The CSI-CY: A New Tool to Aid in Communication Goal Development

Charity Rowland
Melanie Fried-Oken
Sandra M. Steiner
Don Lollar
Oregon Health & Science University
Portland, Oregon USA

ISAAC 2014
Lisbon, Portugal

Goals today

1. Justify use of the ICF-CY for AAC
2. Present a description of the instrument
3. Go through a guided completion of the CSI-CY
4. Discuss research findings and the usefulness of the CSI-CY for AAC goal development

THE CHALLENGE

There is no standard developmental set of skills that can guide AAC goal development.

THE PROBLEM

- Don is a 4 year old child who relies on AAC with Down Syndrome and Metabolic Strokes
- The ICD-10 describes him as 758.0
- What does this say about Don’s functional communication?

ICD codes ≠ child’s functional communication

- Individuals with CCN have communication difficulties related to a variety of different health conditions
- Health condition alone → intervention methods? NO!
- Function in different environments + health condition = appropriate intervention methods

A SOLUTION: The ICF-CY

- ICF-CY: International Classification of Functioning, Disability and Health - Child & Youth version
- Developed by the World Health Organization (WHO) to complement the ICD
- Designed to describe the functional status of individuals in a standardized manner
Why ICF-CY?
- Systematic coding scheme
- Function, instead of etiology or diagnosis (unlike ICD)
- Common language for professionals, persons with disability, family members & the public worldwide
- Can be used across education, medical and social services.

The ICF and AAC
The ICF works especially well for AAC learners, because it separates speech functions from communication functions.

ICF-CY system
- Body Structures sometimes different or not present
- Body Functions may vary due to structure
- Activities and Participation may be limited and life situations restricted due to functions
- Environment: facilitators and barriers in every environment that affect participation

“The ICF fits our international AAC community like an old shoe that we have been wearing for many years.” Fried-Oken and Granlund (2012)

From WHO document to CSI-CY Profile
Published manual of codes
On-line interactive CSI-CY Inventory

Using the ICF as an Organizational Framework to Improve Communication Goals for AAC Users
- Population: School-aged children (in U.S.) who use AAC or are candidates for AAC
- Goal 1: Develop and evaluate the CSI-CY to describe communication strengths and needs of children who use AAC
- Goal 2: Use the CSI-CY to guide communication goal development
Two-part CSI-CY

1. **Code Set surveys:**
   - participation restrictions,
   - communication limitations,
   - functional reasons for them,
   - environmental facilitators and barriers

2. **Report:** Prioritizes identified items to facilitate IEP goal development process

Current Version

- 112 items in 14 sections
- Plus 1 open-ended text box for each of 14 sections
- Total items = 126
- The ICF-CY codes are listed next to each item

www.csi-cy.org

Download the CSI-CY Code Set:
www.icfcy.org/aac
(ISAAC handout)

Participation Restrictions:

1. School-related Activities
2. Interpersonal Relationships

Communication Limitations:

*Rate limitations in...*

1. Receptive Language and Literacy
2. Expressive Language and Literacy
3. Functions of Communication
4. Rules of Social Interaction in Conversation
5. AAC: Receptive Communication
6. AAC: Expressive Modes and Strategies
7. AAC: Motor Access
**Body Functions:**
Rate impairments that limit communication...

- Hearing
- Vision
- Touch
- Oral Motor
- Respiratory
- Intellectual
- Gross and Fine Motor

**Environmental Barriers and Facilitators**

1. Physical environment
2. Assistive technology
3. People
4. Services and policies

*This often corresponds to the special education and related services and supplementary aids and services sections of the IEP.*

---

### Sample of CSI-CY Inventory

**Take a trip with us through the CSI-CY**

Let’s describe Nicole, a 6 year old girl with Rett Syndrome. . .

---

**Meet: Nicole**

**Age:** 6 years  
**Medical Diagnosis:** Rett Syndrome

**Current Communication Impairment**
- Profound expressive and receptive communication impairment

**Background Information**
- **Personal/Social:** Nicole was born prematurely and was diagnosed with Rett Syndrome at the age of two years. Due to this neurodevelopmental condition, she has orthopedic impairments, constant hand wringing, inability to speak, and digestive issues. She has received speech therapy for three years and recently received a Tango speech generating device, which she brings to school. She is non-ambulatory and non-verbal, but definitely can get her needs met by vocalizing with laughter, protests, crying, smiles, and eye contact. She presents as a happy child who loves attention. She enjoys human contact and only complains when she is in discomfort.

---

**Complete CSI-CY at www.csi-cy.org**
Finish Nicole’s CSI-CY

To resume the survey where you left off, please go to

Final output: Profile Report

Research Studies

What is the relationship between items prioritized on CSI-CY and goals on pre-existing IEPs?

• Do IEPs include goals that relate to items in the CSI-CY subsections?

• Do the items prioritized in the CSI-CY also appear as IEP goals for the student?

Who participated?

