

# Open Research Online

---

The Open University's repository of research publications and other research outputs

## Developing Signalong Indonesia: issues of politics, pedagogy and perceptions

### Book Section

#### How to cite:

Budiyanto and Sheehy, Kieron (2019). Developing Signalong Indonesia: issues of politics, pedagogy and perceptions. In: Grove, Nicola and Launonen, Kaisa eds. Manual Sign Acquisition by Children with Developmental Disabilities. Nova Science.

For guidance on citations see [FAQs](#).

© [not recorded]



<https://creativecommons.org/licenses/by-nc-nd/4.0/>

Version: Accepted Manuscript

Link(s) to article on publisher's website:

<https://novapublishers.com/shop/manual-sign-acquisition-in-children-with-developmental-disabilities/>

---

Copyright and Moral Rights for the articles on this site are retained by the individual authors and/or other copyright owners. For more information on Open Research Online's data [policy](#) on reuse of materials please consult the policies page.

---

[oro.open.ac.uk](https://oro.open.ac.uk)

*Chapter*

## **DEVELOPING SIGNALONG INDONESIA: ISSUES OF POLITICS, PEDAGOGY AND PERCEPTIONS**

*Budyanto<sup>1</sup> and Kieron Sheehy<sup>2</sup>*

<sup>1</sup>Department of Education, State University of Surabaya, Surabaya, Indonesia

<sup>2</sup>The Open University, Milton Keynes, UK

### **INTRODUCTION**

“Bhinneka Tunggal Ika”  
(The national motto of Indonesia ‘Unity in Diversity’).

This chapter discusses the development of a key word signing system, Signalong Indonesia, which was created to support inclusive classrooms in Indonesia. The Indonesian education system is introduced. Against this backdrop, the rationale for creating an Indonesian key word signing system is explained. The difficult decisions that needed to be made regarding the methodology of the model, its choice of signs and pedagogy are detailed. In order to develop and implement this approach in Indonesian schools it was, and continues to be, necessary to carry out research into a range of social and educational factors, which act as facilitators or barriers to the use of Signalong Indonesia. The aim of the chapter is to provide an account of the processes, research and decisions that developed Signalong Indonesia. It is hoped that this will provide helpful insights for those seeking to create a key word signing approach in other countries and also contribute to international research evidence on keyword signing for children with developmental disabilities.

### **EDUCATION IN INDONESIA**

Indonesia is one of Southeast Asia’s major economies. The government has set challenging objectives for social development, which include improving the quality of education for all children. This is particularly challenging because of the profound regional differences that exist within one [of the](#) world’s most linguistically and culturally diverse, and geographically

dispersed, nations (Direktorat Pembinaan Sekolloah, 2008). These differences are reflected in significant disparities in school enrolment rates across Indonesia's 34 Provinces and wide variations in the quality of education received by pupils, where access to education is influenced by families' income and status (ACDP (Education Sector Analytical and Capacity Development, 2013). This variability is a particular issue for children with learning and communication difficulties, who may often find themselves on the margins of the education system. Estimates of how many children have developmental disabilities in Indonesia differ. Some data indicate that there are approximately 83,000 children, including at least 40,000 children with severe intellectual disabilities (Direktorat Pembinaan Sekolloah, 2008). Special schools "Sekolah Luar Biasa" (SLB) have provided education for children within specific categories of disability such as blindness or deafness (Purbani, 2013). However, access to these schools is often influenced by social factors such as the stigmatisation of children with intellectual disabilities (Tucker, 2013) and the decentralisation of school management (OECD & ADB, 2015), which gives weight to the personal policies of individual schools' principals (Aprilia, 2017). Consequently, many of these children have not had access to education within schools that might appear to be designed for them (Ball, Mishra, Dutta & Sen, 2012; Suwaryani, 2008; Tucker, 2013). There is evidence that this situation is exacerbated by geographical disparities in the provision of special needs schools. For example whilst there are 331 and 457 special schools in West and East Java respectively, other large provinces may have less than 10. The situation is therefore that "inequality persists and reaching the "unreached" is a challenge in regard to the provision of special needs schools" (OECD & ADB, 2015: 107). Where children are able to access education, relatively few schools differentiate their teaching methods, or provide resources that might support children who experience difficulties in learning (Sunardi et al., 2011). These children are likely to experience difficulties in many aspects of their development, particularly with language and communication, and may struggle to learn basic numeracy and literacy skills and access the standard school curriculum.

Partly in response to this situation Indonesia committed to the Education for All initiative, aiming to provide all children with a minimum of nine years education (Ramos-Mattoussi & Milligan, 2013). A consequence of this decision has been a legal requirement for every school district to have at least one inclusive primary and secondary school (Sunardi et al., 2011). This has inspired local efforts to include children in schools, who may have previously been segregated or excluded (Lestari & Sujarwanto, 2017). The majority of this group has been pupils with severe learning/intellectual disabilities (Komardjaja, 2005). For example, sampling 186 inclusive schools, Sunardai et al., (2011) found that approximately 12% of pupils might be identified as having special educational needs, with 86% being children with intellectual disabilities. As the number of inclusive Indonesian schools has grown, so the importance of developing inclusive class pedagogies has emerged as a national issue (Sheehy & Budiyanto, 2015; Sunardi et al., 2011). A review of international practice recommended that Indonesian schools should be supported in developing pedagogic approaches that are appropriate for the needs of pupils with severe intellectual disabilities, to enhance their communication skills and engagement in school life (Budiyanto, 2011). Therefore, there is a need for a pedagogic method that is capable of supporting children with severe learning difficulties, which can be readily utilised within inclusive classrooms by teachers and pupils. The Inclusive Indonesian Classroom Project was created to examine this issue, and to seek practical solutions to support pupils and teachers. The project was a collaboration between the State University of Surabaya (UNESA) and the Open University (United Kingdom).

## **INCLUSIVE INDONESIAN CLASSROOMS PROJECT**

The first issue for the project to consider was the nature of inclusive education. This term has an international currency, and features in the policies of many countries. There are 158 signatories to the United Nations convention on human rights, indicating a commitment to education for all children within an inclusive education system (Rieser, 2014). However a review of international practices (Rix, Sheehy, & Fletcher-Campbell, 2013) found the concept to be “ill-defined and contentious, being enacted differently both between and within countries” (Sheehy, Budiyanto, Kaye, & Rofiah, 2017: 2). Within a series of project workshops held at UNESA in 2014, the following broad definition of inclusive pedagogy was adopted to inform our ‘direction of travel’:-

“...extend what is ordinarily available in the community of the classroom as a way of reducing the need to mark some learners as different. [an approach] providing rich learning opportunities that are sufficiently made available for everyone, so that all learners are able to participate in classroom life.”

