

# Autistic Spectrum Disorders and educational support for them

— comparing with foreign countries and Metacognitive skills —

by  
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自閉症スペクトラム障害とその教育支援の在り方  
— 諸外国との比較、メタ認知能力に注目して —

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自己評価、メタ認知

## 1. Recent topics of education in Japan and other countries

The novel educational systems and their details in European countries have been brought to international attention in recent years. Additionally, the Organisation for Economic Co-operation and Development has shown that these educational systems are maintaining high educational standards compared to the rest of the world<sup>(1)</sup>. According to “Child Poverty in Perspective: An Overview of Child Well-being in Rich Countries” by United Nations International Children’s Emergency Fund Innocenti Research Centre found that especially the children in the Netherlands and Northern Europe are among the happiest children in the world<sup>(2)</sup>. In Finland, thorough education and generous support is given to children with special needs<sup>(3)</sup>. Finland’s educational method has been proved to be beneficial by the country’s high rank on OECD’s PISA tests<sup>(4)</sup>.

From December 2011 to January 2012, I interviewed some adults who had their basic education in these countries to learn what they think about and if they recognize the

effectiveness of these educational methods. This shows the direction of promoting autonomous learning at class and school life, but also that educational support for individually-targeted teaching is not enough, because putting too much emphasis on the support for low achieving students could lead the better achieving students feel left-out. These educational methods have now been established in some schools and these methods have been shown the improvement of overall outcome. It's apparent that these educational stiles relevant with learning outcome but it's not relevant with how children consider their own study, life of school, themselves and others subjectively.

In Japanese educational circles, the teacher provides thorough instructions and teaches the children en masse, only in one direction. Children are expected to achieve average results, comparable to the other children and are not supposed to stray much in terms of behavior either. They are also not expected to show any form of individuality; when asked a question they should answer just as the teacher expects them to answer. In such environments children have difficulties participating in class in a subjective way and are also severely restricted from learning differently using; individual learning context and individual abilities.

Especially children with developmental disorders have unique, often rational ways of learning that are suited to their special characteristics<sup>(5)</sup>. Also, no scientific study to date has shown exactly how children without any disabilities feel about learning methods adapted specifically to them. It is hard for these children to learn on their own strength alone and together with others. Some approaches<sup>(6)</sup> to aim at better understanding people with disabilities are being carried out at some elementary schools and junior high schools in Japan. In attempt to promote better understanding of disabilities among children at some elementary and junior schools in Japan, the teaching consists of children reading a book<sup>(7)</sup> about a certain handicap, for example using a wheelchair or blindness and also reading about how people with such disabilities actually feel. The children then try to simulate experiencing such disabilities<sup>(8)(9)</sup>. After these experiences, children often focus on the negative consequences for children with disabilities

In cultures where personal ratings are assessed by comparing average grades, children of high intellectual ability tend to compare themselves to others regularly. In contrast, low-scoring children or children with special needs continue to feel inferior. These children sometimes have no other choice but to act against social morals or resort to bullying<sup>(11)</sup> in order to express themselves or make their existence known to others. According to the

report by Furusho<sup>(12)</sup>, children in Japan have low self-esteem and the educational guidelines of Japan emphasize fostering zest for living in children. Furusho also state that special needs education that provides appropriate education to children with special needs has been established.

In an attempt to address this problem the “the inclusive education system” should be introduced to special needs education in Japan at practical level. The important part of this system is that children with special needs must be able to study together with other children, have a good understanding of each other and finally, must be able to be part of society by doing what they are good at<sup>(13)</sup>.

I've been working with other researchers on practical research that encourages children to plan, schedule and look back on their own life at school. This is done through the use of the Integrated Time Management Support System (RAINMAN4) at schools with children either with or without developmental disorders<sup>(14)</sup>. The purpose of this study is to clarify the interaction between children and how they independently manage their time and activities. In our studies thus far, children have tried to recognize the good and bad points in their classes and in themselves and have then worked on figuring out specific goals for them to become better. Through these practical studies I recognized that children's activities to improve their self-managing skill are closely related to their self-evaluation, self-awareness and also metacognitive skills. I think that by allowing one to properly appreciate one's likes and dislikes allows one to establish a positive identity.

