Mathematics Teacher Competencies and Self-Efficacy in Implementing National Curriculum

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Abstract. The new Indonesia National Curriculum, the Merdeka Curriculum, was officially implemented in the 2022/2023 academic year. There are differences between public and private schools regarding facilities and teachers’ employment status. Most teachers in public schools are Civil Servants (CST), while most private teachers are non-CST. This research analyzes the mathematics teachers’ competence and self-efficacy of CST and non-CST in implementing the Merdeka Curriculum. This research used mixed methods of survey correlational and ex post facto. The number of teacher respondents attained by purposive sampling was 34 CST and 54 non-CST. Teachers’ competence data were collected using multiple-choice tests on professional and pedagogical competence. Self-efficacy data were collected using a questionnaire adapted from Bandura, while factors causing teachers’ self-efficacy were collected using interviews. The research finding shows that in implementing the Merdeka Curriculum, (1) teachers’ competence from both teachers’ group was low, whereas self-efficacy were moderate, (2) there is no difference in competence between CST and non-CST, but there are differences in self-efficacy, and (3) factors that affect the differences in the self-efficacy are beliefs towards the success of implementing Merdeka Curriculum, support from the headmaster and the government, salary eligibility, and difficulties aspects.

Keywords: mathematics teacher competence, self-efficacy, curriculum, employment status.


Introduction

The COVID-19 pandemic in 2020 greatly affected education in Indonesia. Learning activities shifted from being conducted in the classroom to online learning in the first year of the pandemic. They implemented blended learning in the second year of the pandemic with a reduction in the amount of lesson time. Various obstacles arose, such as teachers and students being required to adapt to the use of various learning media, the availability of facilities, and the effectiveness of constructive learning activities, resulting in learning loss for students (Fauzy & Nurfauziah, 2021). Even though learning activities are constrained, schools are still required to graduate students who are creative, innovative, have good technological literacy, and multitasking ability, making these skills additional competencies that must be achieved in the process of learning mathematics (Freiman & Tassell, 2018; Hui, 2018).

As the solution to the learning loss, the Indonesian government, through the Ministry of Education, Culture, Research and Technology (Kemendikbudristek), encourages all schools at every level of education to implement the new National Curriculum namely Merdeka...
Curriculum which prioritizes diversified learning based on student potential, school potential, and environmental potential which started in 2022/2023 academic year (Mendikbudristek, 2022). The curriculum is the educational policies and ideas of the government that influence the education system, which determines the learning objectives (Erstad & Voogt, 2018). The curriculum is a primary reference for teachers in choosing pedagogical approaches, strategies, and practices (Westbrook, Durrani, Brown, Orr, Pryor, Boddy, & Francesca, 2013). The selection of teaching materials in the curriculum can influence the teacher's plan to design excellent and effective learning (McDuffie, Choppin, Drake, & Davis, 2018). Teachers are essential in implementing and developing curricula as implementers, adapters, developers, and researchers (Keiny, 1993). The teacher's role starts with arranging learning material and activities for students to actively participate, become learning facilitators, conduct assessments and evaluations, and motivate students (Van Steenbrugge & Ryve, 2018).

Implementing a new curriculum faced obstacles, difficulties, and problems, such as teacher resistance because they did not understand the new curriculum and had to change how learning was implemented, as well as integrate technology in learning (Murtiyasa, 2015). Teachers experienced difficulties in making, conducting, and reporting assessments, which consist of several aspects, while students are not familiar with the learning model as recommended by the curriculum (Retnawati, 2015). In addition, there was excessive intervention from various parties, poor preparation, research interests, and student responses (Altinyelken, 2011; Husadaningsih & Darajat, 2019).

To overcome obstacles and difficulties in implementing the new curriculum, a teacher has competencies acquired during his education. Teacher competencies encompass pedagogical content knowledge, content knowledge, organizational knowledge, psychological knowledge, and counseling knowledge (Baumert & Kunter, 2013). Teacher competence in Constitution Number 14 (2005) combines pedagogic, professional, social, and personality competencies. Danielson (2007) divided teacher competencies into 4 categories: planning and preparation, setting class conditions, giving instructions, and professional responsibility. To ensure teacher quality, the government has implemented a teacher competency test for all teachers in professional and pedagogical competence (Mendikbudristek, 2015).

