Making Educational Resources with TAWASOL
Symbols to Support Students with Disabilities
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Disclosure:
Nadine N. Zeinoun has no relevant financial or nonfinancial relationships to disclose.
Introduction to Augmentative and Alternative Communication
Symbols

Mean different things in different languages and cultures

運

Lieveheersbeestje

دعسوقة
Symbols for Augmentative and Alternative Communication (AAC)

**ARASAAC**

Hello, how are you today?

**SCLERA**

I am sick

**PCS**

**WIDGIT**
Introduction to
TAWASOL Symbols Project
Background
The Arab region

- 22 Arabic-speaking countries
- 422 million people with more than 50% under the age of 25
- 43 million outside the Arab world
- 4.9% of Arab region have disability – under reported? (Disability in the Arab Region - Economic and Social Commission of Western Asia (ESCWA) League of Arab States, 2014)
Introduction to the Project

Background:

- There are a growing number of individuals who can benefit from using symbols to aid communication and literacy skills.
- Learning disabilities are the most common primary disability in the Arab region.
- 34% of those with another disability also have a learning disability. (Zetterström - 2012)
- Their needs are being met by the use of externally developed AAC symbols systems.
Aims of the Project

• To develop a freely available Arabic symbol dictionary suitable for use by individuals who have a wide range of communication difficulties.

• To develop a set of symbols that are culturally, linguistically and environmentally appropriate for AAC users in Qatar and the Arab world.
Approach: Participatory & Iterative

- Lack of articles and research
- Learn more about the use of symbols in Qatar and the Middle East
- Learn of the challenges of Arabic AAC users
- Setting up forums and workshops - involve symbol users, families, therapists, teachers and experts
- Advisory group, ‘critical friends’ and a voting system
Concerns related to AAC Symbols use in Qatar

1. Culturally & Linguistically inappropriate symbols
   • Inappropriate symbols send mixed messages
   • AAC users can’t relate to foreign symbols
   • Arabic linguistic rules occasionally disregarded
### Cultural and Environmental Issues

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<thead>
<tr>
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<th>swim</th>
<th>dance</th>
<th>dance</th>
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<th>back</th>
<th>holidays</th>
<th>beach</th>
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<th>park</th>
<th>kiss</th>
<th>DVD</th>
<th>woman body front</th>
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<td><img src="woman_body_front.png" alt="woman body front" /></td>
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</table>
Linguistic Issues

مرحاض جدول أعمال

يحب جينز مختنق

يجلس

يستخدم ورق تواكيت

يحب جينز مرتفع

يقص بالماء

English

Arabi

يغسل يديه

جاف يدا

يغلق الصنبور ماء

يغسل يديه

يرسل إلى

يغسل يديه

يشفط يدا

ماء على

نماذج التصورات المستخدمة في محيط AAC مرسوم ببكالوريا للاتصالات الصورية (PCS)

mada
A greater challenge

2. The need for an English & Arabic Symbol Dictionary

- Therapists speak English = Therapy in English
- Carers and those supporting AAC users may speak English but as a second language
Collecting an Arabic Core Vocabulary

- Collecting local essential colloquial and Modern Standard Arabic vocabularies for daily use with symbols
- Include diacritics in Arabic so that symbol labels, words and their definitions can be read aloud accurately using speech synthesis – text to speech
- Provide parts of speech and categorization of words and symbols so they are easy to find when using the online dictionary.
Symbol Design Process

1. AAC forum to choose preferred freely available symbol set
2. Graphic designer to adapt symbols to be culturally, linguistically, religiously and environmentally appropriate
3. AAC forum to vote on acceptability of symbols
4. Analyze comments and develop a criteria for adapting symbols to suit Arabic AAC users
5. Check criteria with AAC forum
6. Graphic designer to use criteria when developing future symbols
Results: Criteria for Culturally Appropriate Arabic symbols

- Qatari females: Abaya & Shela (all hair covered)
- Qatari males: Thobe & Ghutra
- General Arab dress code: Hijab and modest clothing

- Flip symbols to follow Arabic sentence orientation
- Male and female version for each symbol
- Differentiate dual and plural symbols

- Darker physical features for characters
- Facial hair for adult male characters
- Limit mixing and show of affection with opposite sex

- Use local currency
- Less greenery in the environment
- No stick figures

- Consider religious sensitivities
- Include religious holidays, customs, local landmarks and food

Sample images used in AAC settings thanks to ARASAAC and Tawasol Symbols
Designing Symbols

[Images showing different designs related to Islamic symbols and prayer positions]
Landmarks in Qatar
Participation is essential to success

- Involving symbol users, families, therapists, teachers and experts
- Learning more about the use of symbols in Qatar and other Arabic speaking areas
- Advisory group, ‘critical friends’
- Using Online Symbol Manager and Voting system
Symbol Voting

Voting System

MSA: صلاة العشاء
Eng: Isha prayer time

Please rate the symbol on a scale of 1-6 where 1 = completely unacceptable and 6 = completely acceptable

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
<tr>
<td>Feelings about the symbol as a whole</td>
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<td></td>
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<tr>
<td>Represents the word or phrase</td>
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<tr>
<td>Colour contrast</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Cultural sensitivity</td>
<td></td>
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Please add any comments to help us improve the symbol:

Submit prev next
Results
Welcome

Welcome to our bilingual Arabic / English symbol dictionary of the most frequently used words in spoken and written communication (Tawasol in Arabic) represented by images and pictograms. It is hoped the freely available symbols designed in Doha with the support of a Qatar National Research Fund project can become part of a toolkit of strategies to benefit those with communication and literacy difficulties.
Open access: free content including metadata

Supports easy searching and filtering
Open licensed: liberal, free to share, re-use, adapt and combine with other content
Open format: easy to use and adapt

- .svg
- .png
- jpeg
- .pdf
Maryam is telling her teacher what she did over the weekend. She played in the playground with the children, ate with her brother and sister in the market, stood and bought meat and karai, then went shopping with her friends and bought clothes.
**Future Directions**

- Development of new Arabic symbols as demand increases
- Voting on adapted/new symbols and lexical entries
- Continue working with AAC forum and participants for feedback and evaluation
- Reaching out to other stakeholders to disseminate outcomes
- Creating resources and activities to be available on the website
- Implement the symbols in the schools, work places and in the community.
- Tawasol symbols website
  http://tawasolsymbols.org/en/home/
- Symbol Creator
  http://tawasolsymbols.org/en/create-symbols/
- Grid player
- GoTalk now
- Pictello
- CoughDrop
- Babnoor
Create Symbols

If you want to make new symbols or adapt others we have provided a simple set of instructions to help you use the symbol creator application below. To help us to improve the application please complete a very short survey and contact us if you have any problems. If you would like to see more images Return to Symbols Page.
Thank you  Any questions
Thanks go to ARASAAC Symbols for their support http://arasaac.org/
References:


• Yorkston, K. M., Beukelman, D. R., Smith, K., & Tice, R. (1990). Extended communication samples of augmented communicators. II:
