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Iranian Education and Sustainable Development in terms of Statistics

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Abstract: *The aim of this study was to investigate the situation of sustainable development in education in Iran in comparison with some other developed / developing countries. The method of the present study is to use the secondary analysis approach. Using the secondary analysis approach, data from 7 countries of Iran, Brazil, France, Germany, South Korea, Norway and Turkey were collected and compared for different time periods. The findings of the present study showed that in almost all indicators in the field of sustainable development, Iran is in a growing situation, but there is still a significant gap between Iran and developed countries such as France, Germany, Norway and South Korea. The relatively high dropout rate of Iran compared to other developed countries shows that Iran has a more unstable situation than these countries.*

Keywords: *Sustainable Development, Education, Secondary Analysis, Iran*.

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Introduction

Sustainable education for sustainable development focuses on the development and strengthening of the human capabilities and enables them to participate in various development processes in different types and dimensions. From this point of view, all kinds of abilities and skills such as reading, writing and calculating are considered. High-level abilities such as creativity, operational thinking and solution-oriented solutions are very important for sustainable development and without these provisions it is impossible to achieve the methods, concepts, techniques that make us successful in creating sustainable contexts. After more than two decades of lots of debate, it now appears that, as per report released by UNESCO in 2017, the following eight capabilities have been agreed upon as training capabilities to achieve sustainable development:

- Systematic thinking competency
- Anticipatory competency
- Normative competency
- Strategic competency
- Collaboration competency
- Critical thinking competency
- Self-awareness competency
- Integrated problem-solving competency

According to the United Nations, Iran is ranked 59th out of 166 countries in the ranking of world sustainable development indicators with a score of 71.8, According to the same report, developed countries and high-income countries have been able to achieve development goals to a large extent and are on the path of sustainable development indicators, while the Middle East and North Africa region is experiencing challenges in achieving sustainable development goals. And their growth path has been stagnant or very slow. The report shows that in the Middle East and North Africa region, Iran is the only country that has achieved the goals of sustainable development in the education sector and is on a growing path

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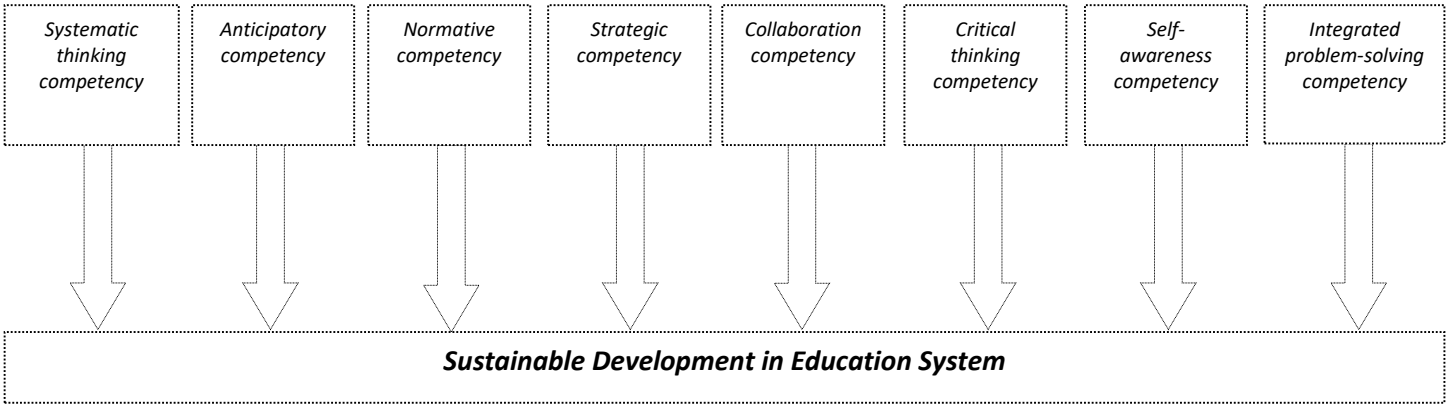

Taking a closer look at other indicators of sustainable development in Iran, we find that despite the appropriate status of the quality of education index, in other indicators such as lack of hunger, gender equality, safe water and health, employment and economic growth, reducing incompatibility and peace, justice and strong institutions, unfortunately the situation is not good enough, and it has not been able to achieve the set goals of sustainable development.

Of course, trends show that fortunately Iran has started a gentle path of growth towards some of these goals, but now the conclusion that can be drawn from this report is: educational development has not yet been able to make decisive changes in the growth of Iran's sustainable development indicators. But shows the growth trend of indicators with serious emphasis on education, along with other development measures, can be considered a suitable option for Iran to move towards sustainable development.

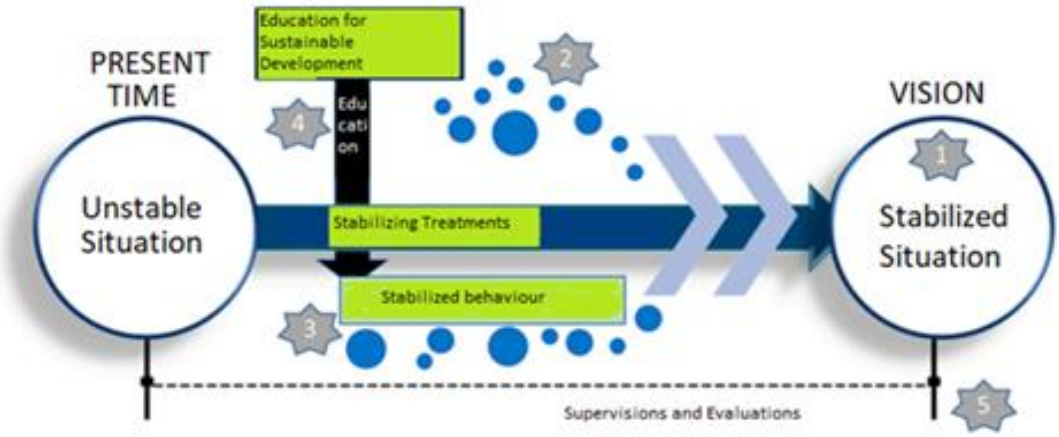

Figure (1): Sustainable development, educational framework, and its main steps
(Source: Voulvoulis & Burgman, 2019)

Secondary Analysis Approach

The practical use of this kind of data (secondary) in research is very common when a large amount of information is collected and available by various researchers around the world. Secondary data analysis means the analysis of information collected by other researchers for various purposes. Using this data is a valuable opportunity for researchers who do not have enough time and resources to produce primary data. Secondary analysis is an empirical approach that follows the same principles and foundations of primary data and, like other methods, has steps to follow. In conducting secondary analysis, determining the scope of research and research questions is very important in choosing the method. The research method determines the method of collecting, analyzing, and interpreting information.

An important point in the analysis of secondary data is the use of theoretical information and existing knowledge to ask a question that the secondary data must answer. In the present study, the following questions have been asked and to be answered through secondary analysis:

- What is the situation of sustainable development indicators in Iran and selected countries?
- What is the status of education indicators in the sustainable development of Iran and selected countries?
- What is the statistical relationship between educational indicators and other indicators of sustainable development?

As mentioned before, in secondary data analysis, the goal is to collect previously generated data based on the objectives and research questions. In the present study, considering that the purpose was to collect information on sustainable development and since in the present study we wanted to compare Iran's data with several selected countries, we needed a set of information that could provide information on different countries on sustainable development in a range of given period of time. Examining various databases such as the World Bank, the International Monetary Fund, the FAO and the Human Development Indicators, we came to United Nations reports on sustainable development, which are continuously produced every year from 2000 to 2020 and information it has a complete picture of the Sustainable Development Indicators in the 2030 Declaration, so the information in this dataset was selected for analysis. Based on the statistical information obtained from the secondary data, the necessary analyzes of the results have been performed.