Professional competence is teachers' in-depth knowledge regarding learning materials to create beneficial learning opportunities by considering students' interests, needs, and experiences (Ball & Bass, 2000). Professional competence is also defined as broad and deep mastery of subject matter, especially mathematics (Indonesia, 2005). Specific professional competencies for mathematics teachers consist of the mathematical abilities required by teachers, but not required by pure mathematicians, to create effective teaching and learning (Ball, Hill, & Bass., 2005;
Koponen, Asikainen, Viholainen, & Hirvonen, 2016). Meanwhile, pedagogical competence is managing learning and students, including implementing the curriculum, organizing material, understanding learning strategies, interacting with students, and conducting assessments and evaluations (Indonesia, 2005). Pedagogical competence includes all the knowledge that makes learning specific topics easy or difficult for students to understand (Shulman, 1986). A teacher must have competencies to understand how to organize and represent a topic, material, or problem in learning that can accommodate differences in students both in terms of abilities and interests (Shulman, 1987).

Teacher competence can reflect teacher quality, affecting the quality of learning (Barut & Wijaya, 2020). The competence of the mathematics teacher influences the mathematical ideas of the material, the effectiveness of the teacher’s learning, the range of student learning, and the increasing student understanding. Professional commitment, such as self-development, is essential to align their knowledge with the eras (Ariyanti, 2015; Walshaw, 2012). In addition to having teacher competence, teachers must also have self-efficacy abilities, which contribute to self and career development (Bandura, 1997a).

Self-efficacy is someone’s belief in their abilities that will make them successful in carrying out the necessary actions to obtain good results (Bandura, 1977). This aligns with Santrock (2018), who explained self-efficacy as a person’s self-confidence to overcome problems and obtain the expected results. Self-efficacy can influence people to commit to pursuing their desires until they achieve their goals (Alqurashi, 2016). Self-efficacy also strongly connects with job resilience (Jan, 2015). Self-efficacy is an important factor influencing a person’s level of effort in facing obstacles and challenges at work (Maddux, 2016). In the education field, a teacher’s self-efficacy is often associated with the achievement of student learning outcomes (Dunbar & Melton, 2018).

Teacher self-efficacy influences student learning achievement and student self-efficacy in learning. Self-efficacy is influenced by many factors, such as experience, knowledge level, and skill level (Bandura, 1997b). Other factors that affect teacher self-efficacy include (1) competence in technology, pedagogy, and material (Bakar, Maat, & Rosli, 2020), (2) job satisfaction, which includes income, work environment, and work experience (Kasalak & Dadyar, 2020), and (3) organizational factors in schools, such as teacher relation with colleagues and students (Aslan, 2015).

Based on the research background, the authors wanted to analyze the competence and self-efficacy of senior high school and vocational high school mathematics teachers in the Special Region of Yogyakarta (DIY) in implementing the Merdeka Curriculum. Several previous studies related to the curriculum were carried out by Syafutera (2013) and Wahyuningsih (2018) to
determine readiness for curriculum implementation, such as making lesson plans, arranging materials, and assessing what was done. In addition, there is also research conducted by Abrory (2014), Suramanto (2015), and Mas’adi (2017) to evaluate the implementation of the curriculum on aspects of teacher understanding related to the national curriculum, implementation of learning, assessment, and the process of supervising mathematics learning. Previous research mentioned readiness and evaluation of curriculum implementation. However, it did not compare Civil Servant teachers (CST) and non-civil Servant teachers (non-CST) on teacher competence and self-efficacy in implementing curriculum.

The comparison between CST and non-CST is vital as the curriculum is implemented in public and private schools. There are differences between public and private schools regarding facilities and teachers’ employment status. Most teachers in public schools are CST, while most private teachers are non-CST. Teacher employment status in Indonesia is classified into CST consisting of Government Employees (PNS) and Government Employees with Employment Agreements (PPPK), then classified into non-CST consisting of Private Permanent Teachers (GTY) and Non-Permanent Teachers (GTT)/Honorary, which have different remuneration and recruitment processes (Andina & Arifa, 2021). Differences in teacher recruitment process policies affect teacher quality and eligibility to receive salary according to standards (Blömeke & Delaney, 2014). Differences in remuneration might affect job satisfaction as an influence factor on teachers’ self-efficacy (Song, Gu, & Zhang, 2020).

