

1-1-2016

## **Use of Goal Attainment Scaling in the evaluation of the Kids Together inclusion program in early childhood learning environments**

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## Use of Goal Attainment Scaling in the evaluation of the Kids Together inclusion program in early childhood learning environments

### Publication Details

C. E. Manning, K. Williams, G. O'Brien & M. Sutherland "Use of Goal Attainment Scaling in the evaluation of the Kids Together inclusion program in early childhood learning environments", Melbourne Convention Centre Melbourne, September 2016, (2016)

# Use of Goal Attainment Scaling (GAS) in the Evaluation of the Kids Together Inclusion Program in Early Childhood Learning Environments.

# Presentation Plan

- Introduction to session, Kids Together History
- Kids Together Model
- Summary of Evaluation Approach
- Goal Attainment Scaling (GAS) – Evaluation Analysis
- Strengths, challenges and implications for future

# Kids Together History

- Started by listening to parents who were concerned about their children at preschool and day care including concerns about the attitudes of other parents
- At the same time, there was more evidence coming out about the importance of inclusion
- As a result, we looked at ways that we could meet these concerns and findings about inclusion by developing a program which supported families and early childhood education and care centres

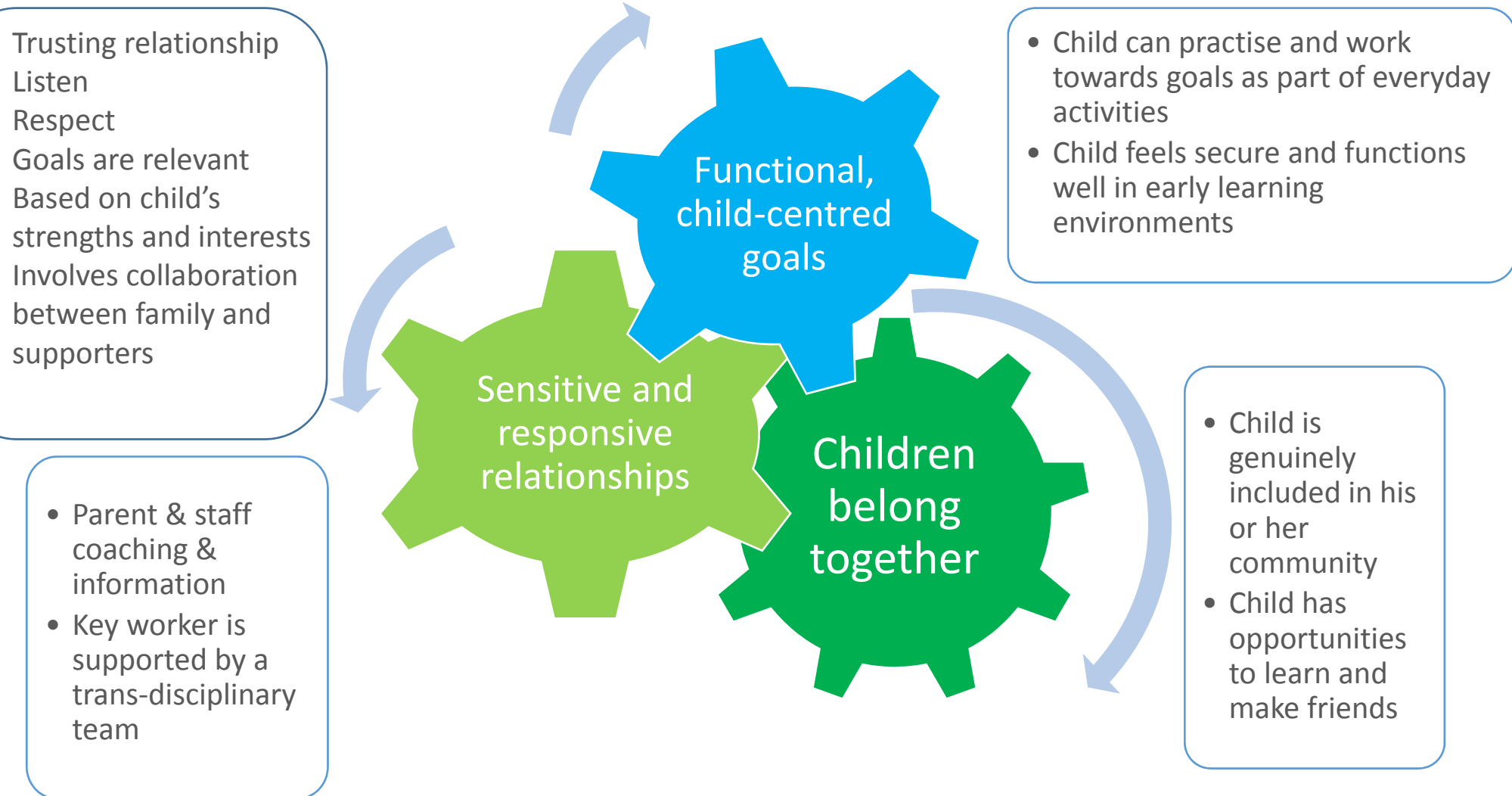
# What is Kids Together?

