Developing an Instructional Package Entitled “My Emotions” to Promote Emotional Perception in Students With Autism

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Abstract

This study investigated the effectiveness of the instructional package entitled “My Emotions” in enhancing the emotional perception skills of children with autism, using the 80/80 criterion for instructional efficiency. The study adopted a one-group pretest–posttest design and involved 15 students with autism from Grades 1 to 3 at the Special Learning Centre for Students with Special Needs, Demonstration School of Ramkhamhaeng University. Participants were purposively sampled. The instruments employed were (1) the instructional package “My Emotions” and (2) an emotional perception assessment tool. The intervention was implemented twice per week, 40 minutes per session, over four weeks, totaling eight sessions. Data were analysed using the medians, instructional efficiency indices, and Wilcoxon signed rank test. The results demonstrated that the package achieved an effectiveness score of 84.67/85.33, which exceeded the 80/80 benchmark. Furthermore, a statistically significant improvement in emotional perception skills was observed following the intervention ($p < .05$), with posttest scores being higher than pretest scores. These findings suggest that the instructional package “My Emotions” has potential as an effective educational tool to support the development of emotional understanding in young children with autism.

Keywords: children with special needs, autism, perception of emotion

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Introduction

Emotional development plays a fundamental role in the holistic growth of all children, including those with autism spectrum disorder (ASD). Children who experience healthy emotional development tend to perform better in learning, communication, and various aspects of daily life. In the context of autism, the ability to perceive and interpret emotions—both one's own and those of others—is strongly associated with enhanced language development, social communication, and self-awareness. Nevertheless, a considerable number of children with autism face significant challenges in recognizing emotions, especially those conveyed through facial expressions. These difficulties are often linked to deficits in abstract thinking and an underdeveloped theory of mind (Limshila, 2002), which may lead to social isolation and hinder peer interaction.

Several studies have emphasized that teaching emotional recognition to children with autism is most effective when grounded in the use of concrete and visually supported instructional methods. While human facial expressions have been traditionally used as learning stimuli, research suggests that alternative visual formats—such as cartoon characters, emoticons, and virtual avatars—can be more engaging and accessible, particularly for children who struggle with direct eye contact (Cross et al., 2019; Gordon et al., 2014; Tanaka et al., 2012). In addition, providing emotional learning through illustrated situational contexts has been found to improve comprehension by linking emotions to causes and guiding appropriate behavioral responses (Akmanoglu, 2015; Axe & Evans, 2012).

In light of these findings, the present study aims to develop an instructional package entitled *"My Emotions"*, specifically designed to enhance the perception of four fundamental emotions—happiness, sadness, anger, and fear—among children with autism. The package integrates cartoon-based facial expressions and context-driven scenarios to support emotional recognition and promote more effective social engagement.

Research Objectives

1. To evaluate the effectiveness of the instructional package *"My Emotions"* in enhancing emotional perception skills among children with autism, based on the 80/80 efficiency criterion.
2. To compare the emotional perception abilities of children with autism before and after using the *"My Emotions"* instructional package.

Literature Review

The literature reviewed in this study highlights the multifaceted challenges faced by children with Autism Spectrum Disorder (ASD) (Akmanoglu, 2015; Axe & Evans, 2012; Cross et al., 2019; Gordon et al., 2014; Tanaka et al., 2012), particularly in the domain of emotional development. Emotional perception—the ability to recognize and respond appropriately to one's own and others' emotions—is a critical component of social interaction and communication. However, children with autism often exhibit delays or deficits in this area due to cognitive limitations such as underdeveloped theory of mind and difficulties in abstract thinking.

Research has consistently shown that these children benefit from instructional approaches that incorporate visual and contextual supports. Cartoon images, emoticons, and animated

facial expressions are more accessible and less intimidating than real-life photographs, especially for children who struggle with direct eye contact. Moreover, situational illustrations that connect emotions to causes and appropriate responses can significantly improve understanding and expression.

Instructional packages designed for children with special needs must be structured, visually engaging, and tailored to their cognitive profiles. Successful interventions often include repetition, consistency, and learner-centered strategies that support gradual skill acquisition. Despite these findings, there remains a need for culturally relevant and age-appropriate tools that integrate these elements into a cohesive instructional framework.