Distribution of sustainable development scores of selected countries and Iran

As shown in Figure 2, the highest stability scores are for France 81.13, Germany 80.77, and Norway 80.76, respectively. South Korea, as one of the developed countries, has a favorable score of 80.76, which can be compared with other developed countries in terms of development. But the scores of the other three countries, namely Iran 71.81, Brazil 72.67 and Turkey 70.30 show a significant distance with other countries.

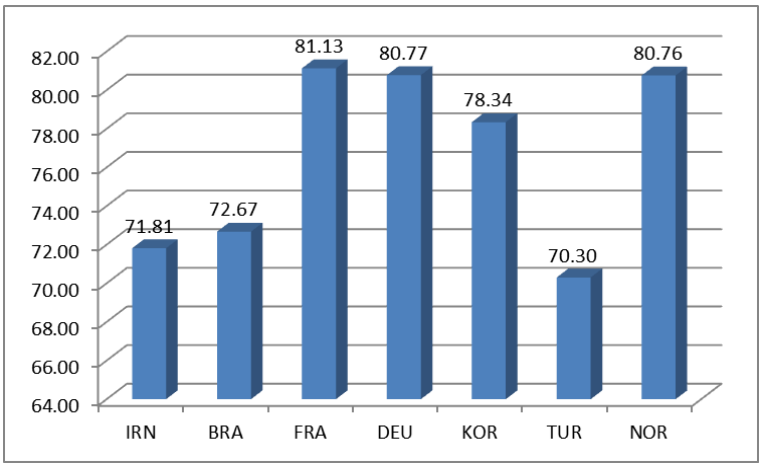

Figure (2): Distribution of sustainable development scores of selected countries and Iran

Rank of sustainable development of Iran in comparison with selected countries

Figure 3 shows the ranking of the degree of sustainable development of the selected countries, as shown by France (ranked 4th), Germany (ranked 5th), Norway (ranked 6th), and South Korea (ranked 20), respectively Brazil (ranked 53), Iran (ranked 59) and Turkey (ranked 70).

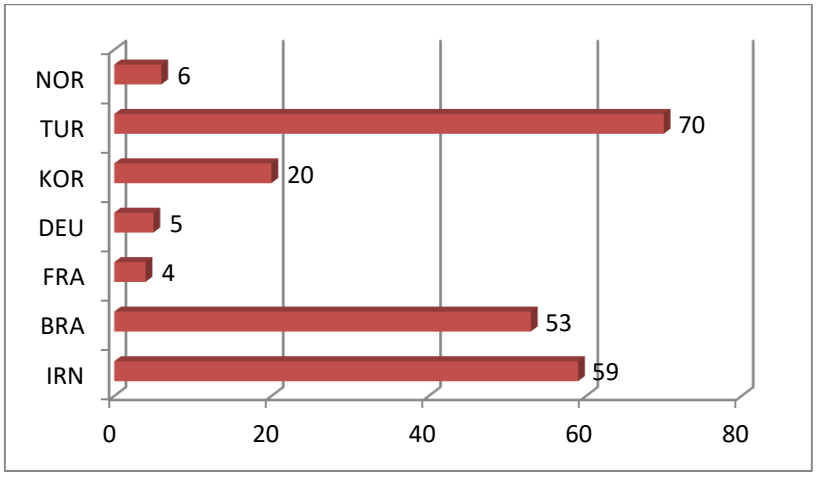

Figure (3): Distribution of sustainable development rankings of selected countries and Iran

Indicators of sustainable development of Iranian education compared to selected countries

Figure 4 shows the status of the fourth Sustainable Development Goal Indicators extracted from the 2020 UN Report. This goal, which is indicated as "quality education", has 9 indicators: "Net primary enrollment rate" (sdg4_primary), "Secondary education completion rate" (sdg4_second), "Literacy rate" (sdg4_earlyedu), "Participation rate in pre-primary non-organizational education", "higher education" (sdg4_tertiary), "PISA score" (sdg4_pisa), "diversity in relation to science and socio-economic performance" (sdg4_socioec), "people with little knowledge in science" (sdg4_science) and "learners resilience in science" (sdg4_resil). But there was only information on the eight indicators in the 2020 report, and there was no information on the "literacy rate" in any of the selected countries.

