

Promoting Civic Intelligence in Applied Science to Promote Interaction between Science: An Overview in the Perspective of Citizenship Education

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Abstract The idea of Civic Intelligence in the 21st century became a skill that began to be enlivened in student learning. Civic Intelligence as the accumulation of the citizens' intelligence is needed to guard citizens in the era of the industrial revolution that continues to develop. This study aims to determine the profile of Civic Intelligence in applied science in order to promote interaction between sciences in the perspective of Citizenship Education. Civic Intelligence learners in the perspective of Citizenship Education are from the cross-Departments and gender. The subjects in this study were 200 students from various Departments at Ahmad Dahlan University in Yogyakarta, consisting of 89 men and 111 women in detail. The method used in this research was a descriptive-quantitative research method. The research instruments were observation sheet, questionnaire, and a list of interview questions. Data obtained from the questionnaire were then analyzed quantitatively so that the scores of students' Civic Intelligence were obtained correctly. The results found that the Civic Intelligence profile of students from various majors varied in several dimensions both male and female. Civic Intelligence in the spiritual, rational, emotional, and social dimensions is moderate while Civic knowledge, Civic Disposition, Civic Skills are moderate in both men and women. Further research is needed to improve students' Civic Intelligence training in learning.

Keywords Civic Intelligence, Citizens, Citizenship Education

1. Introduction

The study of *Civic Intelligence* in Indonesia in exploring the citizens' cumulative ability which is aimed to achieve the educational goals based on the Law on the National

Education System number 20 of 2003 becomes important. It is strengthened by the results of the study [1] which reviews the debate about the importance of citizenship in the context of social, political, and economic change that precisely focuses on the rearticulation of the relationships and sites on which citizenship is built. It is important to develop the exploration of *Civic Intelligence* in the scope of technical knowledge and citizens' interpersonal skills in order to realize the smart and good citizens. The citizens' interpersonal skills include the communicative, motivational and collaborative skills [2]. This is based on the assumption that success does not only focus on hard skills but also soft skills. Success is not only in technical terms but also in terms of soft skills, especially the 21st century soft skills that need to be developed in learning [3]. Things that can strengthen Citizens' *Civic Intelligence* in promoting interaction between science need to be improved in order to prepare competent citizens.

Promoting *Civic Intelligence* in applied sciences to promote interaction between sciences in the Citizenship Education review is an effort to harmonize Citizenship Education studies as an integrated knowledge system in the mid-21st century. Citizenship Education that needs to be developed is *Civic Skills, Civic Disposition and Civic Knowledge* [4]. *Civic Intelligence* becomes the accumulation of the need to be a good citizen in a country, especially in a democratic country. To create a democratic state, the existence of citizens is important because it shows its existence in the country. However, a set of disruptions in establishing democracy also arises as a political maturity for a country. The failure of modern representative democracy is highlighted by a decrease of voter participation and a high level of dissatisfaction and distrust on the elected political leaders [5]. Recent research on the role that conflict plays in fostering democracy confirms that disruption (conflict) can be a powerful tool in

encouraging democracy because it highlights conflict and agonism which is inherent in democratic politics. [6] Other reports on the parliamentary survey data conducted in 2007 and 2013 in Sweden, Germany, and five countries of the Third turn democracies located in various regions of the world (Chile, South Korea, Poland, South Africa, and Turkey) that is used to compare trust legitimacy among MPs and citizens show that scores for all the indicators of political legitimacy are higher among MPs than among citizens and that the differences between the two groups of respondents are much greater in five young democratic countries. Support for democracy in the population shows a steady increase only in Chile, while it is remaining low in Poland and Turkey and even decreasing in Korea and South Africa [7]. In other words, in order to uphold democracy, it is important to empower citizens as the objects of the state that have useful skills in the life of the state.

