

## Inclusive Education as A 21st Century Teaching/Learning Method for Students with Physical Disabilities in High School Physics Classes

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### Abstract

The responses to special educational needs appear in different countries according to the given education policy. In Hungary, the education of students with moderate and severe disabilities cannot be fully realized together with the others, due to deficiencies in both infrastructure and personal conditions. During co-education, the actual needs of the students with physical disabilities arising from their specific situation often do not become visible. This results in the fact that the interest in natural sciences, especially physics, is very low in the case of these students. In Hungary, with a nationwide enrollment scope, the “Mozgasjavító” Kindergarten, Elementary and Specialized Secondary School, Unified Special Education Methodology Centre and Students’ Residence provides access to learning in special education for 200-250 students. The experiences presented here bring solution methods that, as good practice, represent a useful approach for others. Recently, we focused on the spirit of an active and inclusive approach, let's give these students a chance for real learning. Let's fundamentally reform the approach to teaching physics. Let's dare to give real-world problems, in small groups instead of individually, with individual responsibility. Such a solution is projects based on real problems, in which the approach to physics is adaptively linked to the physical condition of students, while ensuring experientiality. It is important that the development of social competences, digital literacy and communication skills also appear in the lessons, which is also crucial for social integration. In this case, the rethinking of physics based on learning activity brings novelties that, with the tools of STEAM and maker pedagogy, enable the arousing of interest in physics, and students can actively plan their participation in learning. The segregated environment allows for solutions to the challenges of special educational needs to be created, which, by using digital tools, can bring success even in less popular areas such as physics education.

**Keywords:** adaptation of STEAM projects; adaptive and maker pedagogy; inclusive education; special educational needs in physics lessons; students with physical disabilities