The differences in competency and self-efficacy between CST and non-CST might affect their effort to implement the Merdeka Curriculum. Therefore, this research will analyze the competency and self-efficacy of mathematics CST and non-CST in implementing the Merdeka Curriculum. In addition, it will analyze the factors that influence the self-efficacy of mathematics CST and non-CST in implementing the Merdeka Curriculum.

**Method**

This research is mixed methods consisting of survey correlational and ex post facto conducted for senior and vocational high school mathematics CST and non-CST from 137 schools in the DI Yogyakarta Province with the details of 38 public schools and 99 private schools that have implemented Merdeka Curriculum in the 2022/2023 academic year. The purposive sampling was used based on permission from the headmaster and the teacher’s willingness to be a respondent (Cohen, Manion, L., & Morrison, 2017). The number of samples in this study was 88 respondents consisting of 34 CST and 54 non-CST.

Mathematics teacher competence data was collected by multiple-choice tests with 5 answer choices of 40 items consisting of professional competence and pedagogic competence developed
by the author considering aspects of validity and reliability (Nitko & Bookhart, 2011). Test instruments are also aligned with government regulations, especially aspects of each professional and pedagogic competency, according to (Campbell, Nishio, Smith, Clark, Conant, Rust, DePiper, Frank, Griffin, & Choi, 2014). Aspects of professional competence corresponded with elements in the field of mathematics according to the current curriculum, including mastery of numbers, algebra and functions, geometry, data analysis and probability, and calculus. Aspects of pedagogical competence are adapted from Shulman (1987) and the Indonesia Constitution (UU No. 14, 2005), which are integrated with mathematics content and the Merdeka Curriculum. Mathematics content is integrated into organizing topics or materials according to the curriculum, using learning theories and strategies appropriately according to the curriculum. The information on the Merdeka Curriculum is integrated into understanding the curriculum and its development, interacting with all students with different characters, and conducting assessments and evaluations according to the curriculum. The Minimum Competency Standard (SKM) on the results of the teacher competency test is 55 (Mendikbudristek, 2016).

Data on the self-efficacy of mathematics teachers in implementing the Merdeka Curriculum were collected through a self-opinion questionnaire on aspects of self-efficacy, totaling 30 statements (Warner & French, 2020). The questionnaire was developed by the authors from aspects of self-efficacy based on the theory of Bandura (1977), which adapted into self-opinion statements of teachers’ self-efficacy in implementing Merdeka Curriculum consisting of the belief in the capability to master the concept of Merdeka Curriculum, the belief in being able to implement Merdeka Curriculum well, and the belief in being able to get results according to the expected targets. The answer choices used a Likert scale: strongly agree, agree, neutral, disagree, and strongly disagree (Cohen et al., 2017). Further, to determine the factors that influence self-efficacy, answers were collected through confirmation interviews related to the questionnaire, including knowledge of the Merdeka Curriculum, beliefs, difficulties in implementing the Merdeka Curriculum, and self-attribution. The interviews were conducted by sending questions through Google Forms to all respondents.

The instruments were validated by 5 experts using the 5-point Likert scale from very poor (1) to very good (5). The validation analysis based on Aiken’s V showed that all items on each instrument are valid as α ≥ .80 on each item (Aiken, 1985). The teacher’s competency test, consisting of 40 items (α = .52), and the teacher’s self-efficacy questionnaire, consisting of 30 items (α = .92), are reliable based on the analysis using Cronbach’s alpha coefficient (Ebel & Frisbie, 1991).

The data analysis technique used is descriptive and inferential statistical analysis (mean and standard deviation). The maximum score for teacher competency is 100, while the minimum
score is 0. The maximum score for the teacher competency aspect is 10, while the minimum score is 0. Furthermore, the maximum score for self-efficacy is 150, whereas the minimum score is 30. The categories of competency data and self-efficacy and its aspects were adapted from (Azwar, 2016).