The review of Citizenship Education in applied sciences to promote interaction between sciences influences the educational goals. It cannot be denied that the purpose of education today is to prepare students for tomorrow. The pattern of communication, problem solving, and students' way of thinking will change a lot; however, its position as an Indonesian citizen is irreplaceable. A review of the relationship between general, civil and moral education by examining effectiveness in growing citizenship literacy in the Asia-Pacific context reveals promising developments about student citizenship. The survey shows that students experienced significant developments in democratic skills, critical thinking, the acquisition of *Civic Knowledge*, and the inculcation of democratic virtues after attending the course. Furthermore the focus group analysis illustrates the relationship between students' acquisition of the institution's socio-political knowledge, instilling an open mind and a sense of tolerance for diversity and willingness to engage in social debate [8]. Other reports aimed at analyzing Hong Kong Citizenship Education policy in transferring the power after submission in the next 15 years can be seen that the policy is anticipatory and responsive. The historical context of Hong Kong helps to shape future citizens who are useful to facilitate and implement their administration and government [9]. Citizens' skills in the context of Civic Intelligence in the Civic Intelligence citizenship domain consisting of developing Civic Intelligence in the spiritual, rational, emotional, and social dimensions [10] and *Civic knowledge* which includes knowledge as citizens, *Civic Disposition* of character sets as citizens and *Civic Skills* as citizens [4].

Promoting *Civic Intelligence* in applied science to promote interaction between science is not the same as aiming to provide clarification about in-depth understanding of the applied science learning theme, but rather as analyzing critically the understanding of *Civic Intelligence* that is beneficial for the realization of Smart and Good Citizens in Indonesia. This is in view of the fact

in the field that one of the general compulsory subjects that exist up to the higher institutions in Indonesia is Citizenship Education in accordance with Article 37 paragraph (1) and (2) Law Number 20 of 2003 concerning the National Education System. In addition, based on Article 3 of Director General of Higher Education Decree Number. 43 / Dikti / 2006 regarding the Implementation of Personality Development Subjects in Higher Education, Citizenship Education is one of the Personality Development Courses (MPK). Thus, it implied a mission related to the basic abilities as citizens who can then be beneficial for the nation and state. The study comparing the development of the Civics Education curriculum in three Chinese societies and the two Special Administrative Regions of Hong Kong and Macau found that elements of active and global citizenship, such as participation in society and understanding of the world, shape many identities. Thus the notion of global citizenship began to develop in these three Chinese societies [11]. Meanwhile, a critical analysis of moral and citizenship education in the non-tertiary education system in Macau results three strategies prepared by the Macau government, namely state governance, construction of moral and citizenship education as an area of action, and the creation of social harmony as a new form of civic citizenship. Through this analysis, there seems to be a tension between the discourse of active democratic citizenship and patriotic education [12].

Civic Intelligence in applied science to promote interaction between sciences is a choice in affirming citizens' skills based on the assumption that *Civic Intelligence* is the basis of moral intelligence for students before students master other skills in learning. Many students expect to work in new and small companies, and the skills developed by entrepreneurship education are applied to both paid work and entrepreneurship [13]. The argument underlying this research is that the interaction between sciences has a gap to promote *Civic Intelligence* in applied science in order to create smart and good citizens in Indonesia. The popularity of applied science is an interesting combination to emphasize the conclusion of the redistribution of academic development to the fields of politics, society, economics, culture, etc. A person who is said to be "good" in academic matters should also be "good" in non-academic matters. However, this demand is expected to not be a stereotype but can be academically pursued. International studies allow recognition of the multiple contributions (and resistance) of international students as the agents of knowledge formation that facilitate the consideration of student mobility in terms of knowledge circulation and the means to recognize the complex spatial nature of international education, where students and educators are emotionally and politically connected through knowledge contribution [14]. This study aims to determine the profile of *Civic Intelligence* in applied science in order to promote interaction between

sciences in a real Citizenship Education perspective. *Civic Intelligence* profile is varied from various majors, both men and women. Many individuals and groups establish relationships and social fields across vast space and time [15].

2. Theoretical Basis

To be able to provide an overview of the four dimensions as citizenship intelligence, the researchers tried to provide an explanation before the discussion. The four dimensions given as citizenship intelligence, namely (1) Civic Intelligence; (2) Civic Knowledge; (3) Civic Disposition; and (4) Civic Skills.

1) Civic Intelligence

In citizenship education [16], there are three citizenship skills that need to be developed, namely Civic Knowledge, Civic Disposition, and Civic Skills. [17] introduces the concept of "civil intelligence" as a manifestation of collective intelligence that can serve the needs of researchers and practitioners working at the crossroads of community and technology. In the case of Civic Intelligence, Civic Intelligence is one of the three Citizenship education objectives. Civic Intelligence component is intelligence in intellectual, emotional, social, and spiritual insight. In this study, the researchers examined Civic Intelligence in the spiritual, rational, emotional, and social dimensions.