(Florian & Black-Hawkins, 2011: 826).

This set the project’s orientation towards approaches that might offer learning opportunities for all learners within the classroom (Florian & Black-Hawkins, 2011). Previous systematic reviews of classroom practices that produced positive outcomes for learners within inclusive classrooms highlighted the usefulness of teaching approaches that prioritise social engagement (Sheehy et al., 2009). It was been argued that this type of pedagogy is essentially social constructivist in nature. These approaches rely on purposeful social communication within classrooms, and we argued that “Enabling communication must therefore be positioned at the heart of inclusive classroom practice.” (Budiyanto, Sheehy, Kaye, & Rofiah, 2017: 2). This, of course, immediately identified a profound issue to address. Children with severe intellectual disabilities will typically experience significant problems with communication. If they are to access these social approaches to teaching in inclusive classrooms, then an effective communication approach is essential.

In our project workshops we discussed different communication options. We considered research into the effectiveness of various approaches and how well a particular approach might fit within, and support, diverse Indonesian classrooms. Our initial review of key word signing (KWS) research (see Budiyanto et al., 2017) suggested that it was likely to have a positive impact. KWS is multimodal in nature, and so the use of sign can be physically modelled and shaped for children (Bryen, Goldman, & Quinlisk-Gill, 1988; Sigafos & Drasgow, 2001). Possibly as a result of this, it can be learned relatively easily by people with severe intellectual disabilities (Meuris, Maes, & Zink, 2014b). The communicative and language abilities of children with severe intellectual disabilities are improved by their use of KWS (Dunst & Hamby, 2011; Snell et al., 2010; Tan, Trembath, Bloomberg, 2014). This improvement may encompass expressive language development (Rudd, Grove, & Pring, 2007) and speech development (Millar, Light, & Schlosser, 2006; Schlosser & Wendt, 2008). In terms of classroom functionality, KWS requires no technology (Mirenda, 2003) and this gives it a wide applicability in the Indonesian context, where access to technological support varies

considerably. Furthermore, technologically mediated communication can disrupt ‘human to human’ social interactions. In contrast, KWS can support and integrate easily with everyday interactions (Clibbens, 2001), which we saw as being central to inclusive classroom pedagogy. It has ‘a more social nature, and [is] more direct’ (teacher comment in Sheehy & Budiyanto, 2014, p14).

Our intention was to trial the chosen approach in inclusive classrooms. KWS has significant strengths in this respect. It can make the signers’ communication easier for their peers and adults to understand (Meuris, Maes, & Zink, 2014a), and furthermore there is evidence that ‘non-disabled’ peers enjoy learning and using KWS (Bowles & Frizzell, 2016; Mandel & Livingston, 1993; Mistry & Barnes, 2012). Because it is technology free it can be used readily, and cheaply. This allows it to be a communication approach for the whole classroom, rather than acting as ‘specialist kit’ for specific children (Cologon & Mevawalla, 2018). Based on a range of evidence and apparent affordances we made the decision to create a KWS approach as a communication strategy for Indonesian inclusive classrooms.

### **Choosing a Model and Donor Language**

The next stage for the project was to consider different approaches to KWS and a project team workshop reviewed the (then) current options. We decided to adopt the Signalong UK (Signalong Group, 2012) methodology, because it appeared to have particular benefits for use in Indonesia (Budiyanto et al., 2017). The Signalong methodology includes explicit describable handshapes for each sign, and we felt this would support the fidelity of signs during training and when passed between people “including via text message or telephone, an important issue in a geographically and culturally diverse nation” (Budiyanto et al., 2017:3). Another strength of the Signalong approach is its use of ‘one sign: one concept’ approach. This was seen as significant advantage for supporting learners with severe intellectual disabilities who are likely to experience problems with generalisation and concept discrimination.

The initial plan was to select signs utilising the approach found in Makaton projects outside of the UK (see Chapter 20), in which signs from the language of the country’s Deaf community are used as a donor language for the KWS signs. However, we quickly became aware of issues of attempting to do this within Indonesia. When presenting our ideas for discussion at a public seminar, attended by many teachers, parents and disability activists, a heated debate occurred regarding the choice of donor language. This debate reflected political issues of disability, education and the status of Deaf community languages. Our original intentions appeared naïve when set against a complex Indonesian backdrop.

Indonesian is a nation rich in languages, with approximately 726 spoken languages (Lewis, Simons, & Fennig, 2015). Although the total number of sign languages is unknown (Palfreyman, 2011), many sign languages and sign dialects have been noted (Lewis et al., 2015). In our project meetings and public seminars, the three best known Indonesian sign languages were typically mentioned. *Bahasa Isyarat Indonesia* (BISINDO) is argued to be the natural language of Indonesian Deaf communities (Effendi, 2014) and is widely used in Java. In marked contrast to this is *Sistem Isyarat Bahasa Indonesia* (SIBI) (Asia-Pacific Development Center on Disability (APCD), 2010). Launched in 1994, this is similar in nature to Signed English (see Appendix 1). Individual signs follow and map onto the spoken language, in this case Bahasa Indonesia, and it uses signed suffixes and finger spelling (Jan, Branson &

Miller, 2004). SIBI was created, and is promoted by, the Indonesian Department of Education and Culture. It is intended be the ‘official’ (Deaf) language and to be taught in all deaf schools and beyond (Palfreyman, 2011) as a form of Total Communication (Isma, 2012; Palfreyman, 2015). The signs in SIBI are an amalgam of BSL, ASL, Singapore Sign Language and both *isyarat temuan* and *isyarat tempaan* – signs from Indonesian Deaf signers and new signs created the (hearing) SIBI project team (Palfreyman, 2015). SIBI had greatly helped to promote public awareness of signing, particularly because of SIBI interpreters who accompanied some Indonesian news broadcasts. However, this visibility may be declining:-

“Its [status is] not yet the same as spoken language, about 10 years ago national television used sign language [translator in a ‘bubble’]. But now it is not used. Maybe if used again then a lot of people will learn about it and see OK. ....”

Teacher interview (Sheehy & Budiyanto, 2014: 1153).