• N = 35 SLPs and Special Educators (40% SE, 54% SLP, 6% other)
• From 15 states
• Work settings: Elementary (34%), Middle School (29%), Secondary (37%)
• Knowledge of AAC: Expert/Great deal (33%), Moderate (58%), Little (7%)
• Disability of targeted students: autism (31%), CP (20%), intellectual disability (17%), other (31%)

IEP data

• Great variety in the 35 IEPs
• #Goals & objectives per IEP:
  – Mean = 9.2; range = 1-20
• #Accommodations/Services per IEP:
  – M = 3.7; range = 1-11
What’s missing from the current IEPs?

- These CSI-CY subsections were prioritized BUT had no or few IEP goals:
  - Rules for social interaction
  - AAC- Motor
  - Body functions*
  - Environment: People
  - Environment: Services and policies*

* May be difficult to address in IEPs.

What overlaps are there in IEP goals and CSI-CY priorities?

<table>
<thead>
<tr>
<th>CSI-Subsection</th>
<th>% participants who prioritized subsection and included IEP goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Activities</td>
<td>31%</td>
</tr>
<tr>
<td>Interpersonal Relationships</td>
<td>14%</td>
</tr>
<tr>
<td>Receptive Language &amp; Literacy</td>
<td>31%</td>
</tr>
<tr>
<td>Expressive Language &amp; Literacy</td>
<td>26%</td>
</tr>
<tr>
<td>Functions of Language</td>
<td>40%</td>
</tr>
<tr>
<td>AAC-Receptive Language &amp; Literacy</td>
<td>11%</td>
</tr>
<tr>
<td>AAC-Expressive Language &amp; Literacy</td>
<td>40%</td>
</tr>
<tr>
<td>Environment/AT</td>
<td>40%</td>
</tr>
</tbody>
</table>

Data Interpretation

- Some prioritized CSI-CY items do not appear as goals in many IEPs.
- There are ICF constructs that do not appear in IEP goals.
- There is great variability in goal development for children who rely on AAC.

Does the CSI-CY Influence Development of Subsequent IEP goals?

- Does use of the CSI-CY affect goal development?
- Will we see a difference in goals if SE/SLPs complete the CSI-CY before an IEP meeting?
- Do SLPs and SEs report that using the CSI-CY helps with goal development?

Methods

- 61 SLPs and Special Educators (69% SE; 30% SLP)
- **Experimental group (N=36):** Complete the CSI-CY before attending an IEP meeting
- **Control group (N=25):** ‘Business as usual.’
- **All participants:** Send the completed new IEP after meeting.
- Outcome: Ratings of IEP goals developed **with** vs **without** use of CSI-CY

Data Sources

- Coders were blinded to whether the IEP came from the experimental or control groups.
- From each IEP, all communication-related goals & objectives, accommodations, modifications and services were extracted.
- Each item was coded with the 14 CSI-CY subsections.
- The # of CSI-CY subsections addressed per IEP was calculated.
IEP data

• Great variety in the 35 IEPs
• #Goals & objectives per IEP:
  – Mean = 8.7; range= 1-22
• #Accommodations/Services per IEP:
  – M= 6.3; range= 1-15

Data Interpretation

• An attitude shift? It’s reinforcing to see that the participation subsections increased in IEPs. We need to stress function and integration of AAC, not just learning to use the device.
• The neurotypical language and function subsections increased for AAC IEPs. Perhaps the IEPs are reflecting the importance of language foundation, and how to apply developmental language and literacy skills to device use for AAC implementation.

IEP trends: Goals that appeared in IEPs more after CSI-CY completion

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Control IEPs (no CSI-CY use)</th>
<th>Experimental IEPs (after CSI-CY use)</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Activities</td>
<td>55%</td>
<td>67%</td>
</tr>
<tr>
<td>Interpersonal Relationships</td>
<td>33%</td>
<td>33%</td>
</tr>
<tr>
<td>Receptive Lang &amp; Literacy</td>
<td>50%</td>
<td>70%</td>
</tr>
<tr>
<td>Expressive Lang &amp; Literacy</td>
<td>77%</td>
<td>83%</td>
</tr>
<tr>
<td>Functions of Language</td>
<td>77%</td>
<td>94%</td>
</tr>
<tr>
<td>AAC-Motor</td>
<td>6%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Future Options

• Codify the iterative PROCESS that we have developed for use by other groups to generate code sets for a specific health condition or functional problem
• Apply the AAC codes to electronic medical records
• Develop a parent version of Profile that could be used to mediate conflicts between home/school

AAC Volume 28, Number 1 (March 2012)
Special Issue: AAC and ICF: A Good Fit to Emphasize Outcomes


Murphy, J. and Bara, S. Using the WHO-ICF with Talking Mats as a goal setting tool.


Granlund, M., and Lysley, M. Implementation of the International Classification of Functioning, Disability and Health (ICF-CY) and how this relates to Augmentative and Alternative Communication.

Simeonsson, R., Björk-Akesson, E. and Lollar, D. Communication, disability and the ICF-CY.

Our team

www.icfcy.org/aac

• Code Set
• Reference list
• Publications
• Presentations

Funded by:
The Institute of Education Sciences
U. S. Dept. of Education
Grant #R324A090028
Charity Rowland, PI