Directly speaking, in Civic Intelligence, [18] asserts that the purpose of the state in developing Citizenship Education is to make the citizen have intelligence both intellectually, emotionally, socially and spiritually; have a sense of pride and responsibility, and be able to participate in community and state life in order to grow a sense of pride and love for the country. Furthermore, [19] conveys that civil intelligence is the capacity of collectivity from small informal groups to humanity as a whole to equitably and effectively address important common problems such as poverty, bioterrorism, and natural disaster. This is an abstract concept that can be expressed in policy, art, demonstration, and conversation (dialogue).

Based on this opinion, it can be interpreted that Civic Intelligence is a set of citizens' abilities in carrying out their role as citizens with the concept of intelligence that can be useful in overcoming the problem of citizenship. The benefit of Civic Intelligence is to make citizens able to adapt, be selective, and understand their rights and obligations as citizens. In addition, [20] makes any qualification on Civic Intelligence that consists of intellectual intelligence, emotional intelligence, spiritual intelligence, moral intelligence. In his research on describing Citizenship Education as a vehicle for the development of Civil Intelligence, [21] stated in detail that the development of Civic Intelligence in students includes

rational dimensions that find cause and effect, and the ability to make plans. The emotional dimension can be exemplified as being able to interact with their environment and showing empathy. The social dimension is deliberation to solve problems and the ability to understand others. In the context of the Indonesian, Civic Intelligence is in line with efforts to educate the life of the nation as one of the noble ideals of the Indonesian as stated in the fourth paragraph of the Preamble of the 1945 Constitution.

2) Civic Knowledge

Education has a role in supporting human life. Through education, human quality can improve and humans can develop themselves. [22] argues that Citizenship Knowledge is related to the content or what citizens should know. In the International Civic and Citizenship Education (ICCE) considers Citizenship Knowledge as a basis for effective citizen participation [23]. Furthermore, [24] conveys that citizenship skills and citizenship knowledge are key components of the process of perception of political information that try to determine the differential effects of these variables on citizenship engagement.

Thus, it can be concluded that Civic Knowledge is a set of citizen knowledge that can be useful so that citizens are able to carry out their rights and obligations. One of the characteristics of good citizens is having a sense of responsibility and intelligence in the state's life. Therefore, it is clear that as a good citizen, Citizenship Knowledge is important. In terms of education, this idea is in line with the recommendation of [25] that students must be enlightened and encouraged to participate in citizenship obligations such as community service and others to develop a positive attitude towards community involvement [26]. Besides, engagement with political, social, and civil issues is fundamental point to the components of an educated population, but the knowledge and involvement of citizens have decreased among adolescents and young adults. One of the efforts to instill Civic Knowledge is to provide education integrated into the learning of civic education. Thus, the final realization of Civic Knowledge is the creation of order and peace in social life.

3) Civic Disposition

The main contribution of adult education in democracy gets ahead of civic education [27]. Related to the character of citizenship, [28] emphasizes that addresses at public and private characters are important for the maintenance and development of constitutional democracy. Civic Disposition and citizens' skills develop slowly as a result of what someone has learned and experienced in their environment. In addition [29] emphasizes that citizenship character is the most substantive and essential dimension in the subject of Civic Education. Generally, [30] argues that the four factors of civic engagement should be considered,

namely civic duty, citizen skills, social connection, and community participation. Besides, [31] emphasizes that Civic Disposition is an important trait for the formation of a democratic character and the maintenance of constitutional democracy.

Based on the explanation, it can be concluded that the Civic Disposition is a trait of citizens that must be possessed to support the effectiveness of national and state life. [32] conveys that activists have provided civic skills and experience that facilitate future involvement. Strictly speaking, Civic Disposition is a strategic step, because it can increase Citizenship Knowledge that can be implemented in the daily lives of citizens.

