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## **English Teacher Education for Understanding Autistic Traits as Learner Differences**

### **Education According to Individual Differences**

According to the Ministry of Education, Culture, Sports, Science, and Technology (2012), approximately 6.5% of students in mainstream public elementary and junior high schools suffer from some kind of behavioral or learning difficulties. English teachers in mainstream classes have reported the troubles and difficulties they face when teaching English (Kagata et al., 2014). Tachibana et al. (2004) found that teachers in junior high schools had insufficient knowledge of special needs education (SNE).

Although in the field of English education there are some studies of dyslexia (e.g., Murakami, 2011; Murata, 2014, August), there are few studies of behavioral or communicational difficulties, particularly those of students who do not demonstrate intellectual disabilities.

The aim of this research was to explore and propose a system of initial English teacher education in which teachers would be taught to integrate knowledge of English teaching and that of SNE by considering three interrelated standpoints: English learners with behavioral or communicational difficulties, English teachers, and prospective English teachers.

### **The Characteristics of English Learners with Autistic Traits**

In this dissertation, I considered autistic traits as individual differences. Autistic traits include hypersensitivity, difficulty in switching attention, difficulty in imagining other people's feelings or thoughts, and anxiety about the unknown (Ono et al., 2010); hence, sensory learning preferences, anxiety, and working memory are considered to be related to autistic traits. Although individual difference factors and English performance have often been examined, the relationships between these factors have not yet been explored, particularly in learners with behavioral or communicational difficulties. To explore the characteristics of learners with autistic traits, three studies were conducted.

**Study 1a:** Study 1a explored the relationships between autistic traits, learning styles, and anxiety. Among autistic traits, social skills were negatively correlated with group, tactile, and kinesthetic learning styles. Intragroup differences showed that learners with autistic traits had both strong and weak skills; therefore, we should focus on strengths of each learner. There was no significant correlation between autistic traits and anxiety.

**Study 1b:** Study 1b revealed the levels of anxiety caused if the preferred learning styles of learners were mismatched with the way they were taught. From the cluster analysis, there were five groups with similar tendencies toward anxiety resulting from the absence of written English in public elementary schools. The pupils in each group had different needs for written English.

**Study 1c:** Study 1c identified the relationship between English vocabulary size and autistic traits. There was moderate correlation between the capacity for phonological short-term memory and receptive vocabulary size, but no significant correlation between this and productive vocabulary size.

### **Instruction in SNE for In-Service English Teachers**

Teacher education systems in England, Sweden, Australia, Italy, and Korea were summarized. These countries can be divided into two groups. The first group contains Italy and Australia where, SNE teachers are assigned to particular classes and in charge of these classes with mainstream teachers. The second group comprises England, Sweden, and Korea, where SNE teachers are professional teachers who are responsible for teaching students with special educational needs in special education classes or schools. The first system may lead to mainstream teachers' dependence on SNE teachers for teaching students with special needs. Mainstream teachers do not necessarily learn about SNE or disorders because professional SNE teachers are in their classes. In the second system, where mainstream teachers often send students with special needs to SNE classes for specific lessons, the mainstream teachers' responsibility lies in segregating SNE students rather than managing them.

In Japan, English competency is often seen as the main measure of an English teacher's ability, and teachers tend to focus mainly on their knowledge of English or English education. However, as specified by MEXT (2015e), subject area and teaching profession areas should be integrated. Prospective teachers therefore need to integrate their knowledge of English education and that of SNE.

In Study 2a, challenges or difficulties in teaching English to students with behavioral or communicational difficulties were explored by a questionnaire survey of English teachers in public junior high schools in Tokyo and Chiba. The survey found a mismatch between instructional methods and the learning styles of students with behavioral or communicational difficulties. Teachers were also aware that they did not have enough knowledge of SNE and the characteristics of students with behavioral or communicational difficulties and that their knowledge was insufficient to provide adequate support to their

students. In addition, they did not know of the roles of SNE coordinators and SNE schools.

Study 2b explored how English teachers in a seminar about SNE in English education attempted to resolve a hypothetical case and how they changed after the seminar. The discussion of the hypothetical case worked, as it gave opportunities for the participants to share their difficulties, problems, and feelings. The structure of the seminar—instruction, hypothetical case discussion, and feedback—was found to be suitable for them. They utilized what they learned from the lecture during the discussion, then the instructor provided additional information to them. Finally, they reflected on their learning after the seminar. This process deepened their understanding of the characteristics of students with developmental disorders, particularly autism spectrum disorders.

