*finley*	Unknown Words	Correctness
194.	, and	Comma Misuse within Clauses	Correctness
195.	*The results of the interview of in-service teachers according to the research conducted by Marble, finley and Ferguson (2000) stated that the way teachers teach in the classroom depend on the teaching experience of each teacher and their orientation (which one is more important: concepts, context, ...*	Hard-to-read text	Clarity
196.	~~was~~ → were	Faulty Subject-Verb Agreement	Correctness
197.	~~very important~~ → essential, critical, crucial, vital	Word Choice	Engagement
198.	*be implemented*	Passive Voice Misuse	Clarity
199.	~~important~~ → essential, vital	Word Choice	Engagement
200.	, so	Punctuation in Compound/Complex Sentences	Correctness

201.	models,	Punctuation in Compound/Complex Sentences	Correctness
202.	*are easily conditioned*	Passive Voice Misuse	Clarity
203.	, and	Punctuation in Compound/Complex Sentences	Correctness
204.	the jigsaw	Determiner Use (a/an/the/this, etc.)	Correctness
205.	model ,	Improper Formatting	Correctness
206.	, and	Punctuation in Compound/Complex Sentences	Correctness
207.	stick .	Improper Formatting	Correctness
208.	trained.	Closing Punctuation	Correctness
209.	~~Student~~ → The student	Determiner Use (a/an/the/this, etc.)	Correctness
210.	, ma'am	Comma Misuse within Clauses	Correctness
211.	~~, actually,~~	Wordy Sentences	Clarity
212.	~~teachers~~ → teacher's, teachers'	Incorrect Noun Number	Correctness
213.	*more complete*	Misuse of Modifiers	Correctness
214.	, and	Punctuation in Compound/Complex Sentences	Correctness
215.	~~am able to~~ → can	Wordy Sentences	Clarity
216.	method.	Closing Punctuation	Correctness

217.	~~to~~ → with	Wrong or Missing Prepositions	Correctness
218.	that,	Punctuation in Compound/Complex Sentences	Correctness
219.	*The responses of the learners themselves provide an overview for the government and those who concerned to the world of education that, these learners also have a culture of taking notes and direct-copying knowledge from teachers.*	Wordy Sentences	Clarity
220.	notes,	Comma Misuse within Clauses	Correctness
221.	~~a problem~~ → a question, an issue, a challenge	Word Choice	Engagement
222.	~~varied~~ → different, various	Word Choice	Engagement
223.	~~media~~ → press	Word Choice	Engagement
224.	~~varied~~ → different, various	Word Choice	Engagement
225.	~~Aplication~~ → Application	Misspelled Words	Correctness
226.	*be improved*	Passive Voice Misuse	Clarity
227.	~~to recognize~~ → recognizing	Incorrect Verb Forms	Correctness
228.	the content	Determiner Use (a/an/the/this, etc.)	Correctness
229.	, the	Punctuation in Compound/Complex Sentences	Correctness
230.	~~stduents~~ → students	Misspelled Words	Correctness
231.	~~difficult~~ → problematic	Word Choice	Engagement

232.	*flore*	Unknown Words	Correctness
233.	~~abstract~~ → conceptual, theoretical, intellectual, obscure	Word Choice	Engagement
234.	~~materail~~ → material	Misspelled Words	Correctness
235.	a practicum	Determiner Use (a/an/the/this, etc.)	Correctness
236.	~~, the~~ → ; the, . The	Punctuation in Compound/Complex Sentences	Correctness
237.	, they	Punctuation in Compound/Complex Sentences	Correctness
238.	the subject	Determiner Use (a/an/the/this, etc.)	Correctness
239.	~~flores~~ → Flores	Misspelled Words	Correctness
240.	~~ma'am.~~ → ma'am., ma'am...	Closing Punctuation	Correctness
241.	~~, they~~ → ; they	Punctuation in Compound/Complex Sentences	Correctness
242.	*be seen*	Passive Voice Misuse	Clarity
243.	~~of~~	Wrong or Missing Prepositions	Correctness
244.	are:	Misuse of Semicolons, Quotation Marks, etc.	Correctness
245.	Collaboration .	Improper Formatting	Correctness
246.	*be given*	Passive Voice Misuse	Clarity
247.	*are used*	Passive Voice Misuse	Clarity