The third Indonesian language we discussed was *Kata Kolak*, found in North Bali. Choosing between these three donor options involved weighing up their respective merits, in the context of inclusive classrooms. *Kata Kolak*, seemed to have strong ‘inclusive credentials.’ Although arising within an hereditary Deaf community, centred around Desa Kolaka (deaf village), the language is also used by the majority of the *inget* (hearing villagers) (Kortschak & Sitanggang, 2010). It might therefore be seen as an inclusive language, sustaining a situation where “the Deaf are fully integrated into village life” (Jan, Branson & Miller, 2004:20). On the downside, pragmatically, it is not readily accessible to teachers or pupils outside North Bali, given its localisation and relatively small number of speakers. It has little linguistic relationship to any other Indonesian languages or spoken Balinese (Kortschak & Sitanggang, 2010) and its vocabulary (to support classroom use) is not well documented, making it difficult to adopt in this context. Bahasa Isyarat Indonesia (BISINDO) is much more widespread and well known. In our discussions, in Java, Deaf advocates and parents often identified this as the Deaf language of Indonesia and it is commonly used by Deaf children in their social lives (Indah & Chanastalia, 2018). BISINDO seems to reflect the spoken language context to some extent, for example as the ‘mouthings’ it uses are code switched (Palfreyman, 2014) across different parts of Java. However, BISINDO is ‘unstandardised’ (Lewis et al., 2015), is changing, and different languages (known as BISINDO) are used in different regions (Isma, 2012). This is problematic if it is to be used to underpin a national approach for classrooms, when the official language is Bahasa Indonesia, and in developing consistent training materials for teachers. Our discussion in relation to SIBI were the most controversial and reflected a wider political debate (Kortschak & Sitanggang, 2010). For example there was an implied view that SIBI could be seen as a form of ‘imperialism’ against Deaf sign language within the education system. Branson and Miller captured the essence of this general issue, exemplified by Indonesia. They assert that having ‘downgraded’ the status of status of Deaf signed language in society, hearing authorities then wreak the final imperialism by transforming it to become merely a signed representation of the dominant written language (Branson & Miller, 1998, 2004).

Although our aim was not to create a new language for Deaf people, the feedback we received was often based on an assumption that this was our intention, or at least would support a denigration of BISINDO. This occurred partly because of the impact that the introduction of SIBI had on public awareness and Deaf people’s desire to protect their natural language.

Another factor in this argument, discussed later, were beliefs about, and misconceptions of, the nature and purpose of KWS.

Our final decision, for choosing the donor language for a pilot programme, was steered by several factors (Budiyanto et al., 2017). The approach needed to be used to accompany the spoken language of the classroom, the spoken language being Bahasa Indonesia. In terms of vocabulary this was felt to ‘rule out’ Kata Kolak. Keeping BISINDO ‘whole’ (as had been advocated at one seminar) would add a new language to the classroom and undermine the nature of the KWS approach. A strength of using SIBI as a donor language was that it had a defined, and documented, vocabulary that mapped with children’s classroom tasks and experiences. However, SIBI has a lack of natural gestures and a relative lack of transparency (Winarti, 2012). It also requires a high level of manual dexterity and language comprehension, which would effectively exclude many of the children with intellectual disabilities (Bonvillian et al., 2008) and also some Deaf pupils (Effendi, 2014). Many of the SIBI signs do not appear to maximise the features that might aid learning (Jones & Cregan, 1986). Our decision was to create a vocabulary that drew on some standardised BSL signs (from Signalong UK) and then add iconic, transparent and simple signs from SIBI. We created a sign manual, each accompanied by a description (mirroring the Signalong UK methodology). Initial training was conducted by Signalong UK with teachers drawn from 33 of Indonesia’s 34 provinces. The signs were subsequently workshopped with teachers and refined, and teachers were trained in implementing KWS within the classroom. The approach was then piloted in two focus schools. The approach was officially named Signalong Indonesia; the sign vocabulary was later revised and extended (Budiyanto & Sheehy, 2014a); a series of classroom symbols developed (Budiyanto & Sheehy, 2014b) and a sign app was developed by Signalong Indonesia researchers (Jauhari, 2017).

One concern for us was that we needed to ensure that we were acting on the best available evidence and practice, in order to have a positive impact on the children’s educational lives. It was not a task to be undertaken lightly and we hoped that our methods were transparent and accountable. We had chosen KWS as the best approach to support children in inclusive classroom and developed a vocabulary that was likely to be useful and accessible to children. We hoped this would mitigate the risk of children experiencing yet another new ‘special intervention,’ unsupported by evidence, which might arrive and disappear (Rix, 2015). This is a profound issue for children for whom Signalong Indonesia might become their main communication channel. In addition, imported interventions have not had a successful track record of sustained teacher development and classroom impact within Indonesia (Allen et al., 2017). Therefore Signalong Indonesia needed to be developed as an Indonesian approach. A consequence of this stance has been the need to research factors that impact upon the success of KWS within Indonesian classrooms. Therefore, we carried out a series of studies with teachers from the pilot schools, those who had attended Signalong Indonesia training, and more broadly with teachers from different regions of the country.

## **RESEARCHING TEACHERS’ BELIEFS**

As discussed in Chapter 18, one of the major influences on children's access to and experience of KWS appeared to be the beliefs of their teachers. This therefore became a major focus of our research. Initially we looked at teachers' beliefs about signing, and the notion of keyword signing (Sheehy & Budiyanoto, 2014). The overall message from this research was that teachers held positive attitudes towards the potential use of signing with children with intellectual disabilities. Many saw it as offering an enjoyable classroom communication tool and expressed the view that they would like to be trained in using it. However within this broadly positive picture were factors that gave more nuanced outcomes in practice. For example teachers, who might feel positive towards the use of manual signing, could hold opposing views about which children should sign and the effects of doing so. These beliefs were often mediated by beliefs about stigmatisation and in one study the majority of teachers reported that 'signing stigmatises children' (Sheehy & Budiyanoto, 2014: 1152). People with intellectual disabilities are "the most stigmatised" (Komardjaja, 2005: 117) in Indonesian society and so if these children need to sign then signing is stigmatised by association. It becomes an explicit marker of being in a stigmatised group.

"See it as very strange. (there is) a pressure to look the same, not different. Sign language makes them look different."

"They don't understand they are cruel, they don't understand that they (children who sign) belong to a special (group of) people."

Teacher interviews (Sheehy & Budiyanoto, 2014: 1153).