4) Civic Skill

[16] states that Civic Skill includes intellectual skill and skill to participate in the life of the nation and state. The intellectual skill is such skill in responding to various political problems. Meanwhile, the participatory skill can be such as using a right and obligation. In this context, [33] argues that the Europeans express their readiness to engage in solidarity in supporting others; even in their immediate surroundings. Civic Skill is a set of intellectual, social, and personal citizenship skill that should be mastered by each citizen [34]

Based on the explanation, it can be concluded that Civic Skill is useful in supporting democratic life. Based on this opinion, it can also be concluded that Civic Skill consists of the ability to participate in the process of making public policies and the ability to exercise control over the organizers. [35] argues that civic organization plays an important role in developing the civil capacity of its members. However, several empirical studies have examined how and to what extent citizenship skills are transferred through different and separate citizenship contexts.

3. Materials and Methods

The purpose of this study is to determine civil intelligence in applied science to encourage interaction between sciences that are reviewed from the perspective of citizenship education. The method used in this research was a descriptive-quantitative research method. The research instruments were observation sheet and questionnaire distributed via Google form. The data obtained was then analyzed quantitatively using SPSS support and analyzed qualitatively descriptive, added with additional data from interviews, observations and documentation studies. Observations were taken from a direct learning process in the classroom without manipulating the research subjects

using observation sheets. Observations were done by two observers in each class to minimize the subjectivity of the researcher. Then interviews were conducted to minimize the subjectivity of researchers and to be the quantitative data reinforcement findings. The interview spent 30-45 minutes using a research question sheet. Then, the documentation study was to study relevant theories about research themes.

The main objective of this research is to obtain an overview and profile of *Civic Intelligence* at Universitas Ahmad Dahlan, Indonesia in applied science in order to promote interaction between science in the perspective of Citizenship Education. *Civic Intelligence* students in the perspective of Citizenship Education are based on cross-department and gender where the condition of the research subjects in real conditions without any treatment. The research subjects were 200 students, who came from various majors at Universitas Ahmad Dahlan, consisting of 89 men and 111 women in detail.

4. Results and Discussion

Civic Intelligence in this case is divided into spiritual, rational, emotional, and social dimensions. The basic assumption of cognitive science is that individuals are the right unit of analysis to understand human intelligence [16]. Then *Civic Knowledge*, *Civic Disposition*, and *Civic Skills* are in accordance with the statement [4]. The aspect observed in *Civic Knowledge* is the knowledge as citizens; *Civic Disposition* is the character as citizens and *Civic Skills* as the citizens.

4.1. Students' Civic Intelligence

Civic Intelligence is the accumulation of *Civic Knowledge*, *Civic Disposition*, and *Civic Skills*. In Chinese tradition, Confucius, which is a part of the foundation of Chinese culture, provides insights into many aspects of Chinese society, ranging from politics to the arts and the economy to the education system. Confucius's view of human intelligence includes qualities such as (a) the ability to identify areas of intelligence to other people, (b) self-knowledge, (c) problem-solving skills, (d) verbal fluency, (e) the ability to think actively and flexibly, and (f) the capacity to make healthy personal decisions [36]. *Civic Intelligence* observations in this study were conducted when the learning process took place. The results of research show that *Civic Intelligence* of men and women from various majors is balanced. To make it more understandable, a comparison of *Civic Intelligence* is presented in Figure 1 below:

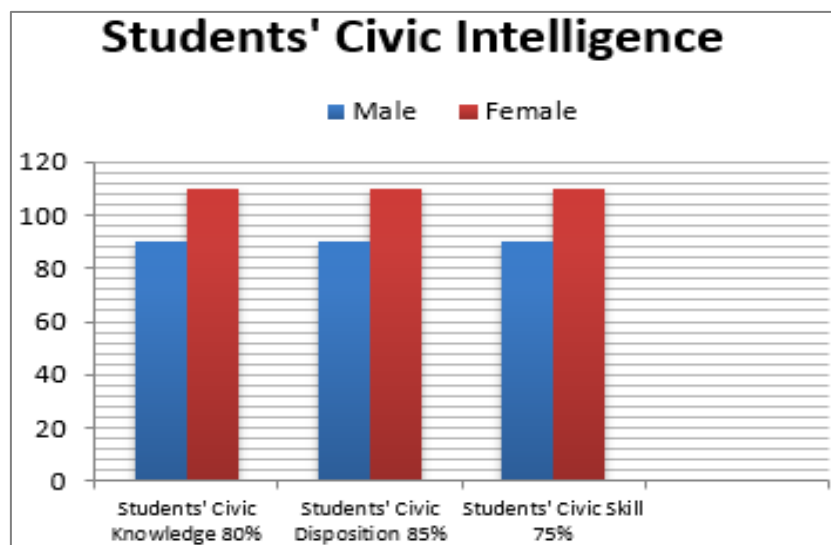


Figure 1. Students' Civic Intelligence

Based on table 1 about Civic Intelligence it can be seen that each element in the Civic Intelligence has a different tendency. In Figure 1, the respondents on students' civic intelligence between male and female differed in achievement of the figures toward nominal figures because the respondents in this survey were mostly women then in this calculation women had a high dominance of the number of respondents, in this survey there were 89 men 111 respondents and women. Therefore, in the calculation women have a high dominance. It is seen that the accumulation of values in civic knowledge between female respondents and male respondents is as much as 80%, this means that in the civic knowledge indicator, both female and male respondents have the same figure of 80%. Then in civic disposition, their accumulated numbers are 85% and in civic skills, their accumulated numbers are 75%.

The findings on the accumulation of civic knowledge, civic disposition, and civic skills provide confirmation that both male and female respondents have relatively good achievement of civic knowledge, civic disposition, and civic skills so as to maximize their Civic Intelligence. Based on table 1 about Civic Intelligence can also be known if the between civic knowledge, civic disposition, and civic skills repository are not much different. It can be explained based on the findings that citizens' knowledge skills must be possessed by citizens in a democratic country. *Civic Knowledge* relates to material that should be known by citizens concerning their rights and obligations as citizens [4]. *Civic Knowledge* observation is carried out by analyzing documents in the form of written reports made by students and the results of the student work.

Other than *Civic Disposition* is a character as a citizen. Civic Disposition observations were made by analyzing the students' activity and work results. The main purpose of *Civic Disposition* is to grow the character of citizens, both private characters such as; moral responsibility and self-discipline, and public character for example;

awareness ascitizens and politeness [4].

Then *Civic Skills* refer to the skills of citizens. It is developed from the citizenship knowledge so that the knowledge is meaningful. Citizenship skills include intellectual and participation skills [4]. Civic skills of students at Universitas Ahmad Dahlan are better seen in the graph in Figure 1 The Analysis of Students' Civic Intelligence

In general, in Figure 1 the results of the study show that the students' *Civic Intelligence* is in a balanced position between the spiritual, rational, emotional, and social dimensions. *Civic Intelligence* is the accumulation of *Civic Knowledge*, *Civic Disposition* and *Civic Skills* which are then divided into spiritual, rational, emotional, and social dimensions. On another issue of Artificial Intelligence (AI), it is emphasized that the replacement of AI work occurs fundamentally at the level of human tasks, not at the level of work, and the "lower" (easier for AI) intelligence tasks come first [37]. In the perspective of Citizenship Education, *Civic Intelligence* is related to the individual's intelligence in several dimensions that can later produce solutions to public problems. The skills of fundamental thinking and preparing for the future are the key. A team at the Universitat Politècnica de València (UPV) and Universitat de València (UV) developed a new index to measure the happiness of a country namely HAIN (Happiness Index). HAIN is based on five areas - development, freedom, solidarity, justice and peace [38]. *Civic Intelligence* in the state life does not only recognize the rights and responsibilities but it is also ready and willing to carry out the rights and obligations as citizens.

The emotional dimension is the dimension related to the use of emotions in students. The results showed that students had their emotional expression by judging their experiences in a certain way. This result is in line with the previous research focusing on the four-pronged model by Mayer and Salovey (1997) which characterizes emotional

intelligence as a set of four abilities related to understanding, using, understanding, and managing emotions. It is confirmed that emotional intelligence predicts success in important domains including personal and work relations [39]. In addition, student *Civic Intelligence* is divided into spiritual, rational, emotional, and social dimensions. In short, *Civic Intelligence* deals with emotional intelligence where a set of skills is hypothesized to contribute to the accurate assessment and expression of emotions in oneself and others, effective regulation of emotions in self and others, and the use of feelings to motivate, plan, and achieve in someone's life [40]. Practically, *Civic Intelligence* allows students to effectively organize information in order to regulate their social patterns and organize them for the benefit of their lives.