Unfortunately, out of the 9 indicators of sustainable development of education, there is only information about the first two indicators about Iran and Brazil, and this does not allow for a favorable comparison of Iran with other countries. In the first index, "primary registration", Iran is only better than Brazil, and in the second index, "the completion rate of the second period", this issue can be seen, and Iran is in the second place in terms of low registration. In this index, the distance between Iran and developed countries and even Turkey has increased significantly, and this shows that the dropout rate and non-completion of courses up to higher and university levels in Iran is significantly different from developed countries. And this is a sign of instability in education in Iran compared to developed countries.

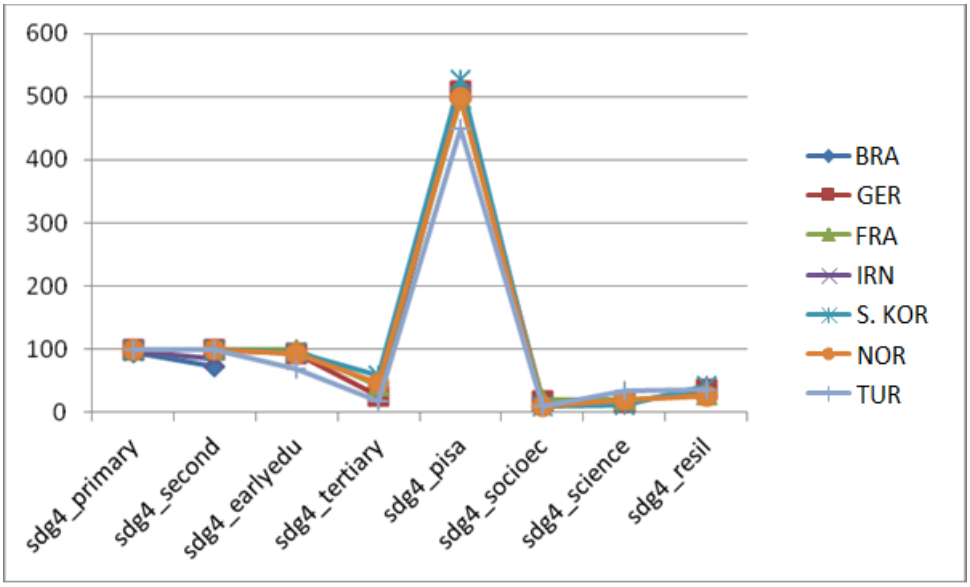

Figure (4): Status of sustainable development of education in selected countries and Iran

Iran's education indicators compared to selected countries based on human development report

The United Nations Development Program (UNDP) report provides data on the countries of the world from 1980 to 2013, which also includes the education index, which can be seen in Figure 5. According to the report, Norway ranks first, Germany ranks sixth, South Korea ranks 15th, France ranks 20th, Turkey ranks 69th, Iran ranks seventy-fifth and Brazil ranks seventy-ninth in the world. As shown in Figure 4 Between 1980 and 2013, all countries studied had a growing trend in education indicators, and Iran, Turkey and Brazil had a relatively significant gap with developed countries.