In face to face interviews (as opposed to questionnaire responses) the reporting of stigmatisation lessened, and it was often reported as something that occurred 'in other places, not here' or that it was a parental issue rather than existing within the school (Budiyanoto et al., 2017; Sheehy & Budiyanoto, 2014).

"...in certain areas, maybe in remote areas, some people are still ashamed of having children with special needs. Parents keep their children at home. They feel ashamed. They don't want to get the children to know their neighbors. But, it does not happen here. It depends on the culture or family background."

(Teacher Interview (Budiyanoto et al., 2017:8).

"Parents won't go to the teacher to them help them ... the sign language. Because it will make them (the child) look different."

Teacher Interview (Sheehy & Budiyanoto, 2014:1153).

This belief in stigmatisation appeared to influence how teachers might - or might not - use Signalong Indonesia in their schools (see Chapter 18 for discussion of similar attitudes in the UK, albeit in the past). Teachers who saw signing as stigmatising might therefore wish to use it only for those children 'most in need of it' (although beliefs about who they are might be varied) or within special or segregated classes (Sheehy & Budiyanoto, 2014). Furthermore,



teachers who taught this stigmatised groups, can be stigmatised themselves through association (Budiyanto et al., 2017) and this would affect their willingness to use KWS.

Our initial intention had been to develop 'evidence based' training materials, that emphasised the positive effects of KWS on children's educational and social development. However, what began to emerge was a picture in which teachers' beliefs about (and use of) Signalong Indonesia, were influenced by their beliefs about disability and about the nature of learning. This chimed with previous international research that identified how teachers' epistemological beliefs (relating to knowledge) reflected and influenced their classroom practice (Jordan and Stanovich, 2003; Lee et al., 2013). This was particularly influential in how teachers responded when teaching disabled children (Jordan, Glenn & McGhie-Richmond, 2010; Jordan Schwartz & McGhie-Richmond, 2009).

There are different types of epistemological beliefs. For example, traditional beliefs see teaching as a non- problematic [direct] transfer of knowledge. Learning is therefore a matter of absorbing this process (Chan & Elliot, 2004). This approach is likely to emphasise rote learning. Constructivist beliefs about teaching see students learning best by finding solutions to problems on their own. The teacher therefore creates the situations to help the child construct their own understanding of issues and concepts. In contrast, social constructivist beliefs highlight how language and social interaction mediate and drive children's cognitive development (Lourenco, 2102) and consequently teachers put social activities at the heart of their pedagogy.

Our research suggested that teachers' epistemological beliefs, rather than their experience or type of school, predicted their beliefs in children being educated with their peers (Sheehy et al., 2017). This consequently influenced their feelings towards Signalong Indonesia, how it could be used and their own willingness to use it. In general the Indonesian teachers, in our research, did not make distinctions between particular epistemological viewpoints, which supported findings from other Asian countries (Organisation for Economic Co-operation and Development (OCED, 2013). However, teachers in inclusive Indonesian schools, were most likely to hold implicit social constructivist views of learning (Budiyanto et al., 2017; Sheehy & Budiyanto, 2015) and support the use of Signalong Indonesia. These beliefs have been seen (in other countries) as underpinning classroom practices that are inclusive of all learners (Jordan, 2013). Conversely, teachers who believed that children's abilities are fixed and will remain unchanged by education, were the most likely to see signing as stigmatising, possibly because it marks out an unchanging negative perceived social difference and most likely to believe that key word signing would best confined to non-speaking children or a special class (Sheehy et al., 2017).

Interwoven with these epistemological beliefs are cultural influences related to the stigmatisation of disability. For example cultural beliefs about as taboo and karma, are important influences on how parents perceive intellectual disabilities, such as autism (Riany, Cuskelly, & Meredith, 2016). In a questionnaire sample of 136 teachers, 30% of participants agreed that parents were stigmatised if their child had autism (37.5% neither agreed nor disagreed). This was not unexpected, however nearly one in five (17%) of teachers had met teachers who believed that autism was caused by breaking a taboo, and 12% had met teachers who believed that autism was caused as the result of karma. Cultural beliefs, such as taboo and karma, are therefore likely to be important influences on how disabilities are perceived, and how Signalong Indonesia will be responded to by parents, teachers and the general public.

An unexpected finding from our research has been the link between epistemological beliefs, notions of happiness and KWS. When we were talking to teachers in the two pilot

schools about how they teach and how they were using Signalong Indonesia, the notion of happiness was mentioned repeatedly (Budiyanto et al., 2017; Sheehy et al., 2017). However, trying to unpick what this meant was problematic and considerable discussion occurred between Bahasa Indonesia and English speaking project members. Indonesian teachers were using different terms, all of which were translated into the single English term of happiness. This masked important distinctions, for example Suka suggested a more ‘networked’ emotion that underpinned social interactions. For some teachers Signalong Indonesia was a means of creating this type of socially engaged ‘happy’ classroom. The happiness was a fundamental intrinsic part of their pedagogy.

“(The key thing is that) they learned together (our emphasis) using Signalong [Indonesia (SI)] ...has made the learning moment, learning process be more enjoyable....[SI makes it] easy for disabled and non-disabled students to learn together...This is the point.”

School 1, Teacher, 3.

“...if I use Signalong to teach in every child it’s more fun and joyful for the children.”

School 2, Teacher 2

(Budiyanto et al., 2017:9).

There are differences in how happiness is conceptualised between different cultures, and it is noticeable that Bahasa Indonesia has a far greater number of social (vs individualised) conceptions of emotions than English (Shaver, Murdaya, & Fraley, 2001). Whilst Western educators often see happiness promoted alongside, i.e., separate from, educational excellence (Fox Eades, Proctor, & Ashley, 2013), we found that Signalong Indonesia could be used to create a situation in which learning and happiness were enmeshed (Budiyanto et al., 2017). Another, individualised, ‘happiness’ was identified when Signalong Indonesia made the classroom curriculum accessible. We found that there was an association between beliefs in the importance of happiness in pedagogy, that all children should be educated with their peers and teacher’s epistemological beliefs (Sheehy et al., 2017). This supported the view that notions of happiness are an important part of Indonesian pedagogy (The Open University, 2016), an issue which does not emerge from epistemological research in European or North America (Sheehy et al., 2017). This issue, for some teachers, gave Signalong Indonesia an enabling and transformative quality in their classroom lives.

“So Signalong is really interesting for them and teaching Signalong makes them happy, so it makes the teacher more motivated to teach more, make them happy.”

Teacher interview, Pilot School.

(Budiyanto et al., 2017:10).