- Kids Together™ was developed by Noah's Shoalhaven in 2013 as a model of early intervention designed to support children with additional needs and disabilities aged 0-8 years, and their families.
- The Kids Together™ program is delivered at Early Childhood Education and Care Centres & Schools, with the flexibility to extend into other community settings and the family home as needed.
- The Kids Together program was evaluated by Wollongong University during 2014/2015.

# Kids Together – What makes it different?

1. The **ECEC Centre refers** to the Kids Together program and the Key Worker is placed in the ECEC Centre providing integrated service delivery
2. We draw on **relationships-based models** of intervention which are based on a strong body of research.
3. We have a **trans-disciplinary team** of highly experienced and passionate professionals who are **involved in every stage of the child's intervention**
4. We have a strong commitment to providing high quality collaborative services for **Aboriginal children and their families**

# Kids Together – in the field





# GAS Goal – Information Gathering

- GAS goals are Child–Centred and Family Focused
- Setting appropriate goals is complex and requires a lengthy, careful process of assessment and negotiation with parents and ECEC centre staff.
- Goals set based on what is important to the family perspective
- Contribute to the child's the full inclusion in society – Home, ECEC Centres, School, and Community

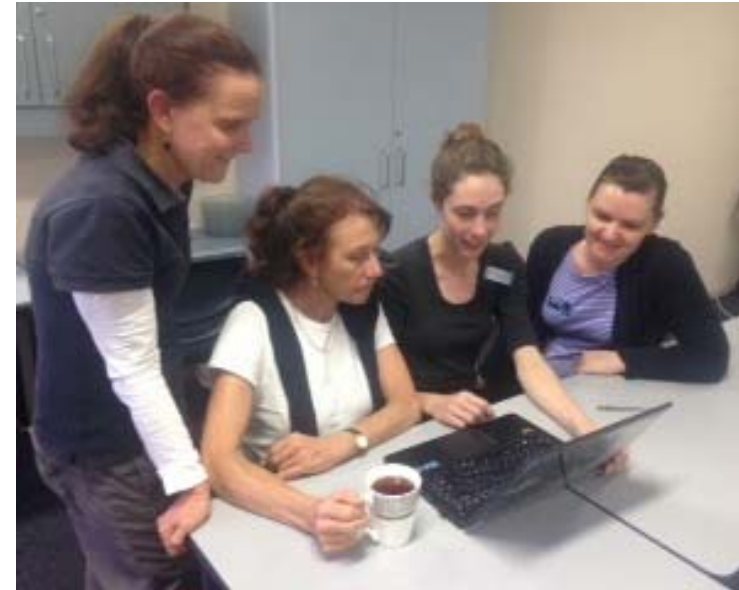
# GAS Goal – Information Gathering



Observation  
Functional Assessment

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Choices that matter: ECI in a new era ...

