Raising Awareness of Learners with Special Needs as Part of Global Education

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Introduction

There are many learners with special needs in the classroom today. These include learners with visible and invisible disabilities. Recently, a social model of disability has suggested that disability should be defined as inaccessibility to social resources (Oliver & Barnes, 2012). Therefore, learners with special needs can theoretically be considered as minority learners in the classroom, similar to learners with ethnic, language, cultural, or sexual orientation differences.

Rationale

This paradigm shift in defining minorities raises a basic question: Does the inclusive classroom enhance the learning experience of both minority and majority learners? Currently, the revival of school colour vision tests has been reconsidered (Takayanagi, 2014). This revival begs the question of what kind of learning experience will be created for learners with colour vision disabilities and those without? How can teachers improve the learning experience for all students? This is significant in that statistically every classroom will have at least one student with colour vision disabilities (hereafter, CVDs), roughly the same distribution as for left handed persons.

Educational Approach

Considering the status quo, this article recommends that teachers include topics of learners with special needs as part of global education by considering (1) the use of free colour vision simulators in the classroom and (2) pedagogical tips for students with CVDs as one of examples of learners with special needs. There are two approaches which teachers can apply in order to improve the learning experience in the classroom. These involve first recognizing the nature of disabling classrooms and second criticizing the ableistic notion of colour recognition (Hoshika, 2013). The first approach aims to reduce physical barriers. In contrast, the second approach criticizes the common notion that being "able" is better than being "unable."

Use of Free Colour Vision Simulators

One way that teachers can reduce barriers for learners with CVDs is by using simulators to recognize aspects of the colour vision environment in the classroom. There are many free simulators available online today, such as mobile simulators and computer simulations. The *Chromatic Vision Simulator* app, for example, simulates colour vision deficiencies and can be downloaded - for free - from both the Apple App Store and Google Play. One of the best features of this app is that it splits the mobile screen into different colour vision types so that users can visually compare their own colour visions with other types. Teachers may walk around with their phone in the classroom and take pictures if necessary.

There is also *Toyo Ink Uding Simulator*. This program works on both computers and iPhones. It is available for free from both the Toyo Ink Uding website and the Apple App Store. This is slightly more complicated to use than *Chromatic Vision Simulator*. However, it allows users to actually make pictures or designs compatible. With these colour vision simulators, teachers can become more aware of disabling classroom environments.

Pedagogical Techniques for Creating a Colour Vision Friendly Classroom

There are many products of color universal design (hereafter, CUD) available for the classroom. For example, *eye chalk* made by Nihon Rikagaku Industry may be a good choice because red or pink chalk on the blackboard traditionally tends to be difficult to read for those with CVDs (Kanata, 2013). *Eye chalk* is available at local stationery shops.

In addition to *eye chalk*, teachers can also improve the learning experience of students with CVDs by writing words together with colour-coordinated information so that these learners have an alternative chance to understand (Kanata, 2013; Color Universal Design Organization, 2009). This method works well for graphs or charts. Teachers can physically write percentages or categories on the coloured areas of graphs.

Lastly, teachers may also want to avoid using colour names for classroom instructions. For example, it is recommended to say "Write the number in your notebooks" instead of saying "Write the number in red in your notebooks". In short, the use of CUD products, writing words for coloured information, and being careful to avoid

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colour names for instructions are tips that teachers can apply in class in order to improve the learning experience of learners with CVDs.

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Providing recognition of an ableistic notion of colour vision for students in order to increase their learning experience in the classroom is also important. According to Hoshika (2013), an ableistic notion is a common belief that being able to do something is better than being unable to do it. Therefore, it is important for teachers to provide a relativistic value of colour vision for students in their classrooms.

One way to do this is to present CVDs as a discussion topic in the teaching of global issues. For example, teachers can provide a picture with a normal colour vision view, then provide the same picture with a simulated CVD view. The choice of pictures to use for this task is completely open but pictures of the sun, rainbows or apples may be a good start. The sun may traditionally be red in Japan but yellow or golden in other cultures. The number of colours in a rainbow may also differ by language group. Apples too are often depicted in red in one culture but in green in another. The strength of this approach is that it enables teachers to introduce their students naturally to different perspectives in which colour categories and recognition may differ by culture or language.

Teachers may explain these relativistic points in class or provide time for learners to think about these points on their own by asking them to find their own examples for homework. If schools can ensure the availability of mobile simulators to all students, it may also be productive for students to go out and search for disabling environments in the local community.

It may also be interesting for students to consider or compare the names of colours in different languages since the meanings, categories, and images of certain colours often differ by culture. For example, many international students studying in Japan find it strange when they realize that Japanese people refer to green traffic signals as "ao" (blue). This approach may encourage learners without disabilities to begin to question ableistic notions of disabilities. Who do we consider "disabled" and why?

Conclusion

The key for creating an inclusive classroom is for teachers to be aware of the existence of learners with special needs in their classrooms. In a classroom with an average of 40 male or female students, statistically there should be at least one student with CVDs, dyslexia, ASD (Autism Spectrum Disorder) or left handedness. This is likely also the same range of distribution for ethnic, linguistic, socio-economic, sexual orientation or other sub-cultural minorities. Therefore, teachers should always keep the invisible existence of learners with special needs in mind. As Mortier, Desimpel, Schauwer, and Hove (2014) suggest, those students with special needs should decide whether and how support can be provided.

This approach is well suited to classes of global issues but is not limited to language teaching. Global education is not just about discussing issues in the world. It also involves recognizing, understanding and communicating with culturally, linguistically and socio-economically diverse people around us. Therefore, raising awareness of learners with special needs is an important part of global education.

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