## Analysis of Important Policy Issues Relating to Affirmative Action in Education: Application of Text Mining Method

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*Abstract*

The aim of this study is to analyse the policy considerations that policymakers in the field of education need to take into account when addressing the increasingly deepening education gap. In particular, owing to the Covid-19 pandemic it is expected that the education gap between countries and between citizens within countries will increase. Against this background, this study attempted to identify the key policy issues relating to the education gap, by applying the text mining technique to the papers published in 145 social science journals managed by Springer, a world-class publisher. The rationale for this is that these policy issues are considered important by the education-policy authorities of all countries in terms of addressing the education gap in the future. As a result of the analysis, five major topics were derived. The policy considerations relating to the education gap can be summarized under five topics: active implementation of affirmative action measures for students; the will of political leaders such as the President to close the education gap; the development and implementation of sophisticated programmes for reducing the education gap; the correction of discrimination in employment opportunities; handling system issues such as justice and power effectively.

*Keywords*: education gap, affirmative action, text mining.

## 1. Introduction

Looking at the world today, we can see that per capita GDP continues to increase, while social and economic disparities tend to widen day by day. One of the most serious of these social and economic disparities is educational. The reason the education gap is an important issue is that the gap between persons in education leads to future gaps in job opportunities, and this deepening gap in jobs leads to social and economic gaps, which in turn leads to social unrest. At the World Education Forum held in Incheon in 2015, 'Ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all' was newly proposed as the SDG 4 (sustainable development goal 4) in the field of education for sustainable development. SDG 4 consists of seven targets and three means of implementation, with particular emphasis on ensuring educational opportunities for all.

In order to realize such inclusive education, it is necessary to analyse the current state of the education gap and prepare policy alternatives based on it. In particular, the education gap between countries and within one country is expected to deepen owing to the Covid-19 pandemic that started in early 2020 and is currently causing fear all over the world. The first thing to be done in addressing the education gap is to review in advance the policy issues to be considered in order to correct it. In order to do this, various countries around the world have implemented detailed measures under the slogan of 'affirmative action'. However, there are few studies addressing these issues from an academic point of view.

Against this background, this study intends to review the issues to be considered in attempting to close the education gap, on the premise that affirmative-action-related systems should be specifically applied in the field of education to meet this purpose. Thereby, it will be possible to provide policy considerations that education authorities can take on board. In particular, analysing the

policy considerations relating to the education gap can have important implications for countries s uch as Korea where the gap is likely to cause further future economic and social gaps. To achie ve this purpose, the text mining technique is used.

## 2. Theoretical Discussion

In both advanced and underdeveloped countries, addressing the problem of the education gap has always been recognized as an important policy task, ever since the introduction and implementat ion of the modern national public education system (Aghion et al.,
2009; Brooks 2002;  Engberg  and Wolniak,   2018; Gibbons and Vignoles, 2011; Ladd, 2012; McCull och, 2006; Reay, 2017). Although perspectives on the education gap have varied over time, there was never a time when it was not a strong policy interest. In particular, as expectations regardin g the social mobility function of the public education system have risen and society has settled i nto a scholastic or meritocratic form, the policy goal has arisen of bridging the education gap. T oday, when rapid social change is anticipated, the problem of educational inequality is still unres olved and warnings are sounding that it will get worse. This raises issues such as what perspecti ves and attitudes should be adopted regarding educational equality and the education gap, and sp ecifically, what policy tasks should be prioritized (Green and Kynaston, 2019; Ziesemer, 2016; Sullivan et al., 2014; Anders, 2012; Boliver, 2013).

In this context, it may be thought that the most important priorities are the expansion of educati onal opportunities and equality of opportunity. This means that guaranteeing the right to educatio n and fair and equal access to educational opportunities are important. Opportunities for public e ducation can be measured mainly by the enrolment rate index. The enrolment rate is calculated a s the ratio of enrolled students to the school-aged population, and here we can observe a big dif ference between countries. The degree of access to higher education opportunities differs, dependi ng on whether college students with scant study years and elements of vocational education are i ncluded in higher education. When the enrolment rate exceeds 50 per cent, higher education may be said to have reached the stage of universalization. In spite of these policy efforts, from a pr actical point of view the drop-out rate for students from disadvantaged classes is relatively high, and the quality of the teaching/learning experience is low also in developed and underdeveloped countries. Although tertiary education does not provide for preferential treatment in the labour ma rket, refusal to complete tertiary education is a barrier to future social activity. Completing highe r education has a significant impact on job access and job quality (company size, job stability, j ob type, wages, etc.).

In addition, in any country, owing to the hierarchical university system, the degree of completion of higher education itself, and which university one graduates from, have a great bearing on per formance in the labour market (Ball, 2017; Callender and Jackson, 2008; Chitty, 2005; Dorling and Pritchard, 2010). Bridging the gap through equal opportunities is now entering a new phase. This is because society is shifting from providing education for school-aged children and adolesc ents to requiring lifelong education for people of all ages.

The entire population, not just school-aged children and adolescents, should be given the opportu nity to continue education in order to live fulfilling lives. In addition, educational opportunities s hould be tailored to the needs of consumers who need to learn, rather than being provided in a standardized way at a standardized time. Providing equal educational opportunities aimed at closin g the education gap should now be transformed into providing lifelong educational opportunities i n accordance with learners' lives (Fielder, 2010; Anders, 2012). In reality, however, an important problem in respect of the education gap is the difference in educational conditions. If a person is provided with an educational opportunity but then is educated at an institution with different cir cumstances, this creates another gap. The number and expertise of teachers, educational facilities, and the size of the related finances determine educational conditions. For this reason, compulsor

y education and even high-school education are provided free of charge, while efforts have been made to reduce differences in educational conditions.

Another aspect of educational conditions is the problem that arises from differences in parents' social status and family background. In a society where the education gap is small, government policies should contribute to enhancing learners' capabilities and helping them to lead happy lives, regardless of parental status or socio-economic background. In other words, education should contribute to social mobility. This is why the education gap needs to be closed. Gap-free education makes social mobility possible. In this way, it is possible to overcome the influence of parental status and create a fair society in which wealth and value are distributed according to individual abilities.

To date, many studies (Griggs et al., 2013; Major and Machin, 2018; Manley and Johnson, 2014) have pointed out that equality of educational opportunity, educational participation and performance, and the possibility of social mobility through education, are important viewpoints from which to look at the problem of educational disparity. However, in the future, the values and principles of inclusiveness should be considered here too. The possibility of closing the education gap will become real through the establishment of a fair and inclusive education system that moves beyond equality of opportunity, effective participation in education and meritocracy.