The spiritual dimension is related to the Almighty in accordance with the beliefs held by the individual. Childhood spiritual awareness and experience can serve as strong catalysts for psycho-spiritual development [41]. The students' spiritual dimension works as a guide in life. One student emphasized that "I am a Muslim, and I always remember my Lord in my activities, one of which is by starting and ending my activities by praying". Spiritual intelligence in the process of human development must be identified and considered as an important factor for morally qualified human resources [42]. Research that examines these personality traits in relation to one's religious practice, involving 113 participants produced a result that says religiosity and spirituality are closely related to each other. Religiosity shows a stronger relationship with thicker boundaries [43]. The concept of the students' spiritual dimension is at least two kinds. First, the student defines the spiritual dimension in relation to the Almighty is within the scope of the religion in which it is professed. Second, spiritual dimensions are the relationship between oneself and the Almighty. The results of studies on the effectiveness of using spiritual intelligence in women's academic leadership practices provide greater clarification about how spiritual intelligence which is translated through leadership practices will contribute to a more balanced and harmonious work environment [44].

The rational dimension is related to the mindset of behaving and acting in accordance with the reason. The rational dimension acts according to what it thinks. One student stressed that "I want to succeed by changing my learning methods for the better". Humans have levels in thinking, namely the sense-mind and heart. The results of the study involved forty-eight volunteers who reported creative blocks in relation to artistic, literary, scientific, or professional projects, to one of four conditions: (1) Waking Imagery, (2) Dream Hypnotic, (3) Rational Discussion, or (4) Condition Control. It is pointed out that rational discussion involves a highly focused and logical collaborative examination of participants' creative projects [45]. The rational dimension of state life is related to the

willingness to commit realizing a prosperous society in various fields. The literature distinguishes three dimensions of the innovation decision-making process: rational, intuitive and political. By studying these braid dimensions over time this study found that the dominant use of each dimension is different throughout the innovation process [46]. The rational dimension is abstracted by forming virtuous patterns in the mind to produce something logical.

The social dimension is related to one's social intelligence. Social intelligence is the ability to understand others and act wisely in social situations where it actually is a concept with a long history of sporadic development [47]. It is hypothesized that social intelligence is positively related to the level of interpersonal skills [48]. The students' social dimensions from various departments show variations. Students have social intelligence in their ability to interact with their environment and understand and manage their relationships with others. Social intelligence has been researched for almost 70 years without any definitive findings. During this period almost no effort was made to consider the complexity and the function of the brain's anatomy which is responsible for the social competence [49]. The social dimensions of students vary which is marked by the presence of students who find it difficult to associate, but there are also those who declare easy to get along. Having many friends, being good at communicating, and being easy to adapt become parts of the students' social dimension that appear in the results of this study. The findings of this study are in line with the hypothesis that social intelligence develops along with the increase of age. The research was done to 300 students from Grades 6, 9 and 12 (men and women in each class) who were given Otis IQ tests and six intelligence tests of Guilford social studies [50].

4.3. The Analysis of Students' Civic Knowledge

Civic Knowledge relates to what citizens should know [4]. It includes moral, political, and legal components. Based on Figure 1, it is known that students' *Civic Knowledge* is evenly positioned in all departments both male and female. The *Civic Knowledge* component emphasizes that citizenship develops skills for citizens. The citizenship that is developed must have the knowledge, skills, and values which are ideally possessed by citizens [48]. The results of the study to determine teacher's efforts to improve *Civic Knowledge* through controversial issues learning model in VIII grade students of Pontianak Mujahidin Middle School resulted an increase in students' *Civic Knowledge* through the application of controversial learning models issues in Civics Education subjects in class VIII Middle School of Mujahidin Pontianak. It is also viewed that the acquisition of tests student learning outcomes starting from pre-cycle gets 37.8% classical completeness with an average value of 69, followed by

