Accounting graduates’ competences

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ABSTRACT
This study aimed to find out the competence needed by fresh graduates based on the perceptions of accounting practitioners. This study used a combination of qualitative and quantitative methods and used the statistical technique of exploratory factor analysis. A qualitative method was used in identifying variables to be studied, while quantitative method was used in grouping or categorizing of those variables into certain factors. This study used 40 variables developed based on the interview results and questionnaires filled by 100 respondents consisting of accounting practitioners namely those who worked in accounting and finance department starting from staff level up to financial directors spread across various companies in Indonesia. The results of the study found eight main competencies that should be possessed by accounting students based on the perceptions of the employers. Those competencies were (1) work ethics, (2) interpersonal skills, (3) good leadership, (4) responsibility, (5) analytical ability, (6) skills, (7) ability to adapt, and (8) work experience.

Introduction
Preparing graduates for workplace is one of the main aims of higher education such as colleges and universities. However, a continual question asked by various parties including academics is how accurate educational institutions can prepare graduates to meet the needs of workplace professionally (Hills et al., 2003). One of the fields of study that greatly contributes to the needs of workplace is the field of accounting. This is because accountants are expected to be able to perform the financial functions of the business. For that reason, the main goal of accounting education is to provide graduates with knowledge and skills so that upon graduation, they can gain success professionally in their field (McVay et al., 2008). Hence, the accounting curriculum profile needs to be attended to. Nevertheless, there is a trend that accountants are expected to perform beyond their basic roles, which is to engage more in the decision-making process (Albu et al., 2011). As a consequence, it is stated that the accounting profile should be created based on the demands of the workplace and, as a result, accounting education is obliged to educate its students to follow the curriculum that suits the needs of the workplace (Marzo-Navarro et al., 2009). Mandilas et al. (2014) supported and provided the same emphasis where the workplace will be more dynamic and more complex in the future, and as a consequence, the role and the need of skills from accounting graduates also change and become more complicated than merely bookkeeping. Moreover, it is stated that accounting education must always follow the changes from the demands of workplace and prepare curriculum that will require its graduates to respond quickly and professionally to the modern needs nowadays.

Related to that description, Bennis and O’Toole (2005) asserted that business schools are too theoretical where they do not train their students for practical matters or, in other words, accounting education offers somewhat far from the reality of the needs of the workplace. That argument is also supported by several researchers such as Andrews and Higson (2008), Jackson (2010), Washer (2007), Crammer (2006), De La Harpe et al. (2000), Dewing and Russell (1998), Craig and Amernic (2002), as well as Gammie et al. (2002). Although the need to improve the accounting education has been realized, the study of Buckhaults and Fisher (2011) only suggested educators to include new approach in making the course material more familiar to the students, while at the same time incorporating new teaching ideas in order to reduce both the lecturers’ and students’ anxiety. However, it can be argued that incorporating new skills and knowledge beyond what has been offered is more important to make accounting curriculum more competitive. In fact, although existing curriculums are still relevant, specifically to prepare accountants to be competent in performing their tasks, previous studies have found that several business schools failed to prepare their graduates for professionalism in the workplace.
Profound attention must be directed toward the discrepancy between accounting graduates’ skills and ability and the requirements and needs in the globalization era that is dynamic and increasingly modern (King, 2003). The purpose of this study was to find out what competences are required from freshly graduated accounting students based on the perceptions of accounting practitioners. This matter is deemed necessary to be conducted so that universities can prepare quality accounting graduates in accordance with the needs of the workplace. Therefore, the researcher intended to conduct a study entitled “Accounting Graduates’ Competences”. Accounting graduates referred to freshly graduated accounting students.

Based on the background explained above, the formulation of problem in this study was to find out what competences should be possessed by the accounting graduates in the following details: what competences should the freshly graduated accounting students possess based on the perceptions of the accounting practitioners? And what competences are highly demanded based on the perceptions of the accounting practitioners?

The purpose of this study was to find out what competence should be possessed by freshly graduated accounting students based on the perceptions of the accounting practitioners.

