

## Research report

# A Measure to Evaluate the Quality of IBI

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The Ministry of Children and Youth Services of Ontario has shown its support for early Intensive Behaviour Intervention (IBI) for children with autism by providing funding for a province-wide IBI initiative. Although it is clear that early intervention has a positive impact on the behaviour of children with autism, some don't do as well as others. Some children master many skills, including learning to talk in sentences, playing appropriately with other children, and even reading and writing. Other children don't learn as many skills, but may make great gains in other areas - learn to make eye contact, use the toilet and follow instructions. Why do some children respond well to treatment while others do not?

There are probably many factors that contribute to how well a child will do in IBI. Some variables may be related to the child, such as language level and play skills, the type and severity of problem behaviour, and adaptive skills (going to the toilet or getting dressed). Other factors might be related to the involvement of parents in the IBI program at home. Better results might happen when behaviour principles are used consistently across environments. The training and supervision of the therapist and the number of hours spent in therapy each week are also points to consider. The number of hours, or *quantity* of therapy that is received, is often stressed in studies about the effectiveness of IBI. This research suggests that at least 20 hours a week of IBI is best. Another variable that must be considered is the *quality* of the intervention. Imagine a therapist who doesn't reinforce a child very much or gives a reinforcer five to 10 seconds after the child's response. Or picture a child who always answers correctly and is never challenged to learn something more difficult. These examples are aspects of quality that probably affect how much a child improves with treatment. Other

factors that should be considered are how clearly the request is given, whether prompts are removed when the child knows the answer, how organized the therapist is, whether the pace of teaching is quick enough and how well problem behaviour is managed. Unfortunately, it is difficult to know how to measure these aspects and currently there is no appropriate scale that can be used to measure the quality of IBI.



Over the past two years my colleagues and I at York University have looked into what characteristics of IBI are important. In 2003 we sent out a survey to parents of children with autism and professionals in the IBI field asking them to rate how important they thought certain aspects of IBI were (such as reinforcement and prompting). The results of this survey helped us develop a scale to measure the quality of IBI called the York Measure of Quality of Intensive Behavioural Intervention (YMQI). The YMQI looks at nine important characteristics (categories) of good quality teaching. In each of the categories, up to eight specific behaviours are assessed (called items). In total, there are 30 items on the YMQI. See the table on page 16 for a list and description of these important aspects of quality. Two scores can be computed on the YMQI—nine category scores and one total score (made up of all the items and categories).

Before the scale can be used in the "real world," we must show that it is reliable and valid. The scale isn't useful unless two coders who rate the same IBI session get the same results (reliability). We also

need to make sure that the items in the scale are actually measuring quality IBI (validity). For my Master's thesis, I looked at the reliability of the YMQI. I trained four people to use the YMQI in video-taped sessions of IBI. The focus of my research involved looking at whether the coders rated the sessions the same way on the YMQI.

The results of the research were variable. The reliability was moderate to good for the total score and all but one category were moderately reliable. Unfortunately, the Reinforcement category had weak reliability. These results are not adequate enough to use the measure practically in the field, so more research is underway. For example, weak items have been removed or changed and training is now more detailed to help improve reliability.

A reliable and valid measure of quality is necessary for evaluating staff and examining the quality of IBI programs. This measure will help researchers to understand what the important aspects of quality teaching are and how they affect outcome. Identifying key features of IBI has been highly recommended by many researchers; our research will be important to both research and practice in the field of autism.

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## Descriptions of the Categories of the YMQI

<b>Categories</b>	<b>Description</b>
<b>S's</b>	<i>Clarity of verbal instructions, verbal instructions are not repeated, directing S's while child is attending.</i>
<b>Reinforcement</b>	<i>Differential reinforcement, sincere praise, motivating reinforcement, rapid reinforcement delivery.</i>
<b>Prompting</b>	<i>Effectiveness of prompts, timing of prompt delivery, fading and augmenting of prompts, and following through on requests, and the appropriate number of prompts per SD.</i>
<b>Learning</b>	<i>Appropriate level of task difficulty.</i>
<b>Pacing</b>	<i>Inter-trial intervals are not too long, time with reinforcement is appropriate, and a distinct inter-trial interval exists.</i>
<b>Engagement</b>	<i>The child responds appropriately to requests.</i>
<b>Generalization</b>	<i>Wording of S's is varied, materials are varied, tasks are mixed, teaching takes place away from the table, teaching is embedded into naturalistic activities, response generalization, embedding reinforcement, responding to child initiations.</i>
<b>Problem Behaviour</b>	<i>Evidence of a plan, problem behaviour is not reinforced, and reinforcement of positive behaviour.</i>
<b>Organization</b>	<i>Materials are well organized and data collection does not interfere with teaching.</i>