Another important fact is that before discussing the relationship between education and social mobility, it is necessary to question whether the educational process is fair and equitable. Many studies (Parker et al., 2015; Simmons, 2019; Sullivan et al., 2014) have shown how much influence parental education, social status and economic level have on educational performance. There are many research findings (Times Higher Education, 2017; Ziesmer, 2016) showing that the content of school education and methods of teaching and learning, are not equitable. In the case of elementary and secondary education, if the education gap problem was solved by reducing educational disparities between schools, it is also true that policies that took for granted or reinforced differences between universities were promoted at the higher education stage. But as of now, government should make efforts to break away from this point of view and provide inclusive education. In doing so, it is necessary for government to actively make complementary efforts in favour of the underprivileged and those faced with poor educational opportunities or conditions.

How, then, should the existing education gap be viewed, and how should policy interventions be undertaken? Value judgements may differ according to the national situation, but a utilitarian approach using the social welfare function may prove useful. The utilitarian approach is not concerned with how the utility of each student is distributed in accordance with the education gap, but is only interested in the total amount of utility for each student. Given this perspective, interest in addressing the education gap will diminish. However, taking an overly egalitarian approach can lead to policies that push back excellence and maintain downward levelling. Therefore, at which level one should strike a balance between equality and excellence becomes an important issue (Higher Education Founding Council for England, 2012; University of Oxford, 2019). What is important in this process is to establish what the major policy issues are surrounding the education gap. The purpose and rationale of this study lie here.

## 3. Analysis design
### 3.1  Analysis target
In terms of internationally accepted educational indicators, Korea and Finland are among the leading countries in the field of education. However, unlike Finland, countries such as Korea are classified as countries with an increasingly widening education gap. In order to address this phenomenon, as mentioned above the Government should identify policy considerations for lessening the education gap and make policy improvements that reflect this.

The first step in resolving this problem is to identify the causes of the education gap and the m easures needed to correct it. To analyse this, this study intends to identify the issues covered by relevant academic papers published in international journals, and to classify these according to c ertain criteria. The analysis target of this study, therefore, is papers published in international jou rnals containing words such as 'education gap', 'affirmative action' and 'education'. It is difficult in practice to analyse every published paper. Therefore, this study draws upon CYRAM, a com pany that produces Netminer 4.4, the program intended to be used in this study, in limiting the source of the academic papers to international journals that can be used by signing an agreement . These international journals consist of 145 social science journals managed by the publisher Spr inger. Accordingly, 145 journals to which papers have been submitted by international scholars a nd through which they have been published via the review process are the subject of analysis in this study.

*3.2   Analysis method*

In this study, data are collected using the Biblio Data Collector program of Netminer 4.4. Papers that jointly contain 'affirmative action' and 'education' in their titles were extracted, but the nu mber of papers that met these conditions was extremely small. Therefore, papers containing both 'affirmative action' in the title of the paper and 'education' as the keyword selected by the auth or were extracted. As a result, 20 papers were extracted, the number of authors being 35. These papers are analysed using text mining techniques. The text mining technique is appropriate for t his study because it extracts keywords from the text to be analysed and provides information on the relationship between keywords (Bowen, 2009).

*3.3   Analysis procedure*

The analysis procedure of this study is as follows. First, the texts to be analysed are used to obt ain basic information about the frequency of words that appear. This information is used for clou d analysis. Second, a general network of words included in the text to be analysed is visualized. Since this network shows an extremely complex structure, the PFnet function is used to simplif y the network. Third, in order to understand a simpler structure, only words with a certain frequ ency or higher are additionally extracted. Fourth, using a simplified network structure, topic analy sis is performed and the characteristics of each topic are identified. Fifth, the policy implications are presented on the basis of these topic analysis results.

**4. Analysis**

*4.1   Word frequency and cloud analysis*

First, we analysed the frequency of words that appeared in the texts included in the twenty pape rs. As a result of the frequency analysis, as Table 1 indicates, it was found that 'action' was the most frequently occurring word (37 times), followed by 'education' (34 times) and 'policy' (29 times). When these words are listed by frequency of appearance, it is possible to roughly grasp what they indicate.

**Table 1 Frequency of occurrence of words**

| | | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| | | rt of Speech(PC | Frequency | Word length | Name Type | Author Keyword |
| 1 | action | Common Noun" | 37.0 | 6.0 | "-" | "False" |
| 2 | education | Common Noun" | 34.0 | 9.0 | "-" | "False" |
| 3 | policy | Common Noun" | 29.0 | 6.0 | "-" | "False" |
| 4 | student | Common Noun" | 13.0 | 7.0 | "-" | "False" |
| 5 | institution | Common Noun" | 13.0 | 11.0 | "-" | "False" |
| 6 | university | Common Noun" | 12.0 | 10.0 | "-" | "False" |
| 7 | program | Common Noun" | 12.0 | 7.0 | "-" | "False" |
| 8 | system | Common Noun" | 11.0 | 6.0 | "-" | "False" |
| 9 | society | Common Noun" | 11.0 | 7.0 | "-" | "False" |
| 10 | quota | Common Noun" | 11.0 | 5.0 | "-" | "False" |
| 11 | Higher Education | "Proper Noun" | 11.0 | 16.0 | nization Name" | "False" |
| 12 | minority | Common Noun" | 10.0 | 8.0 | "-" | "False" |
| 13 | USA | "Proper Noun" | 10.0 | 3.0 | nization Name" | "False" |
| 14 | India | "Proper Noun" | 10.0 | 5.0 | raphical Name" | "False" |
| 15 | country | Common Noun" | 9.0 | 7.0 | "-" | "False" |
| 16 | admission | Common Noun" | 9.0 | 9.0 | "-" | "False" |
| 17 | justice | Common Noun" | 8.0 | 7.0 | "-" | "False" |
| 18 | group | Common Noun" | 8.0 | 5.0 | "-" | "False" |
| 19 | discrimination | Common Noun" | 7.0 | 14.0 | "-" | "False" |
| 20 | woman | Common Noun" | 6.0 | 5.0 | "-" | "False" |
| 21 | power | Common Noun" | 6.0 | 5.0 | "-" | "False" |
| 22 | inequality | Common Noun" | 6.0 | 10.0 | "-" | "False" |
| 23 | enforcement | Common Noun" | 6.0 | 11.0 | "-" | "False" |
| 24 | diversity | Common Noun" | 6.0 | 9.0 | "-" | "False" |
| 25 | criterion | Common Noun" | 6.0 | 9.0 | "-" | "False" |
| 26 | college | Common Noun" | 6.0 | 7.0 | "-" | "False" |
| 27 | President | "Proper Noun" | 6.0 | 9.0 | "-" | "False" |
| 28 | Brazil | "Proper Noun" | 6.0 | 6.0 | raphical Name" | "False" |
| 29 | process | Common Noun" | 5.0 | 7.0 | "-" | "False" |
| 30 | history | Common Noun" | 5.0 | 7.0 | "-" | "False" |
| 31 | employment | Common Noun" | 5.0 | 10.0 | "-" | "False" |
| 32 | caste | Common Noun" | 5.0 | 5.0 | "-" | "False" |
| 33 | Affirmative | "Proper Noun" | 5.0 | 11.0 | "-" | "False" |
| 34 | Access | "Proper Noun" | 5.0 | 6.0 | "-" | "False" |

*Note.* The words are presented in order of frequency of occurrence (some examples only).