**Literature Review**

The literature related to the variables in this study is explained below. The purpose of accounting education in the higher level such as colleges and universities is to prepare accounting graduates who are ready to enter the workplace. Discussions on the development of accounting curriculum have not been standardized as to what type of accounting curriculum can prepare graduates to be ready and competent in the workplace later (Hills et al., 2003). This is supported by Pitulice and Manea (2015) research that it is rare to find accounting topics that can be used as reference for students, both books and accounting journals, while keeping in mind the needs for the capability of accounting graduates that is increasingly complex in the workplace.

One of the demands of the workplace is the ability to work together with co-workers (Kotey, 2007). The results from the study conducted by Volkov and Volkov (2015) on accounting students showed that students who worked in a team understood the accounting materials more effectively and could complete the tasks given compared to those who did not work in a team. In fact, several universities suggested that accounting education should apply the method of team work in their classes so the students possess readiness, flexibility, and ability for adaptation in the workplace (Fearon et al. 2012; Mutch, 1998).

Another needs of competence in the workplace is the knowledge and ability to use information technology. Research conducted by Strong and Portz (2016) found out that there was no standard of learning accounting information technology; therefore, the curriculum related to information technology in respective colleges and universities varied. In relation to the competence in information technology, Dickfos et al. (2014) found in their study that the application of blended learning in accounting was effective for students because they had to always include learning techniques with technological aspect.

Another competence is the work ethics of freshly graduate students. The study by Tormo-Carbó et al. (2016) suggested that business students who would become business practitioners should have good behaviour and ethics, have high integrity, or in other words, it is expected that they can apply good work ethics and behaviour in the workplace because of the cases of corruptions, power abuse, and other fraud that inflict other parties in the business world because of people with bad ethics.

The study conducted by Weldy and Icenogle (1997) found that interpersonal skills are the skills with the highest value that should be possessed by graduates. Indeed, interpersonal skills refer to a combination of several skills possessed by a person to communicate with another person or a group of people. However, Abbasi et al. (2018) found that there is a significant difference between the skills expected by managers and the skills possessed by the business graduates, and interpersonal skills is one among several of those skill gaps.

The leadership competence is also needed by the graduates because as stated by Itika (2011), leadership skills are greatly needed by an organization to develop its strong work culture. Although, a study by Tymon and Mackay (2016) found that employers have different expectations regarding the leadership qualities that should be possessed by future graduates than what were prepared by the university.

Munthe (2009) stated that analytic ability is the ability to elaborate knowledge into smaller components and the ability to show the relationships between those components. Further, it is stated that the workplace requires people with analytic thinking because those who have analytic ability are usually those who are diligent, honest, emphatic, and they are those who acknowledge their limitation in knowledge.

Kotey (2007) stated that one of the needs of the workplace is the ability to adapt to the new environment and work together with co-workers. Itika (2011) also mentioned that conflicts between employees should be avoided as much as possible so that the tasks can be done maximally. People who can adapt easily and quickly in a new environment are assumed to be people who can manage and position themselves away from the
conflicts between employees. That is why Fearon et al. (2012) as well as Mutch (1998) stated that the accounting education curriculum should apply the method of team work in classes so that the students can be ready and flexible, and they can have the ability to adapt in the workplace.

There are many more needs for ability or competence in the workplace related to accounting graduates. The point is that, as stated by King (2003) related to accounting education and the demands of the workplace, education should give thoughtful attention to the gap that has so far been too wide between the skills, ability, or competence of the accounting graduates and the requirements of the workplace. Therefore, the results and discussion will examine the competencies that should be considered in accounting classes in colleges and universities based on the perceptions of the accounting practitioners.

This study contributes to the accounting education literature by providing evidence that accounting curriculum needs to include more competences beyond what has been taught currently, in order to make the accounting curriculum more competitive and to prepare accounting graduates to meet the greater demands in the workplace.

Research Method

This study used a combination of qualitative and quantitative method by using the statistical technique of exploratory factor analysis. The qualitative method was used to identify the variables to be studied. The quantitative method was used to group and categorize those variables into certain factors.

The instrument for data collection in this study was a questionnaire constructed based on an interview with a group of accounting practitioners. The interview was conducted directly and in detail to the research objects who were the accounting practitioners working in various businesses in Manado during the research period of 2018. The interview was limited to accounting practitioners in Manado some and another from outside Manado through chat and video call. There are 200 of accounting practitioners were participated in the interview. The question asked was ‘What competencies are needed for accounting graduates from colleges or universities?’. Each interview was 15-20 minutes. There were 40 items summarized from various repeated and similar answers, and the 40 items were turned into questions in the questionnaire.