In response to these gaps, the present study proposes the development of an instructional package titled *"My Emotions,"* aimed at enhancing the perception of four basic emotions—happiness, sadness, anger, and fear—among children with autism. By integrating cartoon-based facial expressions and scenario-driven illustrations, this package seeks to promote emotional understanding and improve the quality of social interactions in this population.

Target Group

The target participants for this study were 15 students with autism enrolled in Grades 1–3 at the Demonstration School of Ramkhamhaeng University (Primary Division), Special Education Program. Participants were selected using purposive sampling based on specific inclusion criteria: (1) children diagnosed with autism, (2) aged between 6–10 years, (3) able to communicate using spoken language, and (4) able to attend to learning activities for at least 15–20 minutes continuously.

Variables

- **Independent Variable:** The instructional package *"My Emotions."*
- **Dependent Variable:** Emotional perception skills of children with autism.

Research Design and Data Collection

This study utilized a quasi-experimental design, specifically the One Group Pretest-Posttest Design. The procedure involved the following steps:

1. Permission was obtained from the school director and relevant stakeholders.
2. A pretest was administered using the emotional perception test to assess participants' baseline emotional recognition skills.
3. The instructional package "*My Emotions*" was implemented over four weeks, with sessions held twice a week, lasting 40 minutes per session, for a total of 8 sessions.
4. At the end of the intervention, a posttest (the emotional perception test) was administered to evaluate learning outcomes.

Research Instruments

Instructional Package: "My Emotions"

The package was developed based on a review of relevant literature and consisted of visual materials, lesson plans, and learning activities. It was designed to teach four basic emotions—happiness, sadness, anger, and fear—using cartoon illustrations and situational contexts. The

instructional package was evaluated by experts across four dimensions: content accuracy, multimedia design, language appropriateness, and usability. The results indicated a high level of quality across all dimensions (overall mean score = 4.63):

- Content Quality: 4.63
- Multimedia Design: 4.68
- Language Use: 4.70
- Usability: 4.52

Emotional Perception Tests (Pretest and Posttest)

A multiple-choice test (30 items, 3-option format) were developed to assess emotional perception before and after the intervention. The test was validated for content using the Index of Item-Objective Congruence (IOC), with IOC values ranging from 0.67 to 1.00. After expert review and revisions, the test was piloted with 9 non-participant students to analyze test efficiency (E1/E2), resulting in values of 83.89/80.37.

The final version was refined to 20 items based on item difficulty and discrimination indices:

- Pretest: Difficulty (p) ranged from 0.33–0.67, Discrimination (r) ranged from 0.40–0.60
- Posttest: Difficulty (p) ranged from 0.67–1.00, Discrimination (r) ranged from 0.40–0.80

Reliability was assessed using the Kuder-Richardson Formula 20 (KR-20):

- Pretest Reliability: 0.81
- Posttest Reliability: 0.86

Data Analysis

The data in this study were analyzed using the following statistical methods:

Instrument Quality Analysis

Content of the Instructional Package "Teaching Children to Understand Emotions" on Improving Emotional Perception Abilities Among Children With Autism

The findings are summarized as follows:

Effectiveness of the Instructional Package

Table 1 presents the analysis of the instructional package's effectiveness based on students' scores during and after the lessons.

Table 1
Effectiveness of the Instructional Package "Teaching Children to Understand Emotions" on Emotional Perception Skills

Phase	Total Score	Mean Score	Percentage
During Instruction (E1)	40	33.87	84.67%
After Instruction (E2)	20	17.07	85.33%

As shown in Table 1, the average score during instruction (E1) was 33.87 out of 40, equivalent to 84.67%, and the average post-instruction score (E2) was 17.07 out of 20, equivalent to 85.33%. Therefore, the instructional package achieved an effectiveness score of 84.67/85.33, which meets the predefined 80/80 criterion.

Comparison of Emotional Perception Abilities Before and After the Intervention

Table 2 shows the comparison between pre- and post-instruction scores using the Wilcoxon Signed-Ranks Test.