# GAS Goal - Trans-disciplinary Input



- Observation
- Functional Assessment
- Trans-disciplinary consultation

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# GAS Goal – Goal setting



- Functional Goals that support inclusion at home and in the ECEC Centre.

# GAS Goal – Embedding at home



- Looking for multiple opportunities to practice goals.

# GAS Goal – Embedding at ECEC Centres



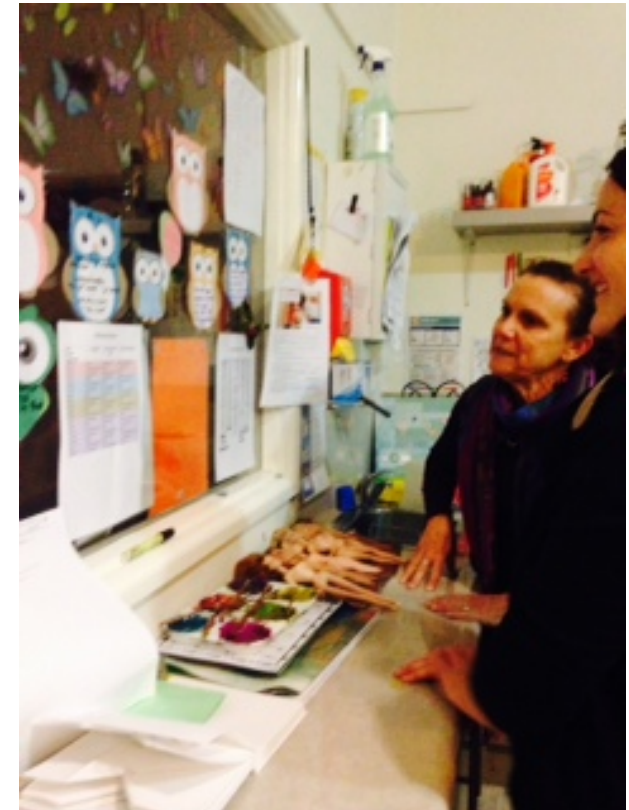
- Looking for multiple opportunities to practice goals

# GAS Goal – More Examples



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# GAS Goal – Embedding and Monitoring at ECEC Centres



- Looking for multiple opportunities to practice goals and monitoring progress in the ECEC Centres.