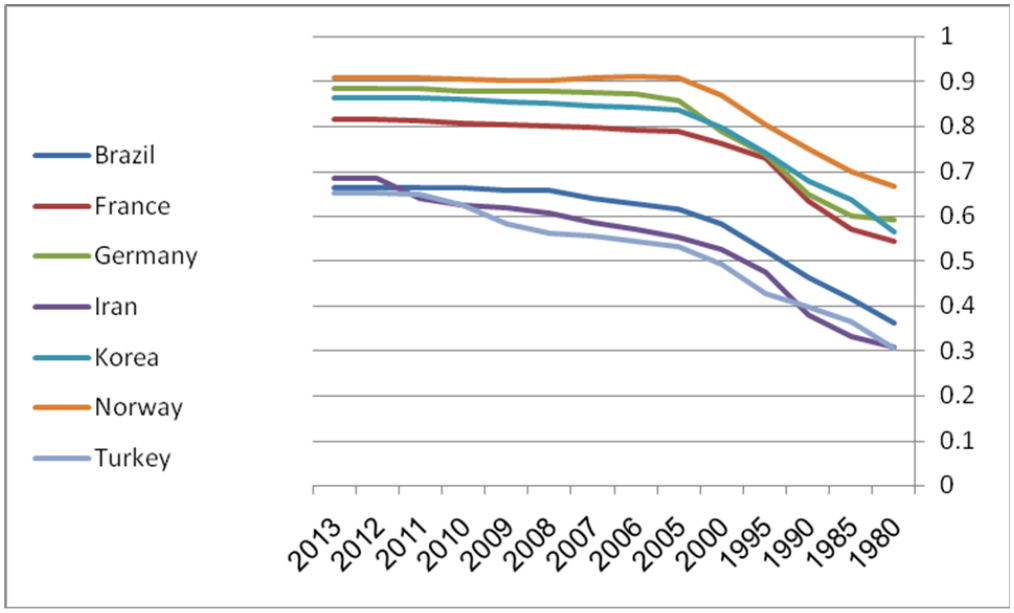

Figure (5): Status of education in selected countries and Iran

Comparison of sustainable development scores and education scores in selected countries

Figure 6 compares the sustainable development scores of the selected countries with the education scores and show that the countries that scored higher in the sustainable development indicators were also better in the education scores. Of course, for better comparison and matching of the scores of these two indicators, the scores of the education index have been multiplied by 100. The chart shows that up to 80 points of sustainable development index increases in line with education index, but beyond this score, with increasing education score, there is no significant change in sustainable development scores. The correlation coefficient of these two variables is 0.959, which at a significant level of 0.001 and indicates a very strong and significant relationship between these two variables.

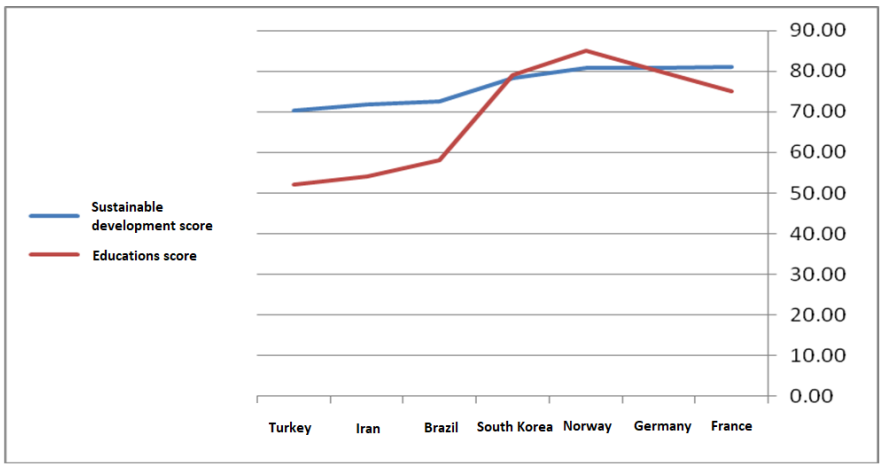

Figure (6): Comparison of sustainable development scores and education scores in selected countries

Comparison of education scores based on the 2020 Human Development Report

In the Human Development Report released by UNDP in 2020, indicators such as pre-primary, primary, secondary, and tertiary education coverage, primary school drop-out rate, survival rate until the end of secondary school, and government spending on education, it has been considered as indicators of educational performance of the countries, the results of which are shown in Figure 7. As can be seen in this report, Norway is also ranked 1st. After Norway are Germany, South Korea, France, Turkey, Iran, and Brazil, respectively. Iran is ranked sixth in the selected countries with a ranking of 70 and is in a better position than Brazil.