Figure 1 presents the result of visualizing the words that appear in the text sentences through cloud analysis. It can be seen that the higher the frequency of occurrence of a word, the larger the font in which it appears. However, it is difficult to grasp structural relationships or relationships between words using only this cloud analysis.

**Figure 1. Cloud analysis results for words that appeared**

A more in-depth analysis is needed, because cloud analysis can only present a rough visualizatio
n result in respect of words that appear in a sentence. In order to solve this problem, the words
 were converted to the 2-mode form, and then analysis using the PFnet function was performed
to understand the important patterns inherent in the network. This analysis method is aimed at u
nderstanding the network structure and pattern inherent in the complex network structure by simp
lifying it. Figure 2 shows the results of network analysis using the PFnet function.



**Figure 2. Simplified network by PFnet function**

Looking at Figure 2, it can be seen that the complex network consists of all 13 blocks. This me ans that important words are included in 13 blocks to make up individual blocks. However, sinc e these 13 blocks are also somewhat complicated, work was performed to further simplify them. For this purpose, the analysis was abbreviated to words that appeared three or more times, and t he total number of such words was 80. For analytical convenience, the network between these w ords was reduced again to create a concise network structure.

### 4.2 Degree centrality analysis result

As a result of the abbreviation for concise analysis a new network structure consisting of 29 wo rds was formed. These 29 words and their degree centrality scores are shown in Table 2.

**Table 2. Degree centrality score of 29 words**

| | | 1 | 2 |
|---|---|---|---|
| | | -Degree Centralit | -Degree Centra |
| 1 | society | 0.182143 | 0.182143 |
| 2 | program | 0.161012 | 0.161012 |
| 3 | power | 0.160714 | 0.160714 |
| 4 | USA | 0.160714 | 0.160714 |
| 5 | criterion | 0.159864 | 0.159864 |
| 6 | system | 0.154507 | 0.154507 |
| 7 | India | 0.147321 | 0.147321 |
| 8 | justice | 0.135417 | 0.135417 |
| 9 | employment | 0.112500 | 0.112500 |
| 10 | Kennedy | 0.107143 | 0.107143 |
| 11 | Americans | 0.107143 | 0.107143 |
| 12 | President | 0.107143 | 0.107143 |
| 13 | opportunity | 0.102976 | 0.102976 |
| 14 | student | 0.083801 | 0.083801 |
| 15 | United States | 0.074405 | 0.074405 |
| 16 | goal | 0.069048 | 0.069048 |
| 17 | effectiveness | 0.068452 | 0.068452 |
| 18 | result | 0.060459 | 0.060459 |
| 19 | relation | 0.059864 | 0.059864 |
| 20 | enforcement | 0.059524 | 0.059524 |
| 21 | affirmativeaction | 0.059524 | 0.059524 |
| 22 | Brazil | 0.055357 | 0.055357 |
| 23 | mismatch | 0.051786 | 0.051786 |
| 24 | major | 0.051786 | 0.051786 |
| 25 | school | 0.051190 | 0.051190 |
| 26 | practice | 0.047619 | 0.047619 |
| 27 | candidate | 0.047619 | 0.047619 |
| 28 | category | 0.032143 | 0.032143 |
| 29 | dynamic | 0.023810 | 0.023810 |

In order to understand the basic structural relationship between these 29 words, degree centrality analysis was performed, and as a result the following network structure was created. First, conce ntric circle analysis was performed to identify words that play a key role. Figure 3 shows the re sults of this analysis. Words located at the centre of the concentric circles play an important role in the network structure, and words further from the centre play fewer roles in the network. As can be seen from the results of the concentric circle analysis, a word with a high frequency of appearance is not located at the centre of the concentric circle. Words being located at the cent re of the concentric circle means that their role in the network is important. As Figure 3 shows,

as a result of the analysis of concentric circles, 'society' is located at the very centre, which shows that topics such as the education gap and affirmative action are becoming important social issues.
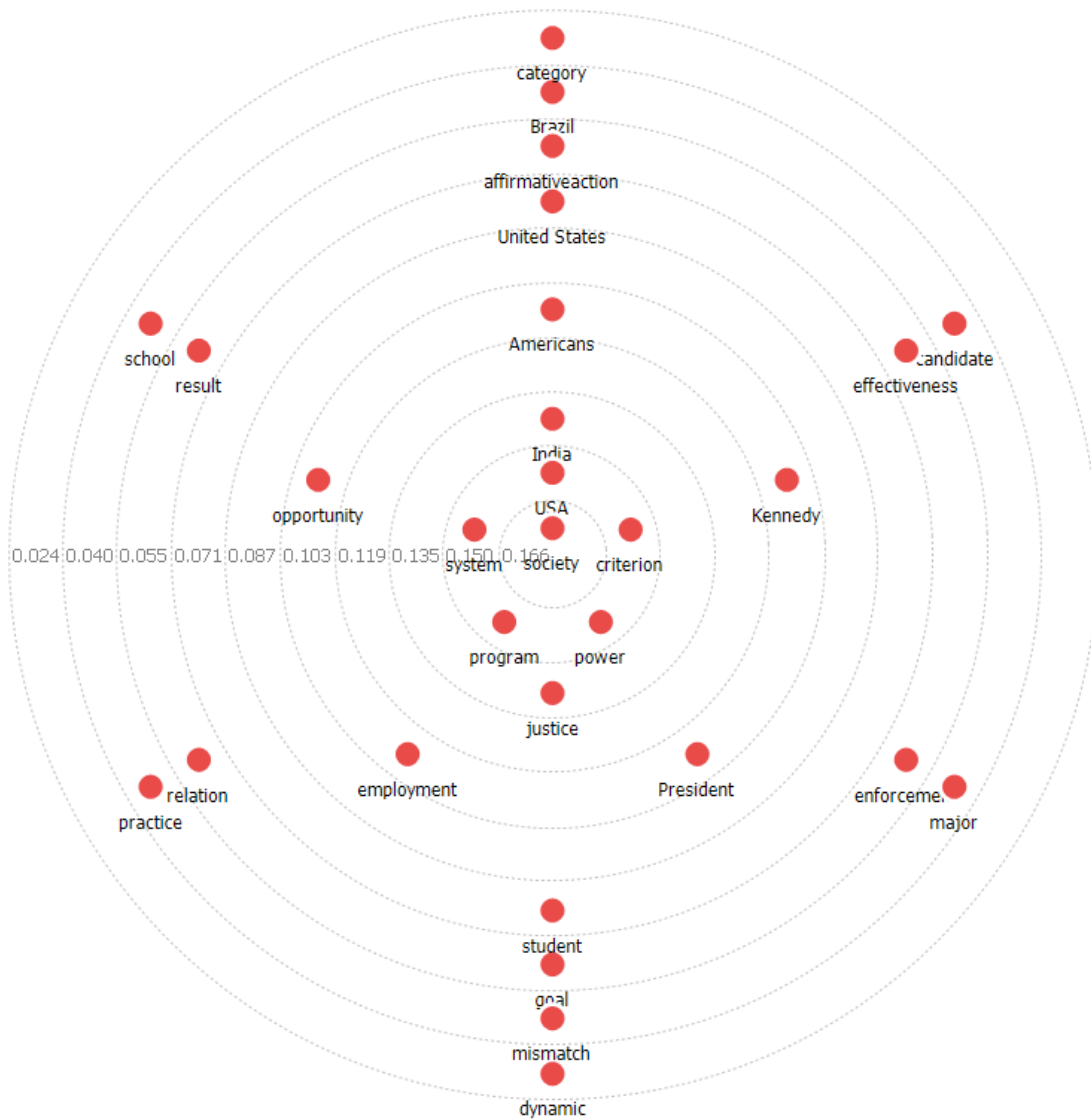