Table 1. Criteria for competence and self-efficacy achievement

<table>
<thead>
<tr>
<th>Category</th>
<th>Competence</th>
<th>Competency Aspect</th>
<th>Self-Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very high</td>
<td>90 &lt; X ≤ 100</td>
<td>9 &lt; X ≤ 10</td>
<td>138 &lt; X ≤ 150</td>
</tr>
<tr>
<td>High</td>
<td>75 &lt; X ≤ 90</td>
<td>7.5 &lt; X ≤ 9</td>
<td>120 &lt; X ≤ 138</td>
</tr>
<tr>
<td>Moderate</td>
<td>55 &lt; X ≤ 75</td>
<td>5.5 &lt; X ≤ 7.5</td>
<td>96 &lt; X ≤ 120</td>
</tr>
<tr>
<td>Low</td>
<td>30 &lt; X ≤ 55</td>
<td>3 &lt; X ≤ 5.5</td>
<td>66 &lt; X ≤ 96</td>
</tr>
<tr>
<td>Very low</td>
<td>0 &lt; X ≤ 30</td>
<td>0 &lt; X ≤ 3</td>
<td>30 &lt; X ≤ 66</td>
</tr>
</tbody>
</table>

Inferential statistical analysis used the multivariate analysis of variance/Manova to analyze differences in competency and self-efficacy between CST and non-CST in implementing Merdeka Curriculum simultaneously, followed by the post hoc test was using the independent sample t-tests to determine differences between CST and non-CST in implementing Merdeka Curriculum in terms of each variable, namely competency and efficacy (Stevens, 2009). The statistical analysis process used SPSS for Windows.

Results and Discussion

Description of Mathematics Teachers’ Competence and Self-Efficacy

The description of mathematics teacher competence and self-efficacy data aims to find differences in the competence of senior/vocational high school CST and non-CST in DIY who have implemented the Merdeka Curriculum.

Table 2. Description of mathematics teacher competence and self-efficacy

<table>
<thead>
<tr>
<th>Description</th>
<th>CST Competence</th>
<th>CST Self-Efficacy</th>
<th>Non-CST Competence</th>
<th>Non-CST Self-Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>34.49</td>
<td>110.76</td>
<td>33.10</td>
<td>105.13</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>9.31</td>
<td>13.11</td>
<td>9.81</td>
<td>8.93</td>
</tr>
<tr>
<td>Varian</td>
<td>86.66</td>
<td>171.76</td>
<td>96.21</td>
<td>79.78</td>
</tr>
</tbody>
</table>

The average competency scores of CST and non-CST are both at low criteria, referring to Table 1. The average competency scores of the two groups are still below the SKM. The average competency score of CST is slightly higher than that of non-CST, but the variance is smaller. This indicates that the competence of CST is more evenly distributed than non-CST. Meanwhile, the average self-efficacy scores of CST and non-CST were both in the moderate criteria, according to Table 1. The average scores and self-efficacy of CST were higher than non-CST. This indicates that although CST's average self-efficacy is higher, non-CST's self-efficacy is more evenly distributed.
Various factors cause teacher competence to be low, such as no training periodically, no special preparation from the teacher when carrying out tests, disturbances during tests such as sudden assignments, the physical and psychological condition of teachers when working on tests, the teacher’s need for tests, the habit of taking the test, the level of difficulty of the test, and technical disruption factors such as disconnection of the internet connection which stated by the teacher during the test. These factors are also mentioned in the research results of Hermanto and Santika (2016) and Kusumawati, Pitoewas, and Yanzi (2017). Teacher competency factors related to implementing the Merdeka Curriculum can influence teachers' self-efficacy scores at moderate levels. Hettinger, Lazarides, and Schiefele (2022) claimed that good teacher competence influences teacher self-efficacy. Teachers with good competency skills also have good self-efficacy (Rutherford, Long, & Farkas, 2017).

Merdeka Curriculum, which gives freedom for teachers to set the plot of the learning objectives and flexibility for teachers to design materials with various innovative learning strategies and carry out appropriate assessments according to guidelines, also requires good professional and pedagogic competence. Teachers must have good aspects of professional and pedagogical competence. The analysis of teachers’ professional competence aspects according to Table 1 is presented in Table 3.

