Chapter 4
Differentiation for the Gifted: Opportunities Provided by Distance–Online Education

Gülşah Avcı Doğan
https://orcid.org/0000-0002-9733-3228
Ordu University, Turkey

ABSTRACT

This chapter aims to recommend the Differentiated Hybrid Education Model for the gifted and a differentiation proposal for STEM education. Differentiation is examined along with educational models and strategies in gifted education. Effective differentiation methods and techniques in the field are constantly being renewed. These renovations include the use of technological instruments and technology-based program designs in education. As forms of technology-based environments, distance and online education are the models that are rarely used under normal conditions have become a necessity with the pandemic period. This period naturally created an opportunity for distance-online education to be seen as a differentiation strategy for the gifted. STEM, which is an effective approach in the education of the gifted, stands out as a good example that can be adapted to the Differentiated Hybrid Education Model..

INTRODUCTION

Various educational strategies are proposed for the effectiveness of teaching gifted students considering their characteristics and educational needs. The rapidly changing era, and thus, the changing needs lead to various spontaneous arrangements. In this regard, even if the characteristics of the gifted student remain the same, the quality of education required is constantly changing. A rapid shift that can be called the beginning of a new era occurred with the Covid-19 pandemic (World Health Organization [WHO], 2020). All known orders have been transformed, and all applications have been updated. Naturally, crowds could not be physically held together, and everything was carried out through internet-based applications and platforms. The weakening of the pandemic and the fact that this process took too long has prompted all countries of the world to return to the habits before the pandemic under the name of “new normal” or

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"controlled normalization." As each field underwent a re-organization process, a large audience also faced new regulations ranging from early childhood to graduate education levels. The regulations are evaluated together with the advantages and disadvantages of online life. In this manner, although the process is fraught with difficulties in fighting the disease, making positive gains from these life experiences is aimed. It is known that there have been predominantly disadvantages at all levels in the field of education during the pandemic (Anderson, 2020). Adverse consequences are encountered due to students' staying away from schools that are the heart of their academic, social, and emotional development. Although many studies and reports revealed negativities, attempts are being made to create educational proposals for gifted students who have experienced some advantages in the process. This section aims to examine the areas where distance-online education can be used for the education of the gifted and to present a differentiation proposal with the combination of formal education and distance-online education. The aim of this study is to contribute to the field with a proposal for the education of gifted students. In this section, the educational needs of the gifted are explained in line with their characteristics, and a synthesis is suggested in which distance-online education is integrated. Educational differentiations for Science, Technology, Engineering, and Mathematics (STEM), which is the application area where the distance-online education model can be used effectively, are discussed. The following topics are examined in order to create the synthesis referred to as a differentiated hybrid model:

- General characteristics and learning characteristics of the gifted
- Educational needs of the gifted
- Training strategies and distance-online learning applications for the gifted
- What distance-online education brought after the pandemic
- Integrated use of face-to-face training and distance-online education
- Program differentiation for STEM education

BACKGROUND

Characteristics of the Gifted

Although the characteristics of the gifted are well known and frequently mentioned, it would be convenient to remember them to discuss developing suitable programs. In fact, these characteristics should be always present as a guide in front of program developers. However, there should be no expectation or belief that all these characteristics appear simultaneously or that all gifted individuals have them. The gifted have features that differ not only from their peers, but also from other gifted humans. On the other hand, in the gifted with common characteristics, similar characteristics should not be expected to appear during the same periods or at the same rates. While some gifted children can be easily discovered with the appearance of specific features, others cannot be visible without being ascertained by means of a diagnostic tool. There are some features that stand out and distinguish them from their peers. These are reported to include rapid learning, good memory, broad vocabulary, good comprehension, abstract, complex, and strong perception, long attention span, focus and condensation, learning with little repetition, broad field of interests, advanced curiosity and interest in details, interest in learning in different ways, experimentation, making distant connections between ideas and words, advanced sense of humor,