**Figure 3. Results of concentric circle analysis (29 words applied)**

The next step is to identify the structural relationships of the network consisting of 29 words. A network diagram enabling us to visually grasp the structural relationships of these networks is presented in Figure 4.
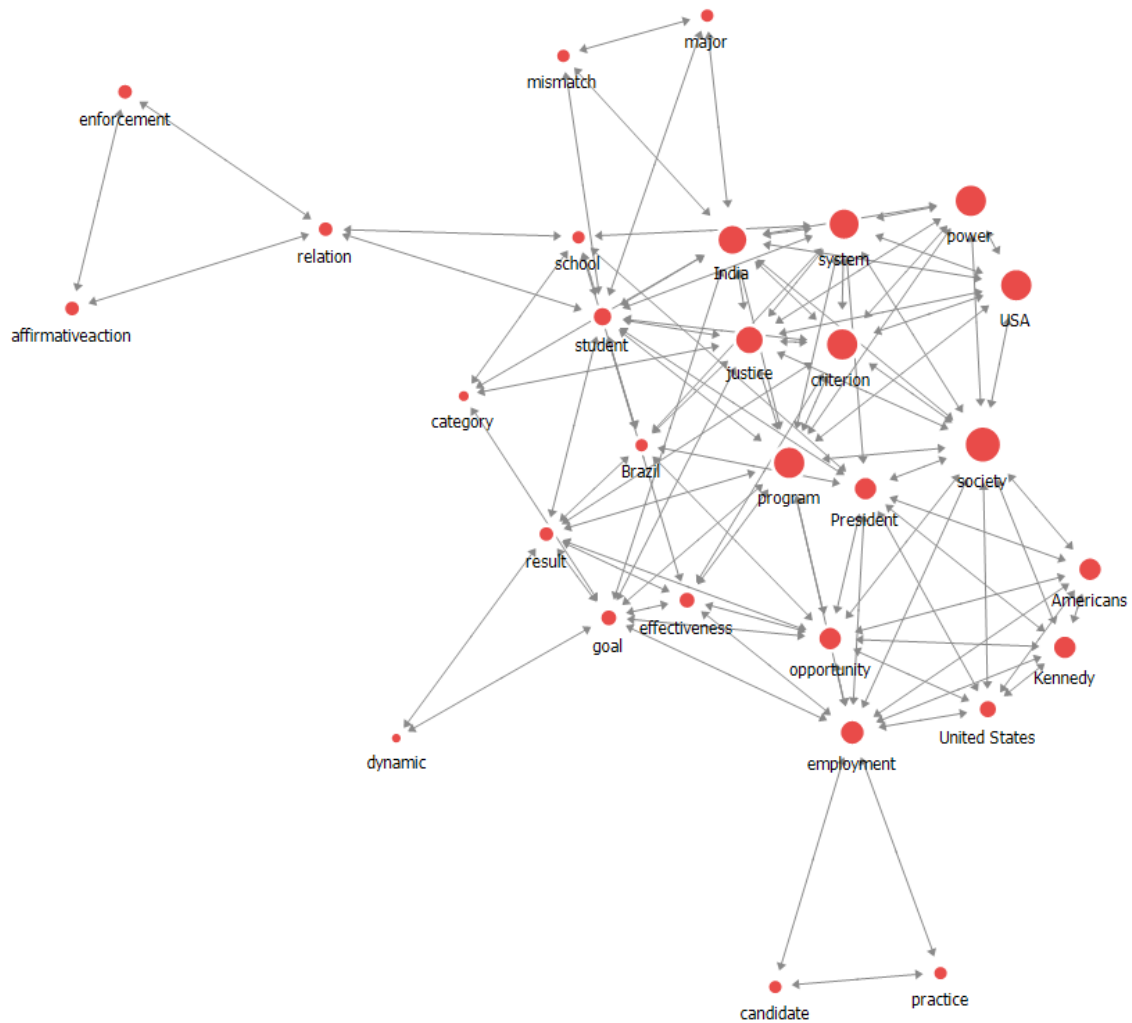
**Figure 4. Network structure centred on degree centrality**