Moreover, these affordances of Signalong Indonesia can be applied within diverse inclusive classes.

“We introduced Signalong Indonesia to the students who had hearing problems, those with visual impairments or autism but also to those without any problems. Everyone is learning together using Signalong... There (this) is a real difference.”

Headteacher Galuah Handiyani School (Open University, 2016).

## **Misconceptions and Questions about Signalong Indonesia**

Our research suggested that Signalong Indonesia was becoming as well known as other longstanding classroom ‘interventions’ such as Picture Exchange Communication System (PECS) or Applied Behavior Analysis (ABA). We were concerned that its purpose might become misunderstood. As we developed and piloted Signalong Indonesia, we gained insights into common questions that arose about its nature, or misconceptions that persisted even after attending training workshops or seminars.

Most teachers agreed that KWS or Signalong Indonesia was easy to learn. The reason for this was often because they believed that the signs were all “‘natural gestures,’ transparent to everyone and usually iconic representations of an action or object.” (Sheehy & Budiyanto, 2014: 1154) and in this way a ‘universal language’ (Budiyanto et al., 2017). A consequence of this was that rather than being taught signs (didactically or through everyday modelling), teachers might believe that children could manually mime or manually indicate their needs and ideas in the classroom.

“Children with special needs have communication using gesturing, they understand what they mean.”

(Sheehy & Budiyanto, 2014: 1154).

This idea was also given as an explanation of a belief that signing required no training. This belief influenced how Signalong Indonesia was used by teachers in the classroom, resulting in it being used informally and only in interactions with specific individual children. This belief was noted in teachers who were relatively unfamiliar with KWS, but also those who had attended training workshops.

A second recurring issue concerned the nature of KWS. When the project team asked about how to improve support for schools, a common request concerned the provision of additional vocabulary that implied a belief that Signalong Indonesia was a signed language akin to SIBI.

“Yes, we are confused how to make a sentence and use conjunctions.”

“How to make sentences and use conjunction, adjectives etc.”

Questionnaire responses (Budiyanto et al., 2017: 6).

Responses such as this indicated that the Signalong Indonesia materials provided to schools required revision. The current materials are essentially a dictionary of signs constructed by topics (Budiyanto & Sheehy, 2014a). Although widely viewed within schools, they needed to

include an explicit FAQs section, to give a stronger visual illustration of KWS in action to the ‘casual reader’ (Budyanto et al., 2017).

The other response to feedback from teachers, and our research, to has been to reconsider the way in which teachers are introduced to Signalong Indonesia. Our original approach was a traditional ‘withdraw and return’ model of training. Two particular issues appeared to result from this. Firstly, there was a risk of creating specialist signing teachers who would operate in isolation from the rest of their school. Secondly, having been led by the project into carrying out epistemological research, we realised that there was a potential mismatch between our ‘training pedagogy’ and the beliefs that underpinned Signalong Indonesia. Our research had shown the pivotal role of social engagement. These outcomes supported the position that “social relations act as the catalyst for learning within inclusive classrooms” (Mallory & New 1994:330). However, our own training methods (withdraw and return) did not reflect this. It was essentially teaching dis-embedded skills. Furthermore, we needed to begin to address the interplay between beliefs and use of Signalong Indonesia within our training activities. As Chan and Elliott (2004) concluded:

“... it has been recognized that many of the obstacles towards educational reform have their basis in existing beliefs of teachers because such beliefs may determine the disposition of teachers towards a particular change.”

(Chan & Elliott, 2004:3)

A feature of approaches that support change in epistemological beliefs, in relation to inclusive teaching, has been the structured provision of opportunities for teachers to reflect on their own practice (Hart, et al., 2004; Pompeo, 2011). This approach can be seen in the Inclusive Practice Curriculum, developed in Scotland, that supports teachers to think pedagogically about difficulties that students experience in the classroom (Florian & Rouse, 2009). Teachers share and discuss their own practices in a supportive pedagogic community. This non-threatening approach allows reflection and the development of their epistemological beliefs (Brownlee, Purdie, & Boulton-Lewis, 2010; Howard et al., 2014), and has the potential for positive impact on their classroom practices (Erdamar & Alpan, 2013).

This raised the question of how to develop a reflective approach, which could be used by teachers in Indonesia, where we would only be able to implement it on an occasional or part-time basis. A key aspect of our desired change, was the notion of showing teachers Signalong Indonesia being used with diverse classes. Our traditional approach had taught teachers how to sign and some signing principles, but did not show them it ‘in action’ within real classrooms. We had come to the realisation that KWS occurs in a pedagogic and social context, and that this should be foregrounded in how we introduced Signalong Indonesia.

We sought approaches that have been used successfully within Indonesia, and one that appeared to hold merit was that of Lesson Study (Fernandez, 2002; Nauerth, 2015). This approach had been suggested by teachers as a way of improving our training approach. This approach might be better referred to as teacher development, rather than teacher training.

## **Developing Reflective Practice**

The Lesson Study approach has a ‘practical pedagogic focus. It originated in nineteenth century Japan (Saito, 2012), where it is known as *Jugyokenkyu* (Jugyo a lesson; kenkyu study (Fernandez, 2002)). In essence it is a detailed examination of ‘real life’ observed lessons [*kenkyujugyo* “research lessons”], through a shared discussion by groups of teachers. There is evidence that this approach can facilitate innovations in practice (Guerrero, 2014; Inprasitha, Isoda, Wang-Iverson & Yeap, 2016), and examples exist where it has supported collaborative interventions between Indonesian universities and schools (Hendayana, 2015; Nai, Degeng, Setyosari, & Widiati, 2016). Consequently, we have begun to see this as a vehicle for teacher development in which Signalong Indonesia is an integral part.

To implement this we have sought out and joined existing lesson study programmes. In these events a large audience of teachers (200-300) watch a research lesson. This involves a teacher teaching a full, and diverse, class of pupils about a particular topic area. After the research lesson, groups of teachers from similar geographical areas, discuss the lesson in groups and have opportunities to talk with the teacher through a chaired discussion. These discussions might consider issues such as lesson planning, differentiation, behaviour management, based on their observations of the lesson. In this context Signalong Indonesia is presented as part of the teaching of the class. In this way, we hope to: reach a wider audience of teachers and more than one teacher per school, show what Signalong Indonesia looks like in practice when teaching a diverse class, and through the ongoing discussions to consider any misconceptions that might arise about Signalong Indonesia. These are high status events and we hope that presenting practice in this way will begin to challenge issues of stigmatisation. Following on from the larger event, teachers are encouraged to work locally and arrange lesson study activities in their own and neighbouring schools. This aspect of our work has only recently begun, and its impact will be the focus of future research.