The questionnaire was distributed to all accounting practitioners. To reach all accounting practitioners spread all over Indonesia, the researcher distributed the questionnaire using google form application, and it was filled in using the link sent to the accounting practitioners.

Further, the questionnaire was completed by 100 respondents who were working in the department of accounting and finance starting from the level of staff to financial directors across various companies in Indonesia. Hutcheson and Sofroniou (1999) stated that 100 is the minimum number of respondents required for factor analysis.

After the questionnaire was collected and the data tabulated, validity and reliability tests were conducted to ensure that the data in this study were valid and reliable. Furthermore, five questions were invalid; they were questions 2, 9, 13, 17, and 23. Those five items had significant value of more than .05. The five invalid items were not included in the reliability test. Based on the result of reliability test, it was found that the overall Cronbach Alpha score was .92 which was greater than .70 which meant that the data of the study was good and reliable and could be used as instrument in this study.

| Table 1. Result of Reliability Test |
|------------------------------------|
| Cronbach’s Alpha | N of Items |
| .912 | 100 |

Source: Data processed using SPSS

| Table 2. Reliability Test Results of Each Factor for Internal Consistency |
|--------------------------------|------------------|-------------------|
| Factor | Factor Category | Cronbach’s Alpha |
| Factor 1 | Work Ethics | .845 |
| Factor 2 | Interpersonal Skills | .84 |
| Factor 3 | Good Leadership | .857 |
| Factor 4 | Responsibility | .769 |
| Factor 5 | Analytical Ability | .801 |
| Factor 6 | Skills | .716 |
| Factor 7 | Ability to Adapt | .652 |
| Factor 8 | Work Experience | .606 |

Source: Data processed using SPSS
Statistical analysis used in this study was conducted through several stages as follow:

1. Determined the variables to be analyzed using SPSS by looking at the following score:
   a. The score of Kaiser-Meyer-Olkin’s measure of sampling adequacy must be > .6.
   b. The score of Bartlett’s test of sphericity must be significant at p < .05.
   c. The diagonal score (a) or measure of sampling adequacy/MSA observed from the score of Anti-Image Correlation must be > .5; if not, the item must be taken out from the variables.

2. Determined the total number of extracted factors: Statistical test was needed and further referred to the eigenvalues score, and the score should be > 1. The eigenvalues score was used to determine the extracted factors.

3. Determined variable components that could be categorized into factors: In this stage, statistical test was used to obtain Varimax Rotation (Rotated Factor Matrix) score; rotation was done to maximize the factor loading for each variable. The minimum score of factor loading of variable components that can be categorized into a certain factor was > .5.

4. Grouped variables into factors and label each factor: The highest score for a variable that contributed to a certain factor was made name reference for that factor.

Results and Discussion

The data in this study had satisfied the criteria for data assumption test: the Kaiser-Meyer-Olkin’s score was greater than .6 (i.e. .814). This means that the total number of samples that was used satisfied that total number of sample adequacy. Bartlett’s test of sphericity score was .00 < .05 which showed that the data in this study could be used. The details can be seen in Table 3:

![Table 3. Results of Kaiser-Meyer-Olkin and Bartlett’s Test Value](image)

| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | .814 |
|--------------------------------------------------|------|
| Bartlett’s Test of Sphericity                     |      |
| Approx. Chi-Square                               | 1.837E3 |
| Df                                               | 435  |
| Sig.                                             | .000  |

After processing the data for factor analysis, it was found that there were eight competence factors that must be possessed by accounting fresh graduates. Overall, competence score that must be possessed by freshly graduated accounting students was 71.501% with the following breakdown: Competence 1 (Work Ethics) was 36.295%; Competence 2 (Interpersonal Skills) was 7.794%; Competence 3 (Good Leadership) was 5.883%; Competence 4 (Responsibility) was 5.671%; Competence 5 (Analytical Ability) was 4.689%; Competence 6 (Skills) was 4.210%; Competence 7 (Ability to Adapt) was 3.555%; Competence 8 (Work Experience) was 3.401%. The details can be seen in Table 4.