As Figure 4 shows, the larger the size of a node, the greater its importance within the network. Large nodes mean that relationships with other nodes occur frequently. On the other hand, Figure 5 is a network structure in which only the so-called core skeleton is left by simplifying the diagram of the degree centrality network shown above. Through such a simplified network structure, the overall characteristics of the network can be easily understood. Looking at Figure 5, it is easy to identify which nodes are connected to other nodes. In other words, this is highly suggestive in terms of establishing a policy for a specific node, in that it also means that the policy for adjacent nodes should also be considered.
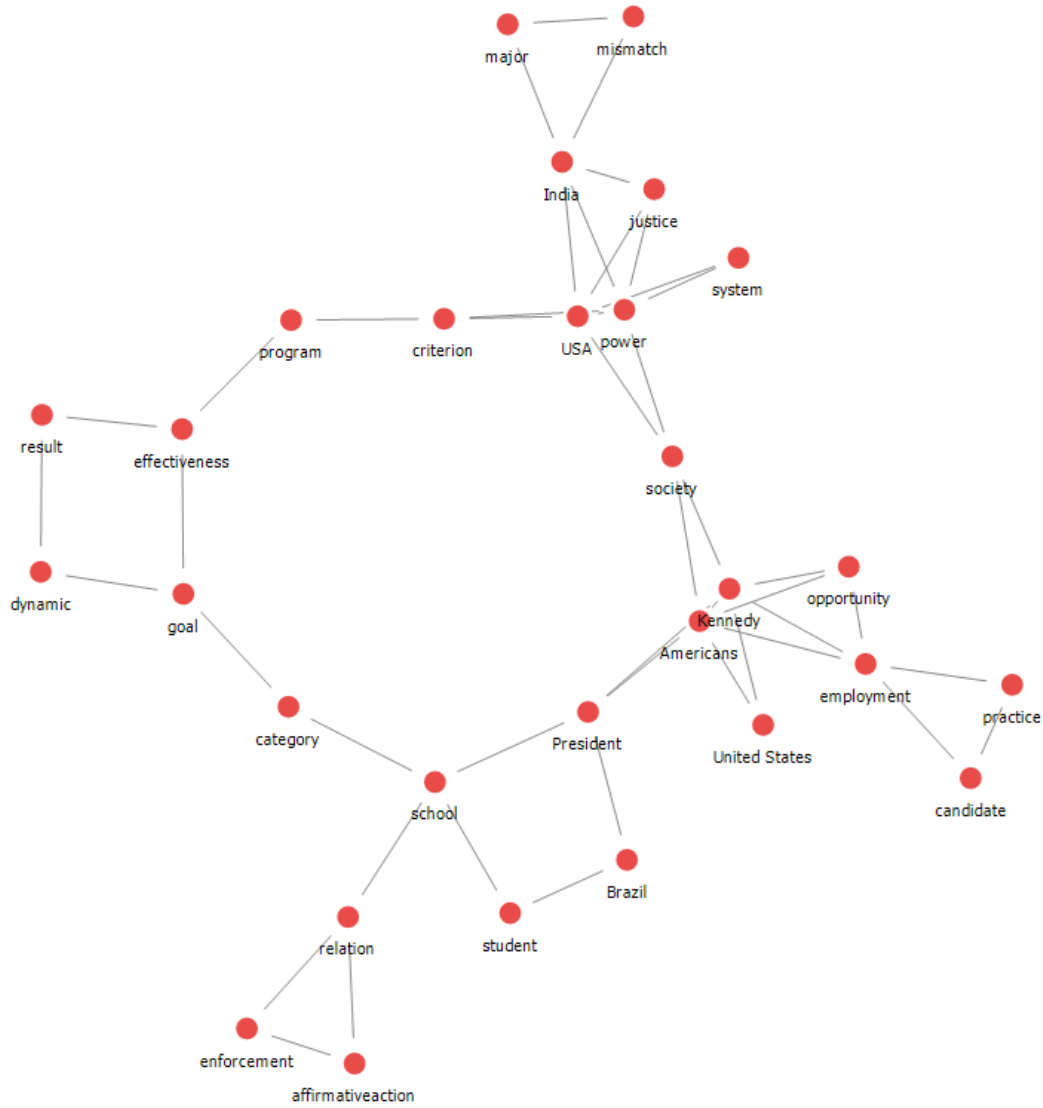
**Figure 5. Simplified network architecture**

*4.3   Topic analysis result*

Below, we attempt to derive core topics relating to the education gap and affirmative action. This is a synthesis of the analysis results mentioned above and is related to the important purpose of this study. We show that, if the aim is to deal with issues such as the education gap and affirmative action, five core topics can suggest important policy considerations. These topics also have theoretical implications. In other words, it is possible to grasp in which countries in particular the education gap is an issue, and what additional steps should be taken to deal with the education gap problem. The five topics derived as a result of topic analysis are shown in Figure 6.
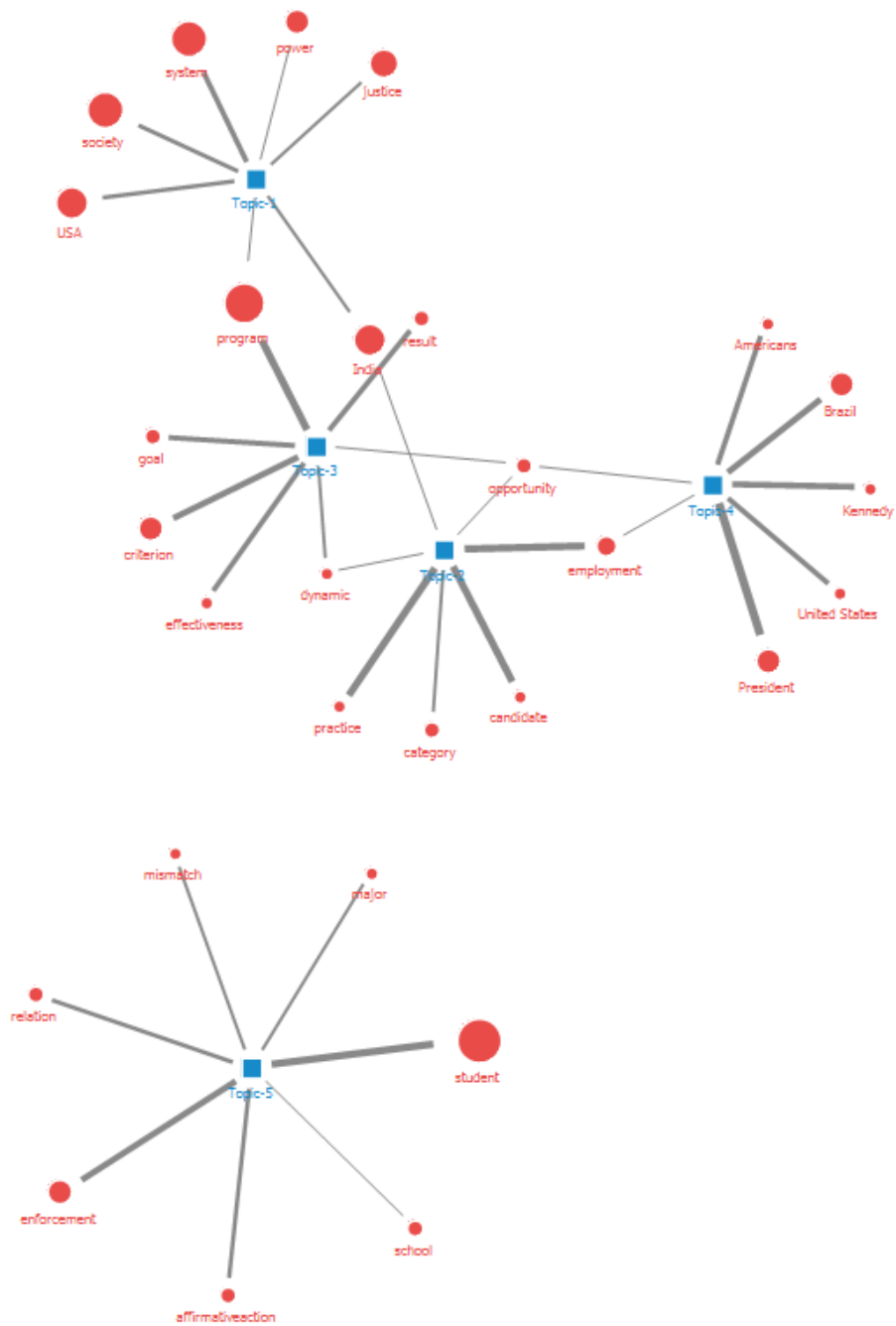
**Figure 6.  Five  main  topics**