## CONCLUSION

The project began in order to find an effective of supporting inclusive classrooms in Indonesia, in particular to find a way that allowed the participation of children with severe learning and communication. In developing Signalong Indonesia we have learned that seeing Signalong Indonesia, and KWS, as an isolated practice is misguided (see also Chapters 17, 18, 19, 20, this volume). It is part of a classroom and a community, part of the lives of children, their families and their teachers. Its uses and effectiveness are profoundly influenced by the culture, beliefs and existing practices within the community. To simply create a new KWS approach is insufficient. In developing Signalong Indonesia we have learned that if the affordances it has for enhancing children’s lives are to be expressed and allowed to blossom, then it needs to be seen not simply as a remedial tool for disabled individual or a tool for inclusion. We believe that it must be regarded through a social cultural lens, as [a](#) way in which children and teachers are enabled to work together, and that the training method used for Signalong Indonesia needs to reflect this view of how development occurs, the barriers that exist and how change can be best facilitated.

## REFERENCES

- ACDP (Education Sector Analytical and Capacity Development). (2013). *Overview of the Education Sector in Indonesia, 2012*. Achievements and Challenges, a background report prepared at the request of the Indonesian authorities for the 2014 OECD Review of National Policies for Education in Indonesia. Jakarta, Indonesia.
- Allen, W., Hyde, M., Whannel, R., & O'Neill, M. (2017). Teacher reform in Indonesia: can offshore programs create lasting pedagogical shift? *Asia-Pacific Journal of Teacher Education*, 46, 22-37.
- Aprilia, I. D. (2017). Flexible model on special education services in inclusive setting elementary school. *Journal of ICSAR*, 1, 50–54.
- Asia-Pacific Development Center on Disability (APCD). (2010). *Report on workshop for capacity development of self-help organizations of persons with disabilities (CDSHOD)* (pp. 26–29). Available at [www.dpiap.org/reports/ppt/Volunteer\\_Supports\\_Report\\_10\\_02\\_22.ppt](http://www.dpiap.org/reports/ppt/Volunteer_Supports_Report_10_02_22.ppt). Accessed 6/1/2019.
- Ball, S. N., Mishra, A., Dutta, A. K., & Sen, P. (2012). The use of correctional “no!” approach to reduce destructive behavior on autism student of CANDA Educational Institution in Surakarta. *Journal of Physios: Conference Series*, 812, 1-6.
- Bonvillian, J., Dooley, T., Emmons, H., Jack, A., Kissane, N., & Loncke, F. (2008). The development of a simplified manual sign communication system for special populations. In *The 2008 Clinical AAC Research Conference*, Charlottesville, VA. Charlottesville, VA.
- Bowles, C. & Frizzell, P. (2016). Investigating peer attitudes to the use of key word signing by children with Down syndrome in mainstream schools. *British Journal of Learning Disabilities*, 44, 284-291.
- Branson, J., & Miller, D. (1998). Nationalism and the linguistic rights of deaf communities: Linguistic imperialism and the recognition and development of sign languages. *Journal of Sociolinguistics*, 2(1), 3–34.
- Branson, J., & Miller, D. (2004). The cultural construction of linguistic incompetence through schooling: Deaf education and the transformation of the linguistic environment in Bali, Indonesia. *Sign Language Studies*, 5, 6–38.
- Brownlee, J., Purdie, N., & Boulton-Lewis, G. (2010). Changing epistemological beliefs in pre-service teacher education students. *Teaching in Higher Education*, 6, 247–268.
- Bryen D. N., Goldman, A. S., & Quinlisk-Gill, S. (1988). Sign language with students with severe/profound retardation: How effective is it? *Education and Training in Mental Retard.*, 23, 129–137.
- Budiyanto. (2011). *Best practices of inclusive education in Japan, Australia, India and Thailand: implications for Indonesia*. Tsukuba, Japan.
- Budiyanto and Sheehy, K. (2014a). *Signalong Indonesia: The Signalong Indonesia signs dictionary*. Jakharta: Direktorat PKLK Dirjen Dikda Kemidikbud, Jakharta.
- Budiyanto and Sheehy, K. (2014b). *Signalong Indonesia Simbol: The Signalong Indonesia symbols dictionary*. Jakharta.: Direktorat PKLK Dirjen Dikda Kemidikbud.
- Budiyanto, Sheehy, K., Kaye, H., & Rofiah, K. (2018). Developing Signalong Indonesia: Issues of happiness and pedagogy, training and stigmatization. *International Journal of Inclusive Education*, 22, 543-559. <http://doi.org/10.1080/13603116.2017.1390000>.
- Budiyanto, Sheehy, K., Kaye, H., & Rofiah, K. (2017). Developing Signalong Indonesia: issues of happiness and pedagogy, training and stigmatization. *International Journal of Inclusive Education*. <http://doi.org/10.1080/13603116.2017.1390000>.