Table 3. Categorization of professional competency aspects

<table>
<thead>
<tr>
<th>Aspects</th>
<th>CST</th>
<th>Non-CST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Score</td>
<td>Criteria</td>
</tr>
<tr>
<td>Numbers</td>
<td>4.80</td>
<td>Low</td>
</tr>
<tr>
<td>Algebra and function</td>
<td>1.96</td>
<td>Very low</td>
</tr>
<tr>
<td>Geometry</td>
<td>2.06</td>
<td>Very low</td>
</tr>
<tr>
<td>Data analysis and probability</td>
<td>3.53</td>
<td>Low</td>
</tr>
<tr>
<td>Calculus</td>
<td>2.35</td>
<td>Very low</td>
</tr>
</tbody>
</table>

The results of the elaboration on the domain of professional competence in Table 3 show that the highest results are in the number domain, while the lowest results are in the Algebra and function domain. Algebra includes material that is difficult to learn, especially proving problems with mathematical modeling (Bilgic & Uzel, 2014). According to the analysis results, the professional competence of CST and non-CST needs to be improved. Meanwhile, the analysis of teachers’ pedagogical competence aspects according to Table 1 is presented in Table 4.

Table 4. Categorization of pedagogical competency aspects

<table>
<thead>
<tr>
<th>Aspects</th>
<th>CST</th>
<th>Non-CST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Score</td>
<td>Criteria</td>
</tr>
<tr>
<td>Knowledge of curriculum</td>
<td>5.15</td>
<td>Low</td>
</tr>
<tr>
<td>Organize learning material</td>
<td>4.12</td>
<td>Low</td>
</tr>
<tr>
<td>Knowledge of learning theory and strategy</td>
<td>2.65</td>
<td>Very low</td>
</tr>
<tr>
<td>Interaction with students</td>
<td>7.75</td>
<td>High</td>
</tr>
<tr>
<td>Assessment and evaluation</td>
<td>2.84</td>
<td>Very low</td>
</tr>
</tbody>
</table>
The results of the elaboration in the domain of pedagogic competence show that the highest domain achieved by both CST and non-CST is interaction with students. In contrast, the lowest domain achieved by CST is knowledge of learning theory and learning strategies, and the lowest domain achieved by non-CST is assessment and evaluation. The research finding is in accordance with the research of Kadarisma, Senjayawati, and Amelia (2019), with the lowest aspect of pedagogic competence being assessment and knowledge of learning strategies with the same average of 3.3.

Teacher competence is important in effectively conducting learning activities (Kardanova & Ponomaryova, 2014). Teacher competence also impacts teacher performance in understanding the curriculum, designing lessons, organizing material, delivering material, designing and conducting assessments, and conducting evaluations and research (Tafqihan & Suryanto, 2014). Teachers with good competence can effectively apply their knowledge, combining it with their experience and expertise to solve mathematical problems in learning (Podkhodova, Snegurova, Stefanova, Triapitsyna, & Pisareva, 2020). Contrarily, teachers with low competence can experience difficulties in organizing and linking one material to another, implementing various innovative learning strategies, and designing and conducting assessments in various forms (Leonard, 2015).

In addition, teacher competence also has an impact on students' attitudes and learning achievements (Barut, Wijaya, & Retnawati, 2020). This is related to how the teacher manages the class, understands students' cognitive and psychological conditions, and understands students' difficulties (Astuti & Jailani, 2020). To improve teachers' competence, the government can conduct training programs periodically for mathematics teachers. Consequently, teacher knowledge can grow in various aspects, such as research, technology, and learning innovation (Barut & Wijaya, 2020; Kaiser, Blömeke, König, Busse, Döhrmann, & Hoth, 2017; Pratama & Lestari, 2020).

**Differences in Competence and Self-efficacy of Mathematics CST and Non-CST**

The results of the normality assumption test with the correlation coefficient of $Q-Q$ plots showed that the data for the CST respondents ($r = .967$, $p < .01$) and non-CST respondents ($r = .976$, $p < .01$) met the multivariate normal distribution (Johnson & Wichern, 2007). The homogeneity assumption test of CST and non-CST groups using Box-M analysis implies that the variance-covariance matrices of the two groups are homogenous, $F(3, 206747.908) = 2.36, p = .69$. Since the assumptions of multivariate analysis are met, the statistical parametric are used.