![Table 4. Percentage of Variance After Varimax Rotation](image)

| Competence 1 | 10.889 | 36.295 | 36.295 |
|--------------|--------|--------|--------|
| Competence 2 | 2.338  | 7.794  | 44.089 |
| Competence 3 | 1.765  | 5.883  | 49.973 |
| Competence 4 | 1.701  | 5.671  | 55.644 |
| Competence 5 | 1.407  | 4.689  | 60.333 |
| Competence 6 | 1.263  | 4.21   | 64.543 |
| Competence 7 | 1.066  | 3.555  | 68.098 |
| Competence 8 | 1.021  | 3.403  | 71.501 |

For each of the eight competencies, the highest factor loading was computed from several items of questions where the score should be greater than .5. The items of questions were then categorized into one criteria of competence. Referring to the results of factor analysis used to interpret the data, the eight competencies that should be possessed by freshly graduated students can be seen in Table 5.
Table 5. Categories of Accounting Competence

| Competence Category | Name of Competence Category | Eigen Value | Variability % | Cumulative % |
|---------------------|-----------------------------|-------------|----------------|--------------|
| Competence 1        | Work Ethics                 | 10.889      | 36.295         | 36.295       |
| Competence 2        | Interpersonal Skills        | 2.338       | 7.794          | 44.089       |
| Competence 3        | Good Leadership             | 1.765       | 5.883          | 49.973       |
| Competence 4        | Responsibility              | 1.701       | 5.671          | 55.644       |
| Competence 5        | Analytical Ability          | 1.407       | 4.689          | 60.333       |
| Competence 6        | Skills                      | 1.263       | 4.210          | 64.543       |
| Competence 7        | Ability to Adapt            | 1.066       | 3.555          | 68.098       |
| Competence 8        | Work Experience             | 1.021       | 3.403          | 71.501       |

Referring to Table 5 and Table 6, each category of competence can be explained in details in the score of items that had loading factor score of more than .5 (See Table 7). The first competence of Work Ethics can be explained through (a) have good behavior ($r = .815$), (b) have integrity in work ($r = .814$), (c) have persistence in work ($r = .805$), and (d) have the ability to communicate fluently with superiors and co-workers ($r = .684$). This is in line with the results of Tormo-Carbó et al. (2016) that business students who would become business practitioners must have good behavior or ethics, high integrity, or in other words, it is hoped that they can apply work ethics and good behavior in the workplace.

The second competence of Interpersonal Skills can be explained through items (a) have good ability to store documents ($r = .743$), (b) have the ability to solve problems ($r = .589$), (c) have the ability to control stress ($r = .577$), (d) have good relationships with others ($r = .574$), (e) have high curiosity in learning ($r = .571$), and (f) have high initiative ($r = .541$). Interpersonal skills are the combination of several skills to communicate with a person or a group of people. Since interpersonal skills covers various skills, Weldy and Icenogle (1997) stated that interpersonal skills are skills with the highest value.

The third competence of Good Leadership is explained through items (a) have the ability to teach other people ($r = .375$), (b) result-oriented ($r = .623$), (c) have the ability to motivate other people ($r = .597$), (d) have the ability to lead ($r = .597$), (e) have the ability to make quick decisions ($r = .546$), and (f) have the ability to make innovation in work ($r = .528$). This is in line with one of the philosophies of human resource management according to Itika (2011) where these leadership abilities are very important and needed by an organization to develop strong working culture in the company.

The fourth competence Responsibility is explained through items (a) have high work discipline ($r = .774$), and (b) have high sense of responsibility ($r = .701$). Responsibility is important in work. The Bible emphasize this in Matthew 25:23 (NIV): “His master replied, ‘Well done, good and faithful servant! You have been faithful with a few things; I will put you in charge of many things. Come and share your master’s happiness!’”

The fifth competence Analytical Ability is explained in items (a) able to analyze financial report ($r = .799$), (b) understand accounting information system ($r = .796$), and (c) able to present well ($r = .602$). These results are in accordance with (Munthe, 2009) who stated that analytical ability is the ability to elaborate knowledge into smaller parts and to show the relationship between those parts. Further, it is stated that the workplace needs people with analytical ability since these people are usually diligent, honest, emphatic, and they can acknowledge their self-limitation in knowledge.