Table 2
Comparison of Emotional Perception Scores Before and After Using the Instructional Package

Student	Pre-test (X)	Post-test (Y)	Difference (D)	Rank	Sign
1	9	16	7	8	+
2	10	17	7	8	+
3	11	19	8	13.5	+
4	12	18	6	2.5	+
5	10	17	7	8	+
6	12	19	7	8	+
7	8	16	8	13.5	+
8	11	18	7	8	+
9	9	17	8	13.5	+
10	10	18	8	13.5	+
11	13	19	6	2.5	+
12	8	15	7	8	+
13	9	16	7	8	+
14	10	16	6	2.5	+
15	9	15	6	2.5	+

The results show that all 15 children scored higher on the post-test compared to the pre-test, yielding a total positive rank (T^+) of 120 and no negative ranks ($T^+ = 0$). This indicates a statistically significant difference at the .05 level, suggesting that the instructional package had a positive effect on the emotional perception abilities of children with autism.

Discussion

The findings indicated that the instructional package “Teaching Children to Understand Emotions” achieved an effectiveness score of 84.67/85.33, which met the predetermined criterion of 80/80 and supported the research hypothesis. This effectiveness can be attributed to the systematic development of the instructional package. It was created based on a comprehensive review of relevant literature and designed following established instructional development steps (Chaiyong Promwong, 1994, pp.102–105). The package underwent quality evaluation by experts in four key areas: (1) content, (2) multimedia materials, (3) language, and (4) usability. Revisions were made according to expert recommendations. Furthermore, the package was piloted with a group of autistic children in grades 1–3 who shared similar characteristics with the target group. This trial was used to verify content appropriateness, language clarity, instructional media, and time allocation, after which the package was further refined. These systematic and validated processes contributed to the

overall effectiveness and practical applicability of the instructional package. When comparing emotional perception abilities before and after the use of the instructional package, a statistically significant difference was found at the .05 level. Scores were higher after using the package. This improvement can be attributed to the learning format, which aligns with the natural learning style of children with autism. The e-learning format incorporated illustrated visuals, voice narration, and creative activities that enhanced learners' engagement and created a joyful learning environment. Particularly, the illustrations and creative scenarios—simulations of real-life situations—were highly effective, as visual and hands-on learning are considered optimal for children with autism (Somporn, 2008, p.25). The researcher also used concrete images of facial expressions and contextual scenarios, organized into four lessons that focused on key emotional concepts: happiness, sadness, anger, and fear (Akmanoglu, 2015; Axe & Evans, 2012; Hathaithip, 2015). The use of cartoon-style illustrations (Crosset al., 2019) helped reduce resistance to eye contact, a common challenge in autistic learners, thereby increasing their attention and supporting their learning process.

These results are consistent with the findings of Boonsom (2007), who studied emotional perception in autistic children taught using comic books. His study showed that emotional perception scores increased by more than 60 percent after the intervention, with post-test scores significantly higher than pre-test scores. Similarly, the use of the "Teaching Children to Understand Emotions" package resulted in an improvement in the emotional perception abilities of autistic children compared to their abilities prior to the intervention.

Conclusion and Recommendations

Recommendations for Practical Application

1. The researcher should collaborate and communicate with parents to clearly explain the objectives and instructional content of the *"Teaching Children to Understand Emotions"* package. This ensures alignment between the researcher and parents in providing consistent support for the learners.
2. The *"Teaching Children to Understand Emotions"* instructional package can be adapted for supplementary instruction among typically developing students to enhance their emotional perception abilities.

Recommendations for Future Research

1. Future studies should control for confounding variables by categorizing sample scores based on factors such as age or grade level. This stratification would increase the credibility of the experimental results.
2. Comparative studies should be conducted to evaluate learning outcomes between students taught using the instructional package and those taught through traditional methods.
3. Future instructional content should expand beyond basic emotions (happiness, sadness, anger, and fear) to include more complex emotions such as surprise, embarrassment, excitement, and love.

AI Assistance Declaration

This manuscript was prepared with the assistance of ChatGPT (GPT-4), developed by OpenAI, which was used solely for the purposes of language translation (Thai to English) and proofreading. The AI tool helped refine grammar, vocabulary, and sentence structure to ensure clarity and coherence in the English-language sections of the manuscript. All content, including ideas, analysis, and conclusions, were entirely created and verified by the author.

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