The results of the Manova test on the competency and self-efficacy of CST and non-CST were found statistically significant, $F(2, 86) = 3.687, p = .029$. Thus, it can be concluded that
there are differences in the average competency and self-efficacy of CST and non-CST simultaneously. Following the result of the Manova test, a post hoc test using the independent sample t-test was carried out on the variables that caused these differences. There was no significant effect for teacher’s competence, \(t(86) = 0.657, p = .51\), despite CST (\(M = 34.5, SD = 9.3\)) attaining higher scores than non-CST (\(M = 33.1, SD = 9.8\)). Hence, the CST and non-CST groups have no difference in teacher competency. On the other hand, there was a significant effect for teacher’s self-efficacy, \(t(86) = 2.399, p = .02\). This means that there is a difference in teacher self-efficacy between CST and non-CST where the self-efficacy of CST (\(M = 110.8, SD = 13.1\)) is attaining higher scores than non-CST (\(M = 105.1, SD = 8.9\)).

The teacher competence between CST and non-CST showed no significant difference. This aligns with research from Ahmad, Anton, and Eka (2019), which revealed that the competency of CST and non-CST in Banyumas, Indonesia, was not significantly different. The results of this study are different from Izwanto’s (2016) research, which found that the competence of CST in Central Bengkulu was better than non-CST. There is no difference in the teacher’s competence variable between CST and non-CST status because they are graduates of universities conducting study programs in mathematics education with similar graduation standards. The stages taken at each university providing mathematics education study programs include theoretical, practical, and final project writing thesis.

Meanwhile, there is a difference in the self-efficacy variable between CST and non-CST, where the self-efficacy of CST is higher than non-CST, in line with research conducted by Minarni (2020). The employment status factor consisting of CST and non-CST affects the self-efficacy of mathematics teachers because they differ in salary eligibility, allowances, and other rights teachers receive (Erawati, 2012). Teachers with good self-efficacy can influence the effectiveness and success of learning; they can, directly and indirectly, improve student achievement (Althauser, 2015; Gulistan, Hussain, & Mushtaq, 2017).

Merdeka Curriculum implementation success depends heavily on the seriousness of the teacher as the spearhead of implementing education in schools, as echoed by (Peskova, Spurna, & Knecht, 2019). Teachers with high self-efficacy are open to accepting new changes to the curriculum and implementing the curriculum in schools. To improve the self-efficacy of mathematics teachers, professionalism training can be carried out for teachers and prospective mathematics teachers regularly, as well as a reflection on their abilities, so aspects that influence improving self-efficacy can be developed (Gabriele & Joram, 2007; Watson & Marschall, 2019).

Several factors influence the self-efficacy of CST and non-CST in implementing the Merdeka Curriculum based on interviews with teachers. The first factor is knowledge of the Merdeka Curriculum, which, according to the results of the pedagogic competency test on aspects
of curriculum understanding, are at low criteria, and aspects of assessment and evaluation according to the Merdeka Curriculum are at very low criteria. To have confidence in implementing the Merdeka Curriculum, teachers must understand the important points in the curriculum and have good insights to operationalize it in schools (Sugilar, 2020). The second factor is the belief in success in implementing the Merdeka Curriculum in schools. Based on interview results, 27 (79.41%) CST believed they could successfully implement the Merdeka Curriculum at school compared to 37 (68.52%) non-CST. The mathematics teacher's belief in the success of doing the job allows him to complete the job with good results (Briley, 2012).