As Figure 6 shows, five main topics were created, the total number of words included in this to pic being 29. These 29 words may be said to be the most 'core' words relating to the education gap and affirmative action. In the following, each of the five topics is explained individually.
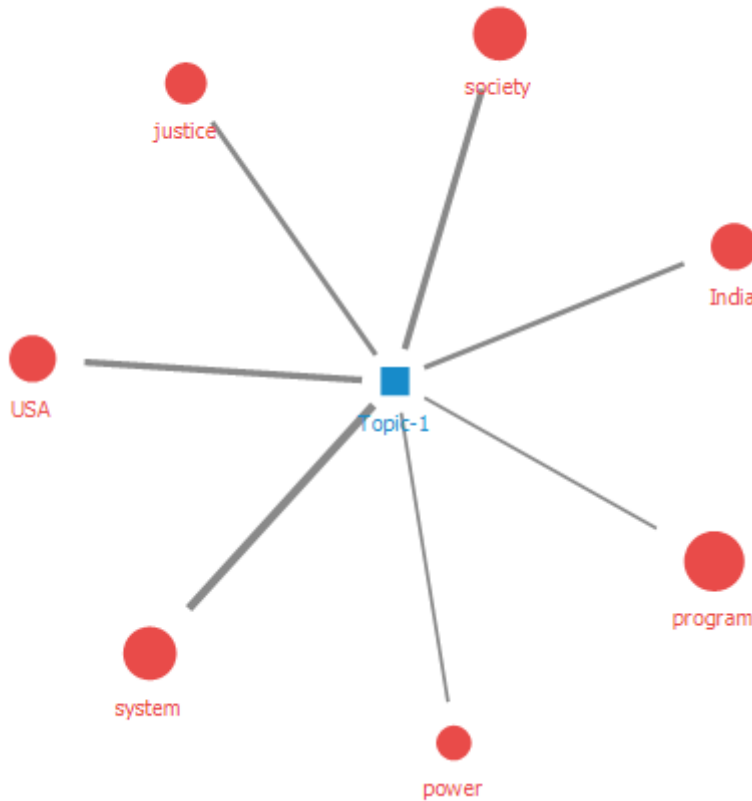
**Figure 7. Topic 1 (System issues such as justice and power)**

Topic 1 (Figure 7) shows that social system problems such as justice and power are related to the education gap. Topic 1, shown in Figure 7, consists of the seven words *system*, *power*, *program*, *India*, *USA*, *society* and *justice*. Analysing the words constituting Topic 1 in connection with in-degree centrality and simplified network structure suggests that these system issues have become a particularly serious problem in countries such as the USA and India. As is well-known, the USA still tends to be racist, suggesting that the education gap is becoming a more important issue. In addition, since India is a country with a class system operating according to caste, it can be said that the education gap there is becoming a social problem.
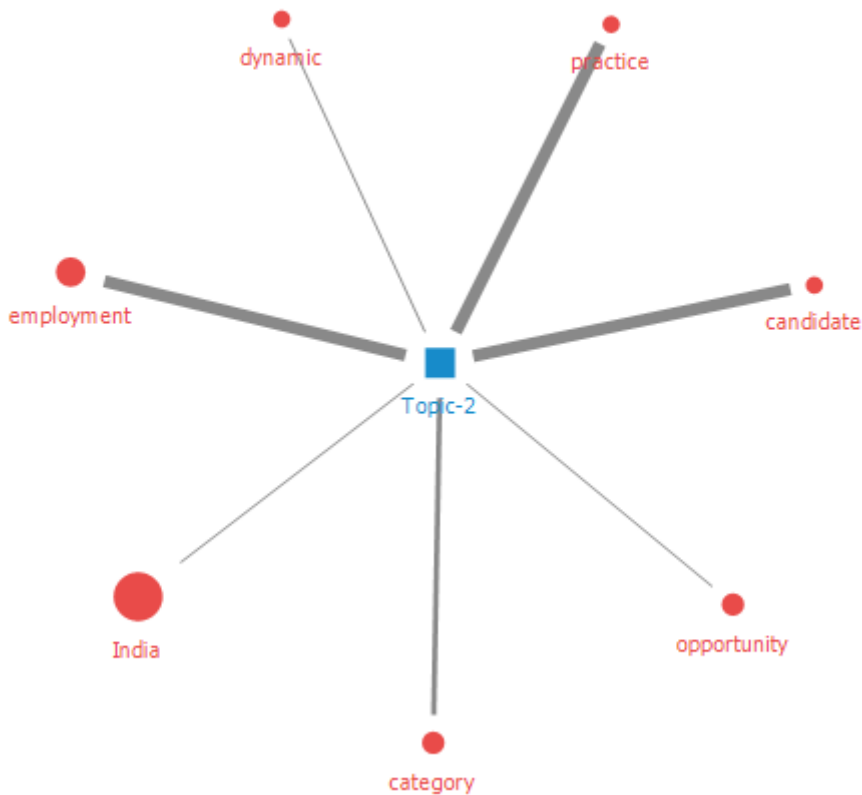
**Figure 8**   **Topic 2 (Opportunity discrimination issues such as employment opportunities)**