## **2. Research in the ability of understanding others in children with developmental disorders**

Children who appreciate their own behavior and thoughts are able to improve their metacognitive skills. Strong evidence supports the relationship between self-awareness and ability to understand others. According to Tomasello<sup>(15)</sup> concept of self is based on infants seeing themselves objectively through the communication with others. Studies of children with ASD have found a positive association between self-awareness difficulties and difficulties in understanding others<sup>(16)</sup>. Until now, studies have focused on forward individuality and difficulties of ASD. Until now, it has been focused on difficult to get an understanding of state of mind; belief or intention, emotion when researching the children with Autistic Spectrum Disorder. These researches are divided into two about “understanding

the intention of others” including eye direction<sup>(17)</sup>, imitation<sup>(18)</sup>, theory of mind<sup>(19)</sup>, Joint Attention<sup>(20)</sup> and “manipulation the intention of others” including teasing<sup>(19)</sup> and deceptive behavior<sup>(21)</sup>.

The “false belief task” of The Theory of Mind Development Screening Test <sup>(22)</sup><sup>(23)</sup> has demonstrated that children with pervasive developmental disabilities have difficulties in imagining what other children think. Their research revealed that children of mental age from 4 to 5 years could pass the false belief task but children with pervasive developmental disabilities couldn't pass the false belief task until they were 9 years old. Some children have difficulties in interpersonal relationships even after passing the false belief task<sup>(24)</sup>. Happé<sup>(25)</sup> has done a study based on a story task, which involves figurative phrase, sense of humor, lying and sarcasm which are used in daily life. He pointed out that adults who are autistic and could pass the false belief task responded uniquely to the story task and had difficulties in forming personal relationship with others.

By the age of 4 to 18 months, infants begin to exhibit behavior with the intention of understanding others and their behavior. Infants follow adult's line of sight and then infants follow adult's line of sight again if adult still being looked<sup>(26)</sup>. At that time infants express variety of emotions<sup>(27)</sup>. This social referencing is significant<sup>(28)</sup>. When infant and adult have “joint attention”, adult make a comment of the infant's focus. Responding to adult's linguistic approach will promote infant's real conversation<sup>(29)</sup><sup>(30)</sup><sup>(31)</sup><sup>(32)</sup>. But autistic infants make little joint attention with adult while they are playing together<sup>(33)</sup><sup>(34)</sup>. Also autistic children who can join attention with others develop their language ability better than autistic children who cannot join attention with others<sup>(35)</sup><sup>(36)</sup>. Having joint attention through following the gaze of other is difficult for people with ASD or other developmental disorders<sup>(37)</sup>. Nagasaki & Onozato<sup>(38)</sup> show that autistic infants could manage joint gaze by the help of developmental support that aimed at joint action. They also state that it is important to working on joint attention within the framework of interactive communication which has the potential to promote autism's joint gaze.

### 3. Research trend of “teenager's oneself” in Autistic Spectrum Disorder

Since 1990 there has been more research on the effect of ASD to self-evaluation, self-awareness and memory. Mead<sup>(39)</sup> puts more emphasis on self-society and also oneself caused and developed by relationship with others. Mead also describes “The self as object:

I” is oneself which function and is organized by introducing other’s behavior into oneself. Additionally “The self as subject: I” is oneself that is biological response against other’s behavior. According to Neisser<sup>(40)</sup> oneself exists in an earlier developmental stage as an “Object of perception” and infants need to know oneself and then they can incorporate others and environment through social interaction. In term of self-knowledge, Neisser<sup>(41)</sup> described the concept of “the ecological self”, “the interpersonal self”, “the extended self”, “the conceptual self” and “the private self. Neisser made an allusion to the stage when this self-knowledge develops and how this self-knowledge relates others. There are few approaches for studying “oneself” and “others” of children with ASD<sup>(42)</sup>. On the other hand the number of approaches focusing on children’s improving self-awareness and relationships with others have increased during the past year<sup>(43)</sup>.

A group of adults with ASD having felt the need to behave similarly to others in the classroom, but they were unable to do so<sup>(44)(45)</sup>. Neither their families nor teachers understood how they felt at that time. They described having constantly thought along the lines of “I’m no ordinary person” and “Who am I?” although they simultaneously tried to established positive relationships with others. Especially according to the follow-up study by Kanner<sup>(46)</sup>, children with ASD starting in their early teens begin to understand their personalities better, make efforts on their own and recognize that they need to make friends. Similar follow-up studies have been conducted later<sup>(47)(48)(49)(50)(51)(52)</sup>.