cycle I which has increased with classical completeness of 56.75% with an average value of 71.35. Cycle II has increased with classical completeness of 77.14% with an average value of 80 [51]. There is also another study on the age group of 16 to 25 years with a nationally representative sample who are adolescents in communities with a population of children who are disproportionate in civilian knowledge. In both studies, community participation was predicted by the children's proportion interaction in a community and its poverty level. A similar pattern was identified in the third study using country-level data [52]. The detailed *Civic Knowledge* Analysis is citizenship knowledge material which includes the knowledge of citizens' rights and responsibilities, human rights, democratic principles and processes, government and non-government institutions, national identity, governance based on law, constitution, and values and norms in society. Citizenship skills and knowledge are the key components of the perception process of political information and to determine the differential effects of variables on citizenship engagement [53]. Research using the Developmental Niche for Participatory Emerging Citizenship (Torney-Purta and Amadeo, 2011) used to examine the differences between youth citizenship knowledge of immigrants and native births about women's rights in Sweden and the United States found that immigrants have lower civilian knowledge than their native-born counterparts in both countries. Gaps in support of women's rights are partly explained by differences in the language used at home (a possible proxy for cultural differences) especially in the United States, but not in Sweden [54].

4.4. The Analysis of Students' Civic Disposition

Civic Disposition refers to the character of Citizenship. Citizenship Education is part of the study field which aims to educate the life of the Indonesian people through the corridor of "value-based education" [55]. Based on Figure 1, it is known that *Civic Disposition* experiences equal distribution in all Departments both male and female. *Civic Disposition* is divided into public and private characters. Students' *Civic Disposition* develops slowly through the results of meetings between their campus experiences, community and families. Research using the multivariable logistic regression model in America about fostering young people who are involved civilly concluded that for civilian knowledge, attitudes and behaviors maintain a statistically significant independent relationship with the possibility of voting willingness in the future [56]. *Civic Disposition* becomes an estuary within the scope of Citizenship Education learning. A recent research in the U.K about privileges and not privileges by combining quantitative and qualitative data managed to map the scale of what it means and to whom it is enforced. The criteria of 'bad character' as an exclusively racialized mechanism forms a new set of

restrictions on the lives of non-white citizens [57]. In the *Civic Disposition* scope, Cogan has emphasized several characteristics of citizens, namely the ability to recognize as a global society, to cooperate, to understand, to accept cultural differences, to think critically, to resolve conflicts, to protect the environment, to have a sensitivity to human rights, and the ability and willingness to participate in political life [58].

4.5. The Analysis of Students' Civic Skills

Civic Skills include intellectual skills and skills to participate in the context of national and state life [4]. Innovative development programs require citizen participation to be able to have benefits to democracy [59]. In the realm of *Civic Skills*, a survey confirmed that the University became creative and resolute in expanding the work of Brand Citizenship Education. All campuses surveyed are committed to Citizenship Education and provide domestic and international engagement experiences for students. Many of those want to improve the integration of curricular and extra-curricular involvement [60]. Other results show that Liberal Studies (LS) become the compulsory subjects for secondary school students and were introduced in 2007. Findings show that if it is done correctly, LS can be one vehicle for citizenship education especially in the increasing of social awareness and the ability to take part in public affairs debates [61]. Based on Figure 4, it is known that students' *Civic Skills* are evenly distributed in all Departments both male and female. The development of students' *Civic Skills* includes students' understanding of the practice of rights and obligations in life. Research on mastering students' *Civic Skills* through BEM at Yogyakarta State University resulted that BEM UNY has a role in increasing students' *Civic Skills* [62]. Intellectual and participatory skills develop in accordance with what they consider to be beneficial to the life of the nation and state. A survey of 408 youth with no prior experience as a member of any association in Spain shows that instrumental motivation is the primary vehicle for translating the civic engagement into the associational engagement, whereas expressive motivation represents secondary mediators in the effects of civic duty and social connections [63].

5. Conclusions

Our research is to find out the *Civic Intelligence* in applied science in order to promote interaction between sciences which is emphasized in a review in the perspective of Citizenship Education. Citizenship Education has an important role in shaping the character of good citizens [64]. Based on the results of the research, it can be concluded for general findings. First is that the profile of *Civic Intelligence* of students from various Departments

varies in several dimensions both male and female. Secondly, *Civic Intelligence* in the spiritual, rational, emotional, and social dimensions is in the medium category. Third, *Civic Knowledge*, *Civic Disposition* and *Civic Skills* are categorized as medium both male and female. Further research on the Civic Competence study is recommended for future research.

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