As Figure 8 shows, Topic 2 consists of *India*, *opportunity*, *category*, *candidate*, *practice*, *employ ment* and *dynamic*. Topic 2 suggests that the education gap causes discrimination in terms of em ployment opportunities and other opportunities. In particular, it shows that this problem is great i n India.
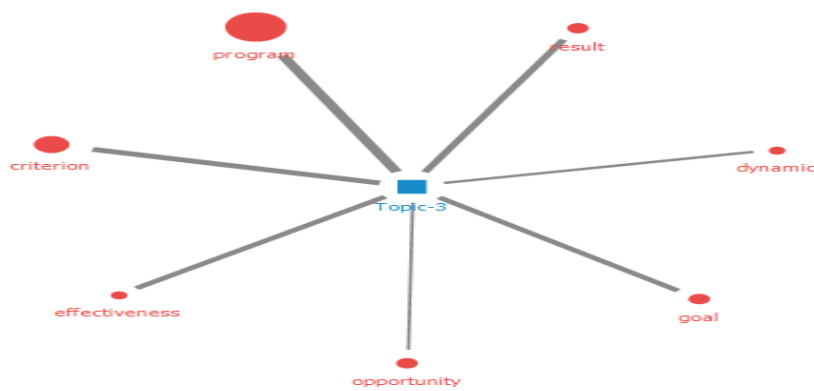


**Figure 9**   **Topic 3 (Necessity of a programme for visibility gap)**

As Figure 9 shows, Topic 3 consists of *criterion*, *effectiveness*, *opportunity*, *goal*, *dynamic*, *result* and *program*. In other words, it suggests the necessity for an active programme to correct the problem of discrimination in terms of opportunities. When this problem is approached through various programmes, it can be seen that effectiveness can be increased and the goal of reducing the education gap attained. In other words, this topic indicates that correcting the education gap should be approached via various programmes.
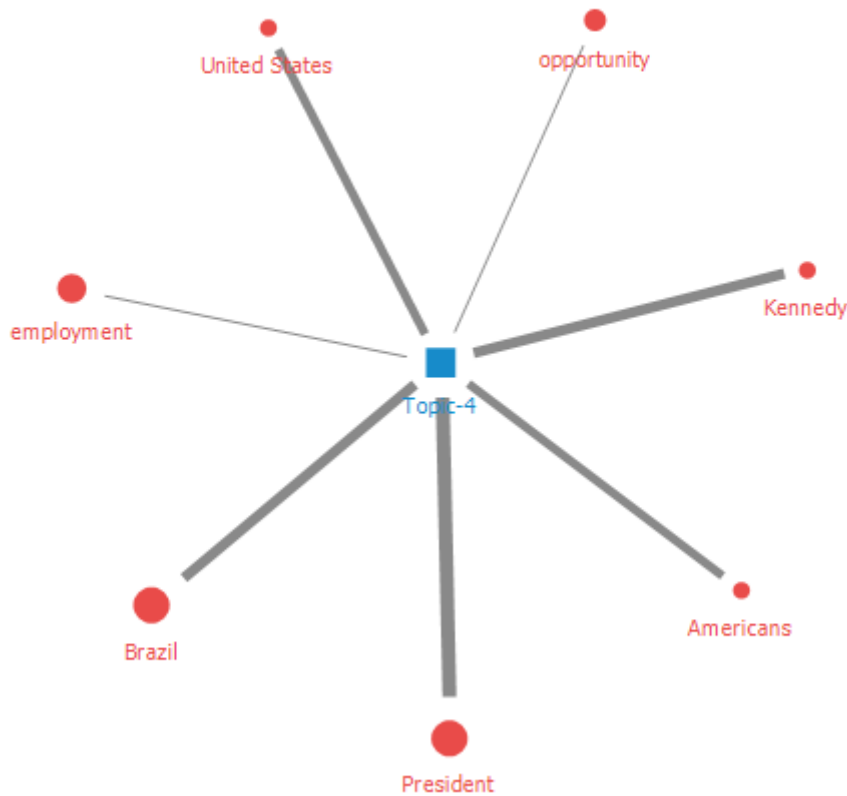


**Figure 10   Topic 4 (Role of political leaders)**

As Figure 10 shows, Topic 4 consists of *Brazil*, *President*, *Americans*, *Kennedy*, *opportunity*, *United States* and *employment*. This suggests that political leaders such as a country's president should actively work on problems such as the education gap. President Kennedy of the United States is recognized for his efforts to eliminate discrimination in employment. In the case of Brazil, it suggests that political leaders such as the president should take an active role in addressing this education gap. In other words, it suggests that political leaders should play a big role in correcting the education gap.
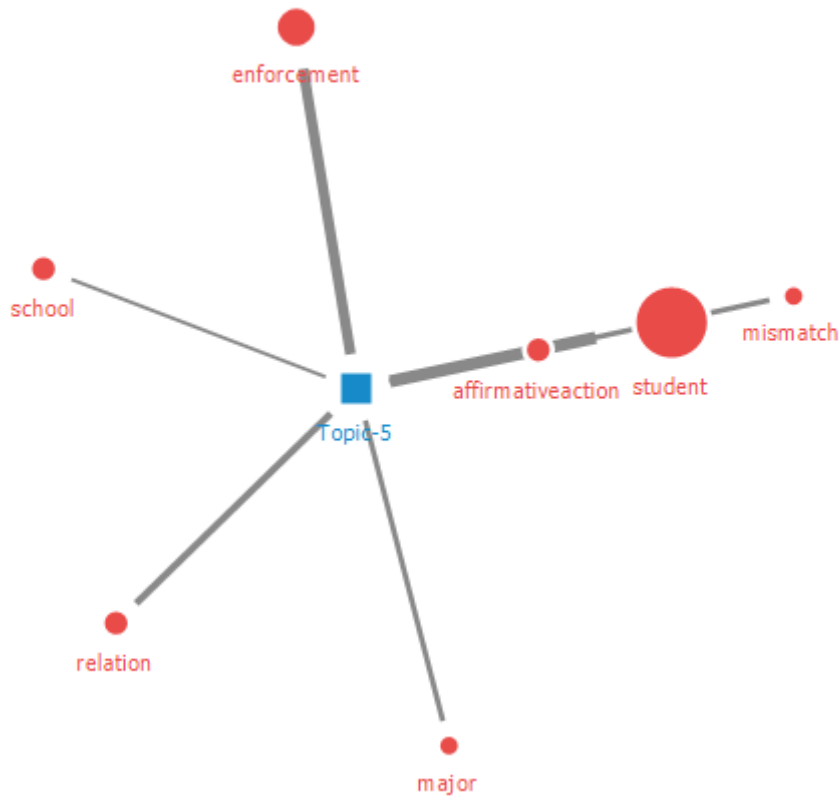
**Figure 11    Topic 5 (Implementation of affirmative action measures for students)**

As Figure 11 shows, Topic 5 consists of *enforcement*, *school*, *relation*, *major*, *affirmative action*, *student* and *mismatch*. What can be understood here is that, in order to solve the education gap problem, concrete affirmative action programmes for students should be actively implemented. Of course, in implementing these policies it is important to establish relationships with other administrative agencies, and the topic also suggests that co-operation with relevant stakeholders is important.