### **Effects of SNE Instruction on Pre-Service English Teachers**

In initial teacher education, I instructed prospective English teachers on the characteristics of developmental disorders, especially autistic traits (Studies 3a and 3b). I examined how the prospective English teachers analyzed the hypothetical case, which included teaching students with difficulties in English classes, and how they changed after the instruction. The needs of the prospective teachers during initial teacher education were also explored. The prospective teachers had difficulties in imagining the situation described in the hypothetical case due to a lack of knowledge and experience of learners with autistic traits. They needed the opportunity to observe English classes that included students with behavioral or communicational difficulties. They seemed to interpret SNE by imagining students with special educational needs as students with severe disorders, which led them to regard the provision of support to be time-consuming and demanding for teachers. Moreover, as most of their support ideas were barrier-free types of support, it is natural that they were overwhelmed by the number of tasks they needed to do. The idea of providing individual support to each of the students with difficulties upset them.

In Study 3c, I provided instruction about individual differences to the prospective English teachers in their second year of teacher education. I explored how they recognized students' differences. They appeared to view a class as consisting of two or three subgroups defined by the students' (English) ability, their individual introvert/extrovert personalities, their likes/dislikes, and whether they were good or bad at English or communication. Some of them saw giving the same teaching materials or activities to all students as "treating students equally." Mainstream classes include students with diverse educational needs, which

sometimes cause students difficulties in learning English without support. The results of this study indicate that prospective teachers in their second year of training had difficulty understanding individual differences. However, this does not mean that teacher educators should avoid teaching individual differences as part of initial teacher education. Rather, they should spend more time teaching the factors that contribute to individual difference. Unless teacher educators clearly describe the classroom settings, when prospective teachers learn teaching approaches or methods, they assume generic elementary, junior high, or high school students according to their interests. Therefore, teacher educators should clearly describe the settings and let prospective teachers use their knowledge of teaching approaches and methods to construct lesson plans. Teacher educators should keep in mind that teaching approaches/methods and learner difference factors interact with each other.

However, I do not believe that teacher educators should provide all that the participants need. If we try to teach how-to-do-everything, we would need to know all possible patterns. Since people vary in many ways, as I explained in Chapter 2, it is impossible to make all patterns clear, and we cannot divide people into groups with clear boundaries. There are some patterns that help us provide some support; however, should teacher educator teach those patterns to prospective teachers? Prospective teachers are required to have the ability to deal with students with difficulties; nevertheless, this does not mean that they need to have the practical knowledge of how to teach students with special educational needs. Instead, they need to know how to find solutions to help students with difficulties.

## **Overall Discussion**

The most remarkable finding from the studies of English learners with autistic traits was the incompatibility of major instruction styles with the learning styles preferred by the learners. When we focused on intra-personal differences, we found that each learner had strong skills or preferences in some areas. In practice, the English teachers experienced difficulties in teaching English to students with behavioral or communicational difficulties, and they acknowledged that they had insufficient knowledge of the characteristics of those learners and how to support them.

The prospective English teachers had difficulty imagining the situation of the hypothetical case in detail. This made them spend a lot of time raising questions or complaining about vague points in the hypothetical case. Instead of discussing the hypothetical case, they shared their feelings and concerns that

they did not understand the students well. They did not seem to realize that exploring the undescribed is the first step in supporting a student. However, they did recognize the importance of asking what students would like to do. Moreover, the prospective English teachers did not have experience in communicating with learners with autistic traits, which made it hard for them to resolve the hypothetical case describing a student with communicational difficulties. They needed opportunities to observe English classes that included students with behavioral or communicational difficulties during their initial English teacher education.

The second-year prospective English teachers appeared to see a class as consisting of two or three subgroups and focusing student outcomes at subgroup levels. However, some prospective teachers decided on the teaching method to use by focusing on the average of majority of their students. For some of the prospective teachers, “treating all students equally” meant that teachers should provide the same level of attention, teaching materials, activities and methods to all students. They were anxious about spoiling or discriminating for or against students who struggled in English classes. I assume that the misconception that “provision of the only one material to all students in one classroom is fair” might come from prospective teachers’ low confidence in explaining to students why some struggling students were given different materials.