# Kids Together Evaluation approach

## **Realist evaluation**

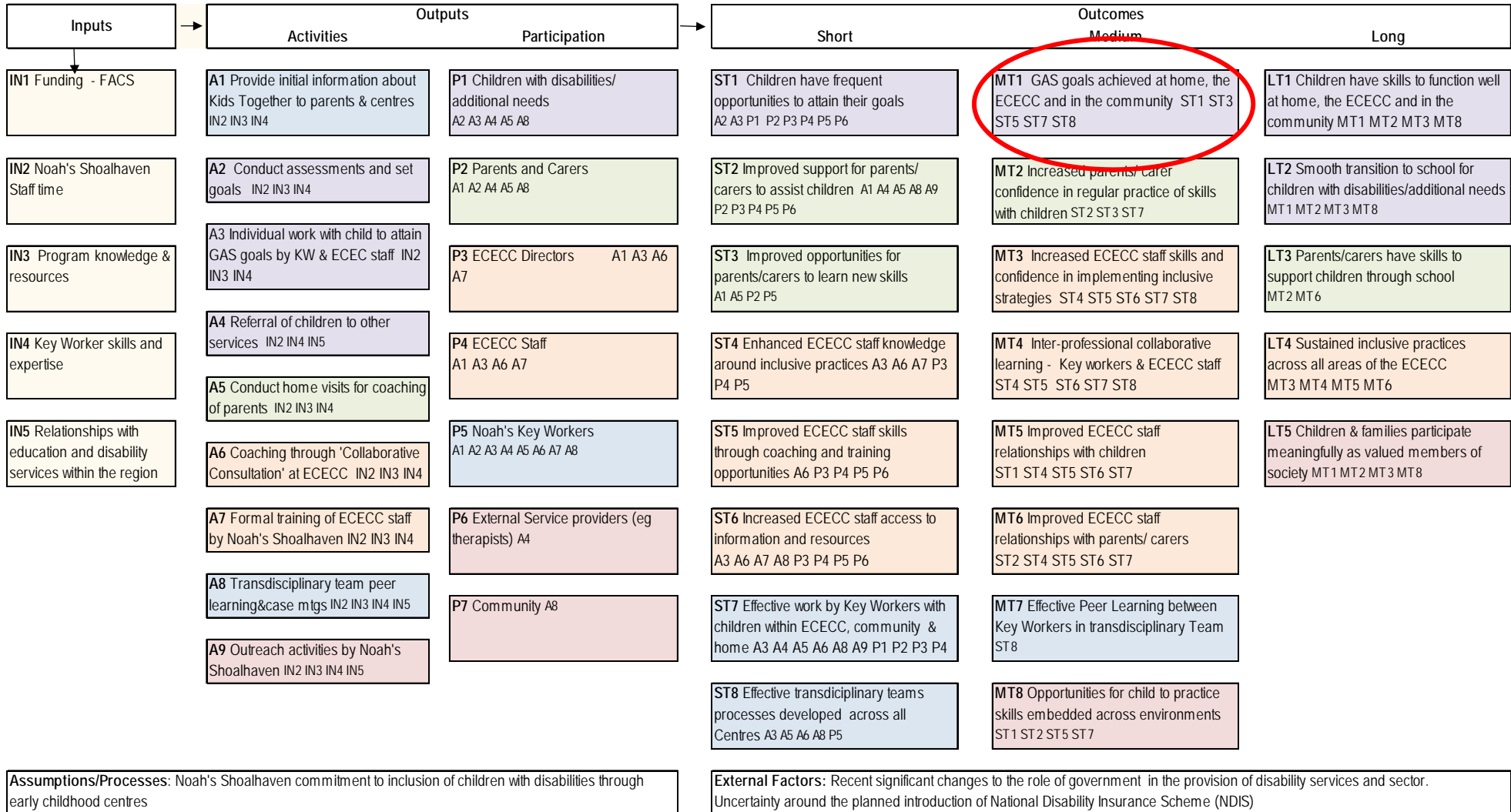
- To bring together lessons learnt in the delivery of the program and to capture evidence of its impact and effectiveness from all project sites.
- To assess what had been achieved, whether it made a difference and why, and to understand the processes by which any changes had occurred and how it might be expanded to other areas and contexts.

## **Collaborative approach**

- To ensure ongoing communication and feedback between researchers, Noah's Shoalhaven, Steering Committee.

**Program:** Noahs Shoalhaven Kids Together Program

**Situation:** Noah's Shoalhaven has developed the Kids Together Program as an innovative model of service delivery for early intervention targetting children with a disabilities/additional needs aged 0-8. The Kids Together model is intended to deliver early education, therapy and family support services in homes and in mainstream Early Childhood Education and Care setting.



# Evaluation participants

Type of data collected	Stage one (Feb to July 2014)		Stage two (Aug to Dec 2014)	
	# Interviews/FGDs/ Survey	# Participants in research activities	# Interviews/FGDs/Survey/GAS Reports	Total # participants in research activities
Semi-structured interviews – ECEC Centre Directors <sup>[1]</sup>	5	8	5	7
Semi-structured interviews – Noah’s Kids Together team	8	8	9	9
Semi-structured interviews – Parents/Carers	11	12	10	11
Focus group discussion – ECEC Centre staff <sup>[2]</sup>	5 FGDs	35	5 FGDs	29
Participant observation at ECEC Centres	Stage two only		5 sessions	48
Survey of ECEC Centre staff (includes Directors)	Stage two only		15 ECECCs	87
Program data collected on child development and progress	Stage two only		<b>61</b>	<b>61</b>
		63		252