The sixth competence Skills is explained in items (a) pay attention to details ($r = .803$), (b) able to work skillfully ($r = .591$), and (c) able to communicate in good and correct Indonesian language ($r = .563$). The seventh competence Ability to Adapt is explained in the items (a) able to quickly adapt with new environment ($r = .798$), and (b) have good ability to use active and passive English ($r = .627$). The ability to adapt in a new environment is also about whether or not a person can work with other people. (Kotey, 2007) stated that one of the needs of the workplace is the ability to adapt in a new environment and work together with co-workers. (Itika, 2011) statement about the theory of human resource management stated that as much as possible, conflicts between employees should be avoided so that work can be done maximally. A person who finds it easy to quickly adapt with a new environment is assumed to be a person who can organize himself or herself to position himself or herself away from conflicts among employees. That is why the study of Fearon et al. (2012) and Mutch (1998) found that accounting education curriculum should apply the method of team work in their classes so that the students can be ready, are flexible, and have the ability to adapt in the workplace.

The eighth competence Work Experience is explained in item take part in internship ($r = .842$). See Table 7. This is the same as the statement of Agustina and Anggita (2017) which stated that work experience had significant effect on work performance.
The higher the factor loading score, the more significant it is to explain the existing competence category. The variable score of factor loading below .5 was not used in the consideration as a factor that explained competence category. The details can be seen in Table 6.

| Number of Question | Questions Variables | Rotated Component Matrixa |
|--------------------|---------------------|---------------------------|
|                    |                     | Component 1 | Component 2 | Component 3 | Component 4 | Component 5 | Component 6 | Component 7 | Component 8 |
| B06                | Have a good behavior | 0.815       |              |              |              |              |              |              |              |
| B03                | Have integrity in work | 0.814       |              |              |              |              |              |              |              |
| B04                | Have perseverance in work | 0.805       |              |              |              |              |              |              |              |
| B05                | Able to communicate fluently with the supervisors and coworkers | 0.684       |              |              |              |              |              |              |              |
| B07                | Able to work together well in groups |              | 0.743       |              |              |              |              |              |              |
| B14                | Have good ability to store documents |              |              | 0.589       |              |              |              |              |              |
| B27                | Have the ability to solve problems |              |              | 0.577       |              |              |              |              |              |
| B26                | Have the ability to control stress |              |              | 0.574       |              |              |              |              |              |
| B12                | Have a good relationship with others |              |              | 0.574       |              |              |              |              |              |
| B21                | Have a high curiosity in learning |              |              | 0.571       |              |              |              |              |              |
| B18                | Have high initiative |              |              | 0.514       |              |              |              |              |              |
| B22                | Able to work under pressure |              |              |              | 0.735       |              |              |              |              |
| B37                | Have the ability to teach others |              |              |              | 0.623       |              |              |              |              |
| B39                | Result-oriented |              |              |              | 0.597       |              |              |              |              |
| B36                | Have the ability to motivate others |              |              | 0.597       |              |              |              |              |              |
| B30                | Have the ability to lead |              |              | 0.597       |              |              |              |              |              |
| B38                | Able to make the right decision |              |              | 0.546       |              |              |              |              |              |
| B40                | Able to make innovation in work |              |              | 0.528       |              |              |              |              |              |
| B32                | Have high discipline in work |              | 0.775       |              |              |              |              |              |              |
| B08                | Have high sense of responsibility |              |              | 0.701       |              |              |              |              |              |
| B10                | Able to analyze financial report |              |              |              | 0.799       |              |              |              |              |
| B28                | Understand accounting information system |              |              |              |              | 0.797       |              |              |              |
| B11                | Able to present well |              |              |              |              | 0.603       |              |              |              |
| B34                | Pay attention to details |              |              |              |              | 0.803       |              |              |              |
| B20                | Able to work skillfully |              |              |              |              | 0.591       |              |              |              |
| B29                | Able to communicate in good Bahasa Indonesia |              |              |              |              | 0.563       |              |              |              |
| B35                | Able to thinklogically |              |              |              |              |              | 0.798       |              |              |
| B24                | Able to adapt quickly in new environment |              |              |              |              |              | 0.627       |              |              |
| B33                | Have good ability in active and passive English |              |              |              |              |              |              | 0.627       |              |
| B15                | Have participated in internship |              |              |              |              |              |              |              | 0.843       |