- Chan, K. W., & Elliott, R. G. (2004). Relational analysis of personal epistemology and conceptions about teaching and learning. *Teaching and Teacher Education*, 20(8), 817–831.
- Clibbens, J. (2001). Signing and lexical development in children with Down syndrome. *Down's Syndrome: Research and Practice*, 7, 101–105.
- Cologon, K., & Mevawalla, Z. (2018). Increasing inclusion in early childhood: Key Word Sign as a communication partner intervention. *International Journal of Inclusive Education*, 22, 902–920.
- Direktorat Pembinaan Sekolloah. (2008). *Profil Pendidikan Inklusif di Indonesia / Inclusive Education Profile in Indonesia 1*. Direktorat Pembinaan SLB, Direktorat Jendral Pembinaan Pendidikan Dasar dan Menengah, Kementerian Pendidikan Nasional.
- Dunst, C. J., & Hamby, D. W. (2011). Influences of sign and oral language production of young children with disabilities. *CELL Reviews*, 4(4), 1–20.
- Effendi, J. (2014). *Deaf community's demands go unheard*. The Jakarta Post, 23<sup>rd</sup> February. <https://www.thejakartapost.com/news/2014/02/23/deaf-community-s-demands-go-unheard.html> Accessed 6/1/19.
- Erdamar, G., & Alpan, G. (2013). Examining the epistemological beliefs and problem solving skills of preservice teachers during teaching practice. *Teaching in Higher Education*, 18(2), 129–144.
- Fernandez, C. (2002). Learning from Japanese approaches to professional development: The case of lesson study. *Journal of Teacher Education*, 53(5), 393–405.
- Florian, L., & Black-Hawkins, K. (2011). Exploring inclusive pedagogy. *British Educational Research Journal*, 37(5), 813–828.
- Florian, L., & Rouse, M. (2009). The inclusive practice project in Scotland: Teacher education for inclusive education. *Teaching and Teacher Education*, 25(4), 594–601.
- Fox-Eades, J., Proctor, C., & Ashley, M. (2013). Happiness in the classroom, In I. Boniwell, S. David & A. Corley (Eds.), *The Oxford handbook of happiness*. (pp. 579-591). Oxford Handbooks Online: Oxford: OUP.
- Guerrero, S. (2014). Teacher change and project maths: Implications and lessons learned. *Irish Maths Society. Bulletin*, 74, 27–66.
- Hart, S., Dixon, A., Drummond, M. & McIntyre, D. (2004). *Learning without limits*. Oxford: OUP.
- Hendayana, S. (2015). Teacher learning through lesson study in Indonesia. In K. Wood & S. Sithamparam (Eds), *Realising learning: teachers' professional development through lesson and learning study*. (pp. 168-186). London: Routledge.
- Howard, B. C., McGee, S., Schwartz, N., & Purcell, S. (2014). The experience of constructivism. *Journal of Research on Computing in Education*, 32, 455–465.
- Indah, R. N., & Chanastalia. (2018). The communication methods in English classroom for Indonesian deaf students. *Theory and Practice in Language Studies*, 8, 9–16.
- Inprasitha, M., Isoda, M., Wang-Iverson, P., & Yeap, B. H. (2015). *Lesson study: Challenges in mathematics education*. Singapore: World Scientific.
- Isma, S. T. P. (2012). *Signing varieties in Jakarta and Yogyakarta: Dialects or separate languages? Unpublished Masters dissertation: The Chinese University of Hong Kong*.
- Jauhari, M. N. (2017). *Pengebnagam Simbol Signalong Indonesia Sebagai Media. Paper presented at International conference on Special Education in South East Asia* (pp. 411–

- 416 <http://plb.fip.um.ac.id/wp-content/uploads/2017/02/70-Muhammad-Nurrohamn-Jauhari-FULL-PAPER-jauhari.pdf>. Accessed 6/1/2019.
- Jones, P. R., & Cregan, A. (1986). *Sign and symbol communication for mentally handicapped people*. Croom Helm London, Dover, N. H.
- Jordan, A. (2013). Fostering the transition to effective teaching practices in inclusive classrooms. In S. E. Elliott-Johns & D. H. Jarvis (Eds.), *Perspectives on transitions in schooling and instructional practice* (Vol. 53, pp. 1689–1699). Toronto: University of Toronto Press.
- Jordan, A., Schwartz, E. and McGhie-Richmond, D. (2009). Preparing teachers for inclusive classrooms. *Teaching and Teacher Education*, 25(4), 535–542.
- Jordan, A., Glenn, C. & McGhie-Richmond, D. (2010). The Supporting Effective Teaching (SET) Project: The relationship of inclusive teaching practices to teachers' beliefs about disability and ability, and about their roles as teachers. *Teaching and Teacher Education* 26, 259-266.
- Jordan, A. and Stanovich, P. (2003) Teachers' personal epistemological beliefs about students with disabilities as indicators of effective teaching practices. *Journal of Research in Special Educational Needs*, 3, 1–14.
- Komardjaja, I. (2005). The place of people with intellectual disabilities in Bandung, Indonesia. *Health & Place*, 11(2), 117–20.
- Kortschak, I., & Sitanggang, P. (2010). *Invisible people: Poverty and empowerment in Indonesia*. National Program for Community Empowerment. Lontar Foundation: Jakarta, Indonesia.
- Lee, J., Zhang, Z., Song, H. and Huang, X. (2013). Effects of epistemological and pedagogical beliefs on the instructional practices of teachers: A Chinese perspective, *Australian Journal of Teacher Education*, 38(12), 119–146.
- Lestari, F., & Sujarwanto. (2017). Manajemen Pendidikan Inklusif Di Sekolah Menengah Pertama. *Jurnal Pendidikan Khusus*, 9(4), 1–13.
- Lewis, M. P., Simons, G. F., & Fennig, C. D. (2015). *Ethnologue: Languages of the world*. <https://www.ethnologue.com/country/ID> accessed 6/1/2019.
- Mallory, B. L., & New, R. S. (1994). Social constructivist theory and principles of inclusion: Challenges for early childhood special education. *The Journal of Special Education*, 28, 322-337.
- Mandel, L. A., & Livingston, P. (1993). The effect of signing key words for demonstrating work instructions to students with learning disabilities. *Journal of Rehabilitation*, 59(2), 43–48.
- Meuris, K., Maes, B., & Zink, I. (2014a). Evaluation of language and communication skills in adult key word signing users with intellectual disability: Advantages of a narrative task. *Research in Developmental Disabilities*, 35(10), 2585–2601.
- Meuris, K., Maes, B., & Zink, I. (2014b). Key Word Signing usage in residential and day care programs for adults with intellectual disability. *Journal of Policy and Practice in Intellectual Disabilities*, 11(4), 255–267.
- Millar, D. C., Light, J. C., & Schlosser, R. W. (2006). The impact of augmentative and alternative communication intervention on the speech production disabilities: A research review. *Journal of Speech, Language, and Hearing Research*. 49, 248–264.