# Kids Together evaluation - Conclusions

## What worked?

- The **model of delivery** in which the relationship building starts in the ECEC centre was successfully achieved and was well aligned to the original vision and objectives of the program.
- Having the **starting point at the ECEC Centre** had the effect of simplifying service delivery for the parents and carers.
- The way the **relationships were built up** over time clearly made parents/carers feel supported and enabled them to better understand their children's conditions and how their children could benefit from the program.
- **Inter-professional collaborative** learning between the Noah's key workers and ECEC centre staff developed through coaching and training. Noah's key workers adapted their approach to coaching to suit the different skill levels and training qualifications of ECEC centre staff.
- The **home visiting component** was a strength of the Kids Together model.

# GAS - How it is used for Kids Together?

*“Parents identify – where the skills need to – the functional skills need to happen, and then the (key worker) may look at, okay, where is the child up to, what's the next step for that child in order to get to the next stage, and they will develop what we call a GAS goal or very specific measurable goal. And so part of the role of the (key worker) is then when working with the parents and working with the preschool or day care centre is to identify how that goal can occur as many times as possible throughout the week.”*

*Noah's Shoalhaven stakeholder 1 – (Stage 1)*

# Goal Attainment Scaling (GAS) – Kids Together Evaluation Analysis

<b>Target activity:</b> What are we working towards? Why is this important? How will it be achieved?	<b>Baseline (-2)</b>	<b>Some progress (-1)</b>	<b>Expected level of progress after 10 weeks (0)</b>	<b>A little better than expected (+1)</b>	<b>Much better than expected (+2)</b>

**What have we done this term?**

**How did we go?**

**Where to next?**

# Example GAS chart (example)

Target activity: What are we working towards? Why is this important? How will it be achieved?	Baseline (-2)	Some progress (-1)	Expected level of progress after 10 weeks (0)	A little better than expected (+1)	Much better than expected (+2)
<p><b>Social communication skills. Developing an awareness of peers and an ability to play alongside them are the first steps to child beginning to play with others. These are important steps toward making friends. We will start with sensory games and activities that child enjoys such as the slide, rocker, ball and chute game, music and movement games as well as routines such as meal times, to support child to be near, to notice others and to join in with peers.</b></p>	<p>Currently child sits at meal times and group times with maximum support and plays alongside other children for very short periods of time.</p> <p>Child does not consistently imitate others.</p> <p>Child will engage warmly with an adult with eye contact, gestures and sounds for approximately 2-3 minutes, 2-3 times per day. Child needs support to interact with peers.</p>	<p>With adult support, child plays alongside an adult. He looks and imitates the adult's actions on 2 occasions in the day.</p> <p>Child plays alongside another child, looks and passes object</p>	<p>With adult support, child plays alongside an adult. He looks and imitates the adult's actions on 3 occasions in the day. ACHIEVED*</p> <p>Child plays alongside another child, looks and passes object on 3 occasions in the day ACHIEVED*</p>	<p>With adult support, child plays alongside an adult. He looks and imitates the adult's actions on 4 occasions in the day.</p> <p>Child plays alongside another child, looks and passes object on 4 occasions in the day.</p>	<p>With adult support, child plays alongside an adult. He looks and imitates the adult's actions on 5 occasions in the day.</p> <p>Child plays alongside another child, looks and passes object on 5 occasions in the day.</p>

Note. Names and identifying information has been removed to protect confidentiality. \* Child's score for both goals is 0.

# Example GAS chart

**What have we done this term?** This term Speech Pathologist , Early Childhood Specialist and Psychologist saw child and parent at home. Support and information was given to further develop child's communication, engagement and play skills. Strategies for sleeping, eating and toileting were discussed. Information on respite services was also supplied. Ideas for using routines to build communication and engagement skills were discussed with parent. The ECEC centre staff were supported to use sensory based activities and visuals to include child in a number of small group activities throughout the day.