## **Implications**

*For the initial English teacher educators.* The main implication for initial English teacher education is that it should provide opportunities to integrate prospective teachers’ knowledge of English education (their professional subject area) with knowledge of SNE, particularly about behavioral or communicational difficulties. Recognizing environmental factors is important when considering support for students with these difficulties: We should never decontextualize the problem situations observed in English classes. Teacher educators should be aware that the problem behavior displayed is not unique to English classes; it may also be seen in other classes. However, they should also be aware that problem behaviors in English classes may be due to the English class environment. By integrating SNE learning into learning about English education, prospective teachers will become aware of the diversity of their students as individuals and take responsibility for all students in their English classes. I suggested two activities to integrate knowledge of SNE and that of English education: Demonstration lessons for the class including student(s) with special needs, and discussion of hypothetical cases.

Teacher educators are already aware that prospective teachers do not necessarily learn things immediately; they need time to digest new information. Consequently, they should be exposed to the same information repeatedly until they can absorb and utilize it. When teaching prospective teachers, especially before their practicum, teacher educators should provide visual aids or opportunities to observe classes that include students with communicational or behavioral difficulties. Prospective teachers should visit SNE classes or resource rooms as well as SNE schools, since most prospective teachers in this research had never seen students with communicational or behavioral difficulties but without any intellectual disabilities.

Teacher educators should tell prospective teachers how important learning about SNE is. They should raise prospective teachers' awareness that they are accountable for their teaching and make them aware that they need to deeply understand what they learn during initial teacher education so they can finally put it into practice.

***For mainstream English teachers in elementary and junior high schools.*** Teachers should understand the principle of SNE itself, the central role of SNE coordinators and teachers in SNE schools, characteristics of developmental disorders, and some ways to support students with those characteristics. By acquiring knowledge of SNE and disorders, they can decrease the setbacks and problems faced when teaching students with difficulties and provide appropriate support. Most importantly, teachers can provide reasonable educational support to students with difficulties when they know what ability needs to be acquired by students in light of their difficulties.

For ensuring equal learning outcomes for all students, teachers should consider what materials to use, taking account of their students preferred ways to learn English. Moreover, they should use a variety of teaching ways or activities (e.g., kinesthetic learning, learning by doing, and group/pair/individual learning) and let their students choose materials or activities.

***For training in-service English teachers.*** Teachers should be encouraged to integrate knowledge of SNE with that of their professional subject areas and student guidance area. Depriving behavior of context makes it difficult to interpret problem behaviors appropriately. English be able to ask each other for help when seeking resolution of their teaching difficulties in English classes.

The sequence of the seminar conducted as Study 2b—instruction, hypothetical case discussion, and feedback—can deepen their understanding of SNE and integrate their knowledge of English education with that of SNE. The information included in one SNE instruction can be limited particular points. However, we

should keep in mind that SNE instruction covering the typical characteristics of developmental disorders might lead English teachers to think that some students do, in fact, suffer from these disorders, even though they are neither qualified nor authorized to diagnose them.

*For anyone engaging in English education.* From this research, autistic traits determined by the autism spectrum quotient (Wakabayashi, Tojo, Baron-Cohen, & Wheelwright, 2004) can satisfy at least two dimensions of individual differences; they can be applied to everyone and differentiate between people. Most importantly, recent views about individual differences focus on why some learners succeed more than the others, and these can suggest appropriate teaching approaches (Ellis, 2004). Understanding the severity or profiles of English learners' autistic traits can help English teachers select appropriate ways of teaching or materials for individuals. This is not to say that English teachers should determine which learners may have disorders, but rather that teachers should understand each individual deeply so they can offer meaningful ways for them to learn English.

## Conclusion

In conclusion, I propose the model of English teacher education presented in Figure 1.