Additionally, there are certain training methods and approaches designed to overcome these difficulties. These methods usually result in better performance in some tests, but essential improvements remained difficult to do<sup>(53)(54)</sup>. Other developmental disorders also cause problems in communication. Interactive communication with others and understanding others are important for one’s self-awareness. According to Capps et al. <sup>(55)</sup>, high-functioning autism exhibits low self-esteem measured by Self-Perception Profile for Children. Moreover the quality of a relationship with a friend is important for children with ASD<sup>(56)</sup>.

### Promoting self-learning and contentment of children

In Japan, studies on improving child’s metacognitive skills have been published. For example, the relationship between the ability to solve mathematical word problems and metacognition has been shown<sup>(57)</sup>. In another study<sup>(58)</sup>, author taught a child with developmental disorders to look back at the child’s computation procedure. However these

studies focused only on children's objective learning outcome and children's activities were guided by teacher or supporter. Children did not manage their own learning nor focus on subjective estimate about what children thought their own learning. Additionally the relationship between children's subjective self-assessment and their metacognitive skills was not assessed. I think that if people could monitor and control their own mental processes, it would allow them to recognize their mistakes more easily and figure out the best solution for themselves. It has been shown that in late childhood, children could set their objectives according to their own capabilities and to draw a plan and review their methods while looking back to their actions<sup>(59)</sup>. It can be suggested that these skills are significant for the children to actively participate in society throughout life of their future.

As Richters<sup>(60)</sup> described, children in certain school in Netherland's school have become autonomic learners and they could choose content of their studies and work out how they study – an education method that allows children to learn from each other's successes and mistakes.

There are few approaches that promote children's active participation at school. The Ministry of Education of Japan has stated that it is important for the children see themselves objectively and feel happy (subjective satisfaction) in order to develop a fortitude to live. Therefore it is thought that we need research how to promote self-learning abilities and self-managing skills in individual children (including children with special needs). Additionally we need to explore the connection between with the metacognitive skills.

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## 要旨

本稿において筆者はまず、昨今注目されている北欧諸国の教育体制とその成果について述べた上で、筆者自身が行った聞き取りの内容から今後の課題について指摘した。一方で、日本の教育体制や指導の課題として、発達障害のある子どもも含めた一人ひとりの子どもの学び方の違いは受け入れられにくく、日本の子ども達の自尊心は低い。さらに子ども達同士の相互理解の環境としても不十分であり、インクルージブ教育を実用レベルで取り入れる必要がある。文部科学省はこういった子ども達の現状をふまえて子どもの「生きる力」を育むことを目指している。

筆者は、学校現場で子ども達自身が自らの時間やスケジュールを管理・評価するといった研究活動を通して、子ども自身による主観的評価が彼らの自己管理や自己理解において重要であると指摘した。筆者らのこれまでの研究では、子ども達は学校生活や自己について自分自身で考えて行動することにより自分達の能力や課題を理解した上で、それをさらに向上させていく方法を考えるようになったと報告している。

ところで、自閉症スペクトラム障害は自己や他者の心の理解に特異性を示し、他者との注意の共有や、他者の意図理解などに困難をもつことが多い。しかし、いくつかの臨床研究によって他者との相互作用の中でその能力を高めることは可能であることも示されている。特に思春期を迎える頃に彼らは自らの自己理解や他者理解の特異性に気づき、自己評価を低くしていることが多いことも指摘されている。

メタ認知とは自己の認知についての知識であり、自己の認知についての認知的活動である。筆者は子ども達自身が自らの認知特性について考察し、自らの学びについて検討し評価していく過程の中でさらに自らの認知についての知識や技能を高めることが発達障害のある子どもも含めた全ての子どもの自己評価を高める上で必要であることを述べている。実際にオランダの画期的な教育指導方法として自立学習の有効性を示している。特に発達障害などの行動面や認知面に特異性のある子どもにおいては、主観的自己評価や自己管理能力が重要になってくることは明らかである。

メタ認知に関する臨床研究は始まったばかりであり、個々の子どもの特性を生かし、メタ認知能力に繋がる彼らの自己評価・自己理解・他者理解を促す教育的支援は発達障害も含めたすべての子どもにとって有益であり、全ての人の方がより良く社会参加することを目指す上でどの国でも有益であると思われる。