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

- Rotation converged in 17 iterations
- Empty cells are below 0.5

After ignoring all variables with factor loading less than .5, there were 27 variables which were then processed and categorized into eight competence categories. The details can be seen in table 7.
Table 7 Summary of Categories and Variables Related to Accounting Competence

| Competency Category | Question No. | Question Variables | r   | Rank |
|---------------------|-------------|-------------------|-----|------|
| Work Experience     | B15         | Have participated in internship | 0.842 | 1     |
| Work Ethics         | B06         | Have good behavior | 0.815 | 2     |
| Work Ethics         | B03         | have integrity in work | 0.814 | 3     |
| Work Ethics         | B04         | Have perseverance in work | 0.805 | 4     |
| Skills              | B34         | Pay attention to details | 0.803 | 5     |
| Analytical Ability  | B10         | Able to analyze financial report | 0.799 | 6     |
| Ability to Adapt    | B24         | Able to adapt quickly in a new environment | 0.798 | 7     |
| Analytical Ability  | B28         | Understand accounting information system | 0.796 | 8     |
| Responsibility      | B32         | Have high discipline in work | 0.774 | 9     |
| Interpersonal Skills| B14         | Have good ability to store documents | 0.743 | 10    |
| Good Leadership     | B37         | Have the ability to teach other people | 0.735 | 11    |
| Responsibility      | B08         | Have high sense of responsibility | 0.701 | 12    |
| Work Ethics         | B05         | Able to communicate fluently with superiors and co-workers | 0.684 | 13    |
| Ability to Adapt    | B33         | Have good ability in active and passive English | 0.627 | 14    |
| Good Leadership     | B39         | Result-oriented | 0.623 | 15    |
| Analytical Ability  | B11         | Able to present well | 0.602 | 16    |
| Good Leadership     | B36         | Have the ability to motivate others | 0.597 | 17    |
| Good Leadership     | B30         | Have the ability to lead | 0.597 | 18    |
| Skills              | B20         | Able to work skilfully | 0.591 | 19    |
| Interpersonal Skills| B27         | Have the ability to solve problems | 0.589 | 20    |
| Interpersonal Skills| B26         | Have the ability to control stress | 0.577 | 21    |
| Interpersonal Skills| B12         | Have good relationships with others | 0.574 | 22    |
| Interpersonal Skills| B21         | Have high curiosity in learning | 0.571 | 23    |
| Skills              | B29         | Able to communicate in good Bahasa Indonesia | 0.563 | 24    |
| Good Leadership     | B38         | Able to make quick decisions | 0.546 | 25    |
| Good Leadership     | B40         | Able to make innovations in work | 0.528 | 26    |
| Interpersonal Skills| B18         | Have high initiative | 0.514 | 27    |

Conclusion

This study aimed to find out the basic competence that should be possessed by freshly graduated students based on the perceptions of practitioners related to accounting. The sample used in this study was all accounting practitioners spread in all companies or organizations in Indonesia in 2017.

To answer the first research question, the results showed there are eight accounting competences that must be possessed by accounting fresh graduates. Those competences are: Work ethics, interpersonal skills, good leadership, responsibility, analytical ability, skills, ability to adapt, and work experience. Among those competences, Work Ethics is the competence with the highest factor loading, which indicates that it is a highly expected quality of accounting graduates. This particular result answers the second research question.

The findings of this study imply that there are more competences required by the workplace to be possessed by accounting graduates for them to be more competitive than just to simply meet their tasks as accountants. Most of the competences are soft skills that should be developed beyond the practical skills offered in classroom.
There are several limitations of this study. First, this study included the population of practitioners working only in Indonesia; therefore, it is hoped that there will be further studies to be developed in different population, such as in other countries, where accounting graduates can also work, so other competencies can be found to complete this study. Second, this study is limited to finding competences required for accounting graduates. Future research could expand this study by investigating factors affecting accounting graduates’ competences, as well as whether those competences have influence on employee performance and productivity.

This study provides contributions to college deans and heads of accounting department in the university to consider the eight competencies found in the study to be included in the existing accounting curriculum. Next is to 2. the accounting teachers to use various accommodating teaching techniques so that the eight competencies can be developed by the students.

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