The third factor is the teacher's belief in Indonesia's Merdeka Curriculum as an educational solution. The results of interviews with respondents showed that 11 CSTs (32.35%) answered believed compared to 21 non-CSTs (38.89%), whereas three CSTs (8.82%) answered disbelieve compared to 11 non-CSTs (18.52%), while the rest were unsure with the answer. The better the teacher's belief in his work, the more it will affect teacher efficacy and performance (Istiyawan, Mastur, Soegito, & Yanto, 2022). The fourth factor is the difficulties experienced by mathematics teachers in implementing the Merdeka Curriculum. Most teachers experience difficulty operationalizing the Merdeka Curriculum at the school level through document administration of learning tools. Krishnapatria (2021) concluded that one of the challenges of implementing the Merdeka Curriculum is preparing learning administration documents. Limited access and reference sources are also difficulties experienced by teachers in line with the research findings by Braza and Supapo (2014). Other difficulties that arise are the implementation of assessments, the conditioning of students in project-based learning, and the facilities identified by (Mughal, Asad, & Adams, 2021; Peker, Erol, & Gultekin, 2018; Wulandari & Jailani, 2020).

The fifth factor is the support from headmasters and the government. Interview results showed that 18 CSTs (52.94%) thought the headmaster was very supportive of teachers, compared to 24 non-CSTs (44.44%). Meanwhile, only nine CSTs (26.47%) stated that the government was very supportive of teachers, compared to 11 non-CSTs (20.37%). Support from headmasters or the government as policymakers can increase teacher self-efficacy (Mahamud & Shaari, 2020). Support from the government can be through increasing curriculum socialization activities to disseminate information related to the technical implementation of the new curriculum (Mughal et al., 2021; Wibowo & Wutsqa, 2014).

The last factor that influences self-efficacy is the salary received by teachers. This is in accordance with research by Aslan (2015) that teacher efficacy in Turkey is influenced by the salary received. Based on the interview results, 29 CSTs (85.29%) stated that their salary was feasible compared to 27 non-CSTs (50%). Then, one CST (2.94%) stated that their salary was less feasible compared to 23 non-CSTs (42.59%). Furthermore, 1 CST (2.94%) stated that their
income was not feasible, compared to four non-CSTs (7.41%). The results can be seen in Figure 1.

![Figure 1. Eligibility of salary received according to teachers.]

Teachers' income is related to welfare and job satisfaction, which is positively related to a person's self-efficacy (Gkolia, Belias, & Koustelios, 2014). The difference in salary received between CST and non-CST can affect teachers' welfare. Salary and welfare influence teachers' job satisfaction (Iwu, Ezeuduji, Iwu, Tengeh, & Khan, 2018). Higher teacher job satisfaction positively impacts teacher self-efficacy (Troesch & Bauer, 2017). There has been no government regulation regarding the minimum salary and allowances for teachers with non-CST status, which leaves a dependence on the respective schools or foundations for salary implementation. The government must provide clear regulations regarding standard salaries for all teachers, not just CST (Andina & Arifa, 2021). Consequently, it can increase the teacher's self-efficacy in doing his work, including implementing the Merdeka Curriculum.

**Conclusion**

Based on the research and discussion results, this study concludes that there are differences in competency and self-efficacy between CST and non-CST in implementing the Merdeka Curriculum simultaneously. The post hoc results showed no difference in competency between CST and non-CST in implementing the Merdeka Curriculum. However, there are differences in self-efficacy between CST and non-CST in implementing the Merdeka Curriculum. The competence of CST and non-CST is equally low, with an average of less than the SKM. The government must provide periodic and programmed assessments and training to improve teacher competence and self-efficacy to support the implementation of the Merdeka Curriculum.

Meanwhile, differences in teacher self-efficacy are due to several factors, including teacher competence, teacher confidence in the success of implementing the Merdeka Curriculum at
school, teacher confidence in obtaining support from headmasters and the government, difficulties in implementing Merdeka Curriculum which includes limited references and facilities, and feasibility wages received. The government needs to immediately provide rich references and regulate teacher wage standards. The implementation of the research was far from optimal due to various obstacles experienced, such as obstacles in communicating with the respondents, the readiness of the respondents’ equipment and facilities, the readiness of the respondents to carry out the test, and the time availability of the respondents who often received incidental assignments. It is essential to consider factors such as teachers' competency level and self-efficacy in evaluating the implementation of the Merdeka Curriculum. Based on the conclusions and constraints experienced by the researchers, there are research opportunities on other affective aspects related to the implementation of the Merdeka Curriculum in public and private schools.

References