**How did we go?** Child has made excellent progress this term. With adult support child calmly joins in play with one other child, for 2-3 minutes, 3 + times a day. With adult support, child joins in with movement activities (at times he does this from a distance). Child's awareness and tolerance of others in his space is improving. Child sits with his peers for a short time for story, music, snack and meal times. He will look toward his friends, smile, pass a toy, and at times hug and kiss them. Child continues to remain engaged in play for longest when: a) movement activities are used (these are calming and organising); b) visuals are used to support his understanding; c) engagement is supported by adult affective engagement (voice, singing, pace). Child plays interactive turn-taking games with an adult for over 10 minutes. He is particularly responsive to high affect movement games, such as bouncing on a fit ball, sliding down the slide, rocking in rocker toy. Child looks and engages with interest during these activities, and will imitate adult movement and sound.

**Where to next?** Child will attend early intervention unit 2 days per week, school 1 day per week and preschool 2 days per week in 2015. Child will continue speech pathology and occupational therapy. Parent has identified the following goals for Term 1 2015 : support with behaviour issues such as running away; develop communication and play skills.



# Examples of Target GAS Activities

- Child will use sentence structures containing 3 words to express his wants, thoughts, needs and ideas during his day on 10 occasions
- Two way communication with peers, listening and responding to the other side of the conversation.
- Child will play with 2 children in a shared back and forth game where each of them has ideas and contributes equally to the play for 5 minutes.
- Calm/regulated state in order for child to be attentive and focused while participating in an activity. This will be achieved through obtaining regular sensory (proprioceptive) input (weight-bearing into arms/heavy work activities) throughout the day.

# Extent of Kids Together activities

- 207 GAS charts completed for 61 children
  - Term 3: 76 goals, 58 children
  - Term 4: 89 goals, 61 children
- Children had 2 to 15 months in KT program
  - Mean 8.6 (SD 3.2), median 9 months
- Between 1 and 8 children at each of the ECEC centres evaluated
- 46 boys, 15 girls

# Focus of Kids Together activities

- Speech pathologist – 20 children
- Early childhood specialist – 14 children
- Occupational therapist – 27 children
- 17 different diagnoses
- Multiple diagnoses common
- 10 children had no diagnosis recorded

# GAS outcome values: frequencies and summary statistics

GAS value		Term 3	Term 4
-2	Baseline	3	1
-1	Some progress	24	13
0	Expected progress	31	48
+1	Slightly better than expected	12	19
+2	Much better than expected	6	8
<b>Mean GAS value (SD)</b>		-0.15 (1.01)	0.30 (0.73)
<b>Mean sum of differences (SD)</b>		2.52 (1.81)	3.34 (1.76)
<b>Total number of goals</b>		76	89
<b>Total number of children</b>		58	61

# Differences in GAS T scores between sub-groups and change over time

Groups	Term 3 mean (SD)	n	Independent t (df) <sup>a</sup>	Term 4 mean (SD)	n	Independent t (df) <sup>a</sup>	Paired t (df) <sup>b</sup>
<b>Males</b>	47.70 (10.29)	43	-1.12 (56)	53.11 (8.52)	46	-0.74 (59)	-4.40 (42) <sup>***</sup>
<b>Females</b>	51.24 (11.09)	15		51.33 (6.40)	15		-0.04 (14)
<b>Indigenous centres</b>	48.45 (10.24)	8	-0.05 (56)	51.11 (6.01)	9	-0.63 (59)	-1.06 (7)
<b>Other centres</b>	48.65 (10.66)	50		52.94 (8.35)	52		-3.52 (49) <sup>**</sup>
<b>Less disadvantaged centres</b>	50.26 (9.62)	14	-0.73 (54)	52.16 (7.94)	15	0.24 (57)	-1.27 (13)
<b>More disadvantaged centres</b>	48.00 (10.18)	42		52.74 (8.25)	44		-3.92 (41) <sup>***</sup>
<b>All children</b>	48.62 (10.52)	58		53.16 (7.87)	61		-3.68 (57) <sup>***</sup>

Note. *a* - test for differences between two groups, *b* - test for change within each group over time, *n* refers to number of children. \**p*<.05 \*\**p*<.01 \*\*\**p*<.001

# Differences in GAS T scores among disability types

Disability type	Term 3 mean (SD)	n	Term 4 mean (SD)	n	Paired t (df) <sup>b</sup>
Behaviour	46.40 (7.39)	9	48.18 (6.03)	11	-1.99 (8)
Global developmental delay	48.86 (8.39)	10	54.86 (8.53)	10	-1.79 (9)
Communication	52.22 (11.52)	9	54.07 (8.72)	9	-0.58 (8)
Sensory processing	50.00 (-)	1	60.00 (-)	1	-
Mental health	55.00 (7.07)	2	55.00 (7.07)	2	-
Other	47.90 (13.71)	18	52.60 (9.67)	18	-1.62 (17)
No diagnosis	46.83 (8.99)	9	53.10 (5.27)	10	-3.35 (8)*
ANOVA F (df) <sup>a</sup>	0.40 (6, 51)	58	0.90 (6, 54)	61	

# Conclusions about use of GAS

## What did the analysis find?

- As a service providing a whole range of support needs to have ways of reporting, monitoring and developing strategies that work across all health specialist disciplines - Speech/OC/Psych
- GAS was used to provide a concrete demonstration of child outcomes
- Based on evidence, GAS appears to have potential for the purpose of goal setting and monitoring in the early intervention context, if the tool is well designed and therapists are provided with adequate support.

# What did parents say about setting goals?

*“... they weren’t stupid goals, they were very achievable, it’s been quite easy – well, not easy, but it’s been a much more simple process than if she’d said, right, we want to do 20 things and we want them all done immediately. She’s, sort of, said, well, let’s do these three things that you can manage, and then if you can’t manage that we’ll only do two things and – and it is constant reassessment, which has been brilliant.”*

Centre 4 Parent 1 (Stage 2 interview)



# GAS Strengths for Kids Together

- Recording and reporting on goal attainment is central to the program.
- There were initial challenges managing assessment and reporting however by the end of the evaluation key workers referred to the value of recording and reporting on progress.
- The GAS approach allowed for flexibility, key workers were able to adapt the reporting in order to document progress.
- Parents and carers indicated that they felt included in goal setting.
- The GAS data provided preliminary evidence of the program's positive impacts for participating children.

# GAS Challenges for Kids Together

- Key workers sometimes struggled with the idea of setting only one or two goals.
- Each goal that was achieved had to represent a multitude of different strategies and occasions of practice.
- Setting appropriate goals required a lengthy, careful process of assessment and negotiation.
- Priorities could change in a dynamic environment as the child developed.
- Some saw the GAS form as excessive paperwork.
- Similar expectations did not always work in practice.

# Implications for NDIS

- The key worker trans-disciplinary team model aligns with the individualised package approach of the National Disability Insurance Scheme (NDIS).
- NDIS will be rolled out 2017/2018 in the Illawarra and Shoalhaven.
- GAS reporting will be a significant part of their service provision as the NDIS rolls out in their regions.

A word cloud on a teal background with the title 'Kids Together' in large white letters. The words are in various sizes and colors (white, yellow, orange, red). The words include: thoughts, start, sounds, things, knowledge, sometimes, parents, happy, involved, experience, successful, talking, getting, definitely, information, worked, really, goals, challenges, meeting, looking, children, everyone, training, right, guess, coming, anything, KeyWorker, support, regards, coaching, better, Illawarra, participation, understand, thinking, exactly, cause, inclusion, strategies, thing, funding, group, people, first, going, kids, staff, little, early, around, Noah's, belonging, think, still, family, child, always, person, relationship, maybe, centres, different, program, school, families, everything, additional, whole, needs, fantastic, learning, works, carers, happening, questions, skills, preschool, together, speech, saying, therapist, trying, whether, understanding.