- Mirenda, P. (2003). Toward functional augmentative and alternative communication for students with autism: Manual signs, graphic symbols, and voice output communication aids. *Language, Speech, and Hearing Services in Schools*, 34(3), 203–216.
- Mistry, M., & Barnes, D. (2013). The use of Makaton for supporting talk, through play, for pupils who have English as an Additional Language (EAL) in the Foundation Stage. *Education 3-13: International Journal of Primary, Elementary and Early Years Education*, 41, 603-616.
- Nai, F. A., Degeng, I. N. S., Setyosari, P., & Widiati, U. (2016). Teaching material development Of learning and teaching course through lesson study application for university students. In *International conference on education: education in the 21th Century: responding to current issues* (pp. 273–283). Universitas Negeri Malang. <http://pasca.um.ac.id/conferences/index.php/ice/article/view/40/37> accessed 6/1/2019.
- Nauerth, D. (2015). *The impact of lesson study professional development on teacher self-efficacy and outcome expectancy*. PhD. thesis, University of Kansas <http://krex.k-state.edu/dspace/handle/2097/19048> accessed 6/1/2019.
- Organisation for Economic Co-operation and Development (OECD), & ADB. (2015). *Education in Indonesia: Rising to the challenge*. Far Eastern survey (Vol. 20). <http://www.oecd.org/publications/education-in-indonesia-9789264230750-> accessed 6/1/2019.
- Organisation for Economic Co-operation and Development (OCED). (2013.) *Teaching and learning international survey TALIS 2013: Conceptual framework*. <http://www.oecd.org/edu/school/talis-2013-results.htm>. accessed 6/1/2019.
- Palfreyman, N. (2011). *Variation in Indonesian sign language*. ISMIL Book of Abstracts, <http://lingweb.eva.mpg.de/jakarta/isloj3/abstracts/Palfreyman.pdf> accessed 6/1/2019.
- Palfreyman, N. (2014). *The social significance of Javanese mouthings in Indonesian Sign Language*. <http://jakarta.shh.mpg.de/isloj5/abstracts/Palfreyman.pdf>. Retrieved 6/1/2019.
- Palfreyman, N. B. (2015). *Sign language varieties of Indonesia: A linguistic and sociolinguistic investigation*. PhD. Thesis, University of Central Lancashire, UK.
- Pompeo, M. (2011). *General education elementary teachers' perceptions of developing "interventionist" beliefs and practices*. PhD. Thesis, The University of Western Ontario.
- Purbani, W. (2013). *Equity in the classroom: the system and improvement of inclusive schools in Yogyakarta, Indonesia (A case study)*. *US-China Education Review B*, 3(7), 507–518.
- Ramos-Mattoussi, F., & Milligan, J. A. (2013). *Building research and teaching capacity in Indonesia through international cooperation*. New York: Institute of International Relations (IIE). <https://www.iie.org/Research-and-Insights/Publications/Indonesia-Briefing-Paper-2013> accessed 6/1/2019.
- Riany, Y., Cuskelly, M., & Meredith, P. (2016). Cultural beliefs about autism in Indonesia. *International Journal of Disability, Development and Education*, 63, 623-640.
- Rieser, R. (2014). What's happening with inclusive education around the world. <http://worldofinclusion.com/whats-happening-with-inclusive-education-around-the-world> accessed 6/1/2019.
- Rix, J. (2015). *Must inclusion be special?: Rethinking educational support within a community of provision*. London, NY: Routledge.
- Rix, J., Sheehy, K. & Fletcher-Campbell, F. (2013). Continuum of education provision for children with special educational needs: Review of international policies and practices. *European Journal of Special Needs Education*, 28, 375-391.

- Rudd, H., Grove, N., & Pring, T. (2007). Teaching productive sign modifications to children with intellectual disabilities. *Augmentative and Alternative Communication*, 23(2), 154–63.
- Schlosser, R., & Wendt, O. (2008). Effects of augmentative and alternative communication intervention on speech production in children with autism: A systematic review. *American Journal of Speech- Language Pathology*, 17(3), 212–230.
- Shaver, P. R., Murdaya, U., & Fraley, R. C. (2001). Structure of the Indonesian Emotion Lexicon. *Asian Journal of Social Psychology*, 4(3), 201–224.
- Sheehy, K., & Budiyanoto. (2014). Teachers' attitudes to signing for children with severe learning disabilities in Indonesia. *International Journal of Inclusive Education*, 18, 1143–1161.
- Sheehy, K., & Budiyanoto. (2015). The pedagogic beliefs of Indonesian teachers in inclusive schools. *International Journal of Disability, Development and Education*, 62(5), 469–485.
- Sheehy, K., Budiyanoto, Kaye, H., & Rofiah, K. (2017). Indonesian teachers' epistemological beliefs and inclusive education. *Journal of Intellectual Disabilities*, <http://doi.org/10.1177/1744629517717613>. Accessed 6/1/2019.
- Sheehy, K., Rix, J., Collins, J., Hall, K., Nind, M., & Wearmouth, J. (2009). *A systematic review of whole class, subject- based pedagogies with reported outcomes for the academic and social inclusion of pupils with special educational needs*. EPPI-Centre, Social Science Research Unit, Institute of Education, University of London, UK. <http://oro.open.ac.uk/10735/> accessed 6/1/2019.
- Sigafoos, J., & Drasgow, E (2001). Conditional use of aided and unaided AAC: A review and clinical case demonstration. *Focus on Autism and Other Developmental Disabilities*, 16, 152–161.
- Signalong Group. (2012). *Signalong*. <http://www.signalong.org.uk>. Accessed 6/1/2019.
- Snell, M. E., Brady, N., McLean, L., Ogletree, B. T., Siegel, E., Sylvester, L., ... Sevcik, R. (2010). Twenty years of communication intervention research with individuals who have severe intellectual and developmental disabilities. *American Journal on Intellectual and Developmental Disabilities*, 115(5), 364–80.
- Sunardi, S., Yusuf, M., Gunarhadi, G., Priyono, P., & Yeager, J. L. (2011). The implementation of inclusive education for students with special needs in Indonesia. *Excellence in Higher Education*, 2(1), 1–10.
- Suwaryani, N. (2008). *Policy analysis of education provision for disabled children in Indonesia: a case study of eight primary schools in Kecamatan Jatiwulung*. PhD. Thesis, Institute of Education, London University. (discovery.ucl.ac.uk. PQDT - UK & Ireland. Retrieved from <https://core.ac.uk/display/33679042>.
- Tan, X. Y., Trembath, D., Bloomberg, K. (2014). Acquisition and generalization of key word signing by three children with autism. *Developmental Neurorehabilitation*, 17(2), 125–136.
- The Open University. (2016). Surveys: *Exploring attitudes and beliefs*. Module from <https://learn2.open.ac.uk/mod/oucontent/view.php?id=914303>. Retrieved March 3, 2017.
- Tucker, A. C. (2013). Interpreting and treating autism in Javanese Indonesia. University of California. <https://escholarship.org/uc/item/0wh189mq> Accessed 6/1/2019.

Winarti, A. S. (2012, November). *Sign language, opening the world for the deaf*. Bali News. <https://baliskytour.wordpress.com/2012/11/13/sign-language-opening-the-world-for-the-deaf/>. Retrieved 6/1/2019.

SCH