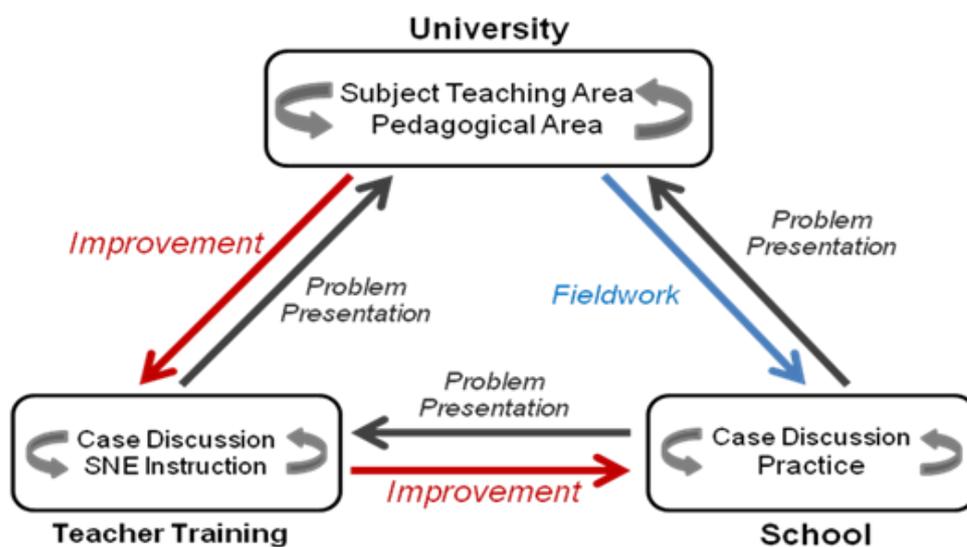


Figure 1 English teacher education model.

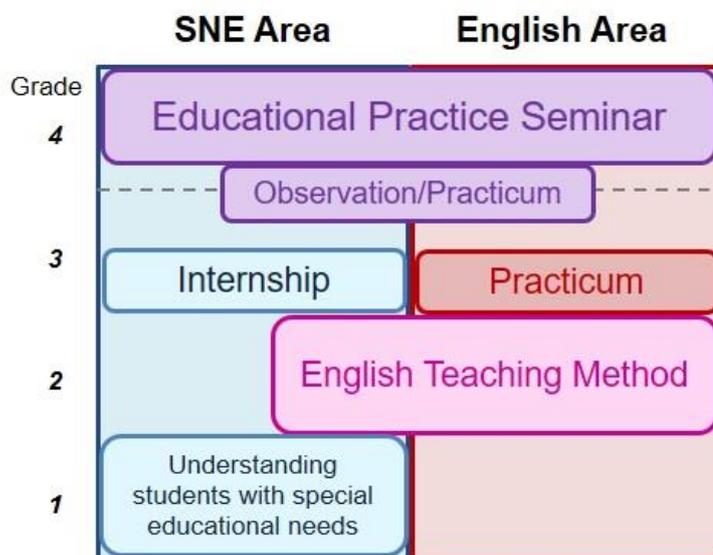
In the initial English teacher education shown as *University* in Figure 1, we should integrate the prospective teacher's subject teaching area and pedagogy area. These teachers need to experience teaching

students with difficulties or at least communicate with them in person (i.e., fieldwork). I suggest they go to SNE classes for students without any intellectual disabilities or resource rooms to observe their subject classes or do short practicums.

The in-service teacher education includes on-the-job training (*School* in Figure 1) and off-the-job training (*Teacher Training* in Figure 1). At schools, English teachers can share their teaching difficulties with other teachers and work together to provide mutual support. They can ask SNE coordinators or school committees to hold discussions at their schools. When there are any problem cases or difficult cases arise, they can ask university teachers (SNE experts or English experts with SNE expertise) for help, or they can go back to university to learn more. During off-the-job training, they can also share these cases with English teachers at other schools.

In the initial English teacher education, (*University* in Figure 1), I offer three suggestions for integrating the subject teaching and the pedagogical area (see Figure 2). First, teacher educators should include demonstration lessons or lesson planning for English classes using the SNE knowledge that they learned in their first year of teacher training. In the English teaching-method classes of the second year of initial teacher education, prospective teachers can learn English approaches and methods for students with special educational needs or other individual difference factors.

Second, teacher educators should provide opportunities for trainee teachers to experience English classes that include students with special educational needs to prospective teachers in their third or fourth years after their practicum in mainstream schools.



*Figure 2* Initial teacher education model.

Third, in the educational practice seminar provided in the fourth year of the initial teacher education, teacher educators should include opportunities for trainees to utilize their knowledge of their professional subject area and that of SNE. For instance, they could include discussions of hypothetical cases that include subject teaching settings.