**5. Conclusion**

The education gap is not a problem of yesterday or today. It is a problem that has existed for a long time, and that afflicts both developed and underdeveloped countries. It is made more worrisome by the Covid-19 pandemic, which has spread across the world from 2020, and is expected to further deepen the problem. In particular, it should be recognized that in the past the education gap has deepened the more resources have been put into the education field while at the same time achieving rapid growth, such as has been the case in Korea. The Covid-19 pandemic is expected to add to this intensification, so it is time for government authorities to present appropriate policy prescriptions.

Countries like Finland have been taking various measures, such as preparing long-term plans to correct educational inequality. Such plans are unlikely to succeed, however, by treating the problem in isolation. Not only education issues, but also various relevant surrounding systems and issues such as social discrimination, the class system, and employment opportunities should be reviewed simultaneously.

Recognizing this problem, this study applied text mining techniques to papers published in 145 social science journals managed by Springer, and attempted to identify the key policy issues relating to the education gap. As a result, five major topics were derived, as follows: active implementation of

affirmative action measures for students; the will of political leaders such as the President to close the education gap; the development and implementation of sophisticated programmes for reducing the education gap; the correction of discrimination in employment opportunities; handling effectively system issues such as justice and power. They can be summed up as concerned with correcting discrimination in society, and solving systemic problems such as those around justice and power.

**References**
1.      Aghion, P., Askenazy, P., Bourlès, R., Cette, G. & Dromel, N.(2009). "Education, Market Rigidities and Growth." *Economics Letters,* 102(1), pp. 62–65.
2.      Anders, J.(2012). "The link between household income, University applications and university attendance." *Journal of Applied Public Economics*, 33(2), pp. 185–210.
3.      Ball, S. J.(2017). *The education debate.* Policy Press.
4.      Boliver, V.(2013). "How fair is access to more prestigious UK universities?." *British Journal of Sociology*, 64(2), pp. 344–364.
5.      Bowen, G. A.(2009). "Document Analysis as a Qualitative Research Method." *Qualitative Research Journal,* 9(2), pp. 27-40.
6.      Brooks, R.(2002). "Edinburgh, Exeter, East London or employment? A review of research on young people's higher education choices." *Educational Research*, 44(2), pp. 217–227.
7.      Callender, C. & Jackson, J.(2008). "Does the fear of debt constrain choice of university and subject of study?" Studies in Higher Education, 33(4), pp. 405–429.
8.      Chitty, C.(2014). *Education Policy in Britain.* Macmillan International Higher Education.
9.      Christie, H.(2005). "Higher education and spatial (im)mobility: Nontraditional students and living at home." *Environment and Planning A*, 39(10), pp. 2445–2463.
10.     Dorling, D. & Pritchard, J.(2010). "The geography of poverty, inequality and wealth in the UK and abroad : Because enough is never enough." *Applied Spatial Analysis and Policy*, 3(2), pp. 81–106.
11.     Engberg, M. E. & Wolniak, G. C.(2018). "An examination of the moderating effects of the high school socioeconomic context on college enrollment." *The High School Journal,* 97(4), pp. 240–263.
12.     Fielden, J.(2010). "Private providers of higher education in the United Kingdom." *International Higher Education*, 60, pp. 14–16.
13.     Gibbons, S. & Vignoles, A.(2011). "Geography, choice and participation in higher education in England." *Regional Science and Urban Economics*, 42(1–2), pp. 98–113.
14.     Green, F. & Kynaston, D.(2019). *Engines of Privilege: Britain's Private School Problem.* Bloomsbury Publishing Plc.
15.     Griggs, D. et al.(2013). "Sustainable Development Goals for People and Planet." *Nature,* 495(7441), pp. 305-307.
16.     Higher Education Founding Council for England(2012). *Technical note: Gaps in young participation in higher education.*
17.     Ladd, H. F.(2012). "Education and Poverty: Confronting the Evidence." *Journal of Policy Analysis and Management,* 31(2), pp. 203–227.
18.     Major, L, E. & Machin, S.(2018). *Social Mobility and its Enemies.* Pelican Books.
19.     Manley, D. & Johnston, R.(2014). "School, neighbourhood, and university: The geographies of educational performance and progression in England." *Applied Spatial Analysis and Policy*, 7(3), pp. 259–282.
20.     McCulloch, G.(2006). "Education and the Middle Classes: The Case of the English Grammar Schools, 1868-1944." *History of Education*, 35(6), pp. 689-704.
21.     Okoyeuzu, C., & Kabiru Dandago Isa. (2020). Investigating the Factors that Undermine Innovative Financing towards Sustainability of Entrepreneurship in Nigeria. Journal of Advanced Research in Economics and Administrative Sciences, 1(2), 1-13. https://doi.org/10.47631/jareas.v1i2.65
22.     Parker, P. D., Jerrim, J., Anders, J. & Astell-Burt, T.(2015). "Does living closer to a university

increase educational attainment? A longitudinal study of aspirations, university entry, and Elite University enrolment of Australian Youth." *Journal of Youth and Adolescence,* 45(6), pp. 1156-1175.

23.    Reay, D.(2017). "Miseducation Inequality, education and the working classes." *International Studies in Sociology of Education,* 27(4), pp. 453-456.

24.    Simmons, R.(2019). "The Historical Experience of Liberal Studies for Vocational Learners in Further Education." *British Journal of Educational Studies*, 67(1), pp. 59-76.

25.    Sullivan, A., Parsons, S., Wiggins, R., Heath, A. & Green, F.(2014). "Social origins, school type and higher education destinations." *Oxford Review of Education*, 40, pp. 739–763.

26.    Times Higher Education(2017). "The cost of studying at a university in the UK." *Times Higher Education.     London,     England.*     Available     online: https://www.timeshighereducation.com/student/advice/cost-studying-university-uk

27.    University    of    Oxford(2019).    "Link    Colleges."    Available    online: http://www.ox.ac.uk/admissions/undergraduate/applying-to- oxford/teachers/link-colleges.

28.    Ziesemer, T.(2016). "Gini Coefficients of Education for 146 Countries, 1950–2010." *Bulletin of Applied Economics,* 3(2), pp. 1–8.