248.	century.	Closing Punctuation	Correctness
249.	~~character~~ → nature, role, style, aspect	Word Choice	Engagement
250.	~~reasonable~~ → rational, cognitive	Word Choice	Engagement
251.	~~in order to~~ → to	Wordy Sentences	Clarity
252.	first,	Comma Misuse within Clauses	Correctness
253.	~~area~~ → field	Word Choice	Engagement
254.	volume ,	Improper Formatting	Correctness
255.	~~, but it~~ → . Still, it	Hard-to-read text	Clarity
256.	~~acossiated~~ → associated	Misspelled Words	Correctness
257.	~~an acids~~ → acids, an acid	Determiner Use (a/an/the/this, etc.)	Correctness
258.	~~base~~ → support	Word Choice	Engagement
259.	~~reasonable~~ → rational, liberal, cognitive	Word Choice	Engagement
260.	~~in accordance with~~ → by, following, per, under	Wordy Sentences	Clarity
261.	, which	Punctuation in Compound/Complex Sentences	Correctness
262.	~~character~~ → nature, role, integrity	Word Choice	Engagement
263.	science/innovation	Improper Formatting	Correctness
264.	means,	Comma Misuse within Clauses	Correctness
265.	*are not only asked*	Passive Voice Misuse	Clarity

266.	~~in order to~~ → to	Wordy Sentences	Clarity
267.	*This*	Intricate Text	Clarity
268.	~~in accordance with~~ → by, following, per, under	Wordy Sentences	Clarity
269.	Sternberg ,	Improper Formatting	Correctness
270.	the communication	Determiner Use (a/an/the/this, etc.)	Correctness
271.	the form	Determiner Use (a/an/the/this, etc.)	Correctness
272.	participatory,	Comma Misuse within Clauses	Correctness
273.	~~easiest~~ → most accessible, most comfortable, most natural, most straightforward	Word Choice	Engagement
274.	Slavin ,	Improper Formatting	Correctness
275.	model ,	Improper Formatting	Correctness
276.	~~in~~ → of	Wrong or Missing Prepositions	Correctness
277.	~~"~~ → . "	Misuse of Semicolons, Quotation Marks, etc.	Correctness
278.	expert ,	Improper Formatting	Correctness
279.	*be trained*	Passive Voice Misuse	Clarity
280.	writing ,	Improper Formatting	Correctness
281.	*it is necessary that educators can*	Wordy Sentences	Clarity

282.	a scientific	Determiner Use (a/an/the/this, etc.)	Correctness
283.	~~article~~ → articles	Incorrect Noun Number	Correctness
284.	~~In fact,~~ the	Wordy Sentences	Clarity
285.	~~writing~~ → literature, paper	Word Choice	Engagement
286.	*This*	Intricate Text	Clarity
287.	teachers,	Punctuation in Compound/Complex Sentences	Correctness
288.	*To grow this character*	Misplaced Words or Phrases	Correctness
289.	*be accustomed*	Passive Voice Misuse	Clarity
290.	~~work~~ → working	Incorrect Verb Forms	Correctness
291.	~~of~~ → for	Wrong or Missing Prepositions	Correctness
292.	~~in order to~~ → to	Wordy Sentences	Clarity
293.	*was produced*	Passive Voice Misuse	Clarity
294.	~~Linggar~~ → Linegar	Misspelled Words	Correctness
295.	, 2006	Punctuation in Compound/Complex Sentences	Correctness
296.	, 2004	Punctuation in Compound/Complex Sentences	Correctness
297.	~~In search~~ → In search	Improper Formatting	Correctness
298.	~~search of~~ → search of	Improper Formatting	Correctness
299.	~~Knowledge in~~ → Knowledge in	Improper Formatting	Correctness

300.	developing ways	Improper Formatting	Correctness
301.	of articulating	Improper Formatting	Correctness
302.	articulating and	Improper Formatting	Correctness
303.	and documenting	Improper Formatting	Correctness
304.	~~Nind~~ → And, Mind, Find	Misspelled Words	Correctness
305.	, 1986	Punctuation in Compound/Complex Sentences	Correctness
306.	, 1987	Punctuation in Compound/Complex Sentences	Correctness
307.	, 1995	Punctuation in Compound/Complex Sentences	Correctness
308.	~~Sunal~~ → Sunil	Misspelled Words	Correctness
309.	~~Research Based~~ → Research-Based	Misspelled Words	Correctness
310.	Based on	Wrong or Missing Prepositions	Correctness
311.	~~Undergraduated~~ → Undergraduate	Misspelled Words	Correctness
312.	~~Sceince~~ → Science	Misspelled Words	Correctness
313.	The United	Determiner Use (a/an/the/this, etc.)	Correctness
314.	, 2006	Punctuation in Compound/Complex Sentences	Correctness
315.	, No.	Punctuation in Compound/Complex Sentences	Correctness

316.	~~Eny~~ → Any	Misspelled Words	Correctness
317.	" Through	Improper Formatting	Correctness