In the pre-school coverage index, as can be seen, Iran's score is 54%, which means that nearly half of pre-school children are not covered in educational programs. While in this index, developed countries are in a much better position than Iran. The rate of educational coverage in the primary school is 100%, which shows the favorable situation of Iran, even in the ranks of developed countries. In the secondary school coverage index, it shows 84% of the students in this level, which indicates a significant decrease from the primary school. The results of this report show that 68% of higher education is covered in Iran, which is almost like developed countries such as France and Germany and shows a significant difference with Norway and South Korea. In this index, Iran is in a better position than Brazil. Another important indicator in this report is the dropout rate of primary school students, which shows that 4% of primary school students drop out of Iran, and it is interesting that this rate is almost equal to a developed country like Germany. But it is significantly different from other developed countries such as Norway, South Korea and even Turkey. In Iran, 94% of students can continue their education until the end of high school, which is close to the figures of developed countries, and only Brazil differs from other selected countries in this regard, and only 74% of students in these countries graduate. They continue their education in high school.

Government spending on education in Iran is 4% of GDP, which is almost at the same level of the developed countries such as Germany, France, and South Korea. Norway and Brazil spend more on education than other countries.

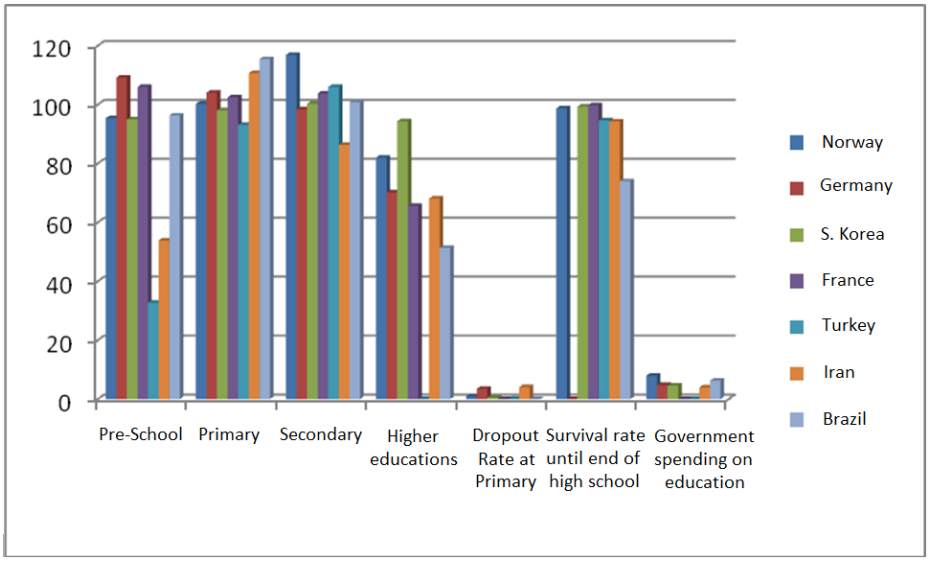

Figure (7): Comparison of education scores based on the 2020 Human Development Report

Conclusion

The Education Index is also recognized as an important indicator in the United Nations Development Program, and in this report also, states that between 1980 and 2013, Iran is ranked seventy-fifth, and only Brazil is ranked seventy-ninth after Iran. And in this ranking, Norway is ranked first. Comparing the scores of sustainable education development indicators with the average scores of other sustainable development indicators in selected countries, indicates a direct and significant correlation between sustainable education development and other areas of sustainable development.

In general, the results of the secondary analysis showed that despite the growth in sustainable development indicators in Iran, but there is a significant gap between Iran and developed countries. And to have an effective approach to sustainable development improving of the quality and quantity of the education system must be adhered in Iran.

Offers/ Suggestions

Turning to the topics in this session and re-emphasizing the reasons for the development of the education system, suggestions around these issues to achieve Sustainable Development training is provided as follows.

- Maximum coverage of educational facilities and programs in terms of important factors such as geography, gender, race, ethnicity, etc.
- Covering different educational levels, especially primary and secondary levels in different cities and regions of the country
- Development of educational infrastructures throughout the country
- Identifying different factors of academic failure and dropout among students and ways to prevent it
- Paying attention to the real needs of the society in the field of education and taking the necessary care to guide the educational programs and contents towards these needs
- Serious attention to preschool courses and appropriate culture building among families to welcome these courses and remove existing barriers by related institutions

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