When Children, Not Adults, are the Experts: Explorations of the Pokémon Phenomenon

Beth Lavin and Rochel Gelman, Rutgers University Psychology Department and Center for Cognitive Science
Kathleen M. Galotti, Carleton College

Introduction

Chi and Koeske's (1983) classic study showed that young children can use abstract structures to organize their knowledge of dinosaurs. Boys with an avid interest in dinosaurs could remember a large number of their names. When shown novel exemplars, they could also make inferences about social or dietary habits. Here we ask whether similar conclusions hold when children get caught up in amassing information about Pokémon, a recent cultural phenomenon.

Pokémon ("pocket monsters") are animated characters featured on TV shows, video games, books, and trading cards. Each Pokémon character has unique physical and personality attributes, and some characters belong to teams, social groups or "evolutionary families", in which one character can "evolve" into a perceptually-similar and more physically powerful character.

Research Questions:

- What is the nature of children's knowledge about Pokémon? How many character names do they know, and how might they organize relevant information?

- Are there child Pokémon experts? Are there differences in the quantity and quality of knowledge possessed by experts versus novices?

- If there are child Pokémon experts, what role do parents play in children's acquisition of expertise? Are parents of child experts also experts? Or is this a child-directed, culturally-driven phenomenon?

Procedure

Pretests
11 child-parents pairs responded to 2 pretests, designed to designate them as relative "experts" or "novices" in the field.

Pretest One: Pokémon Character Identification
Subjects viewed a series of 18 character pictures pasted on index cards and tried to name each character.

Pretest Two: Pokémon Facts
Subjects responded to 18 factual questions, which included information gathered from trading cards and storybooks.

Sample Questions: *What is special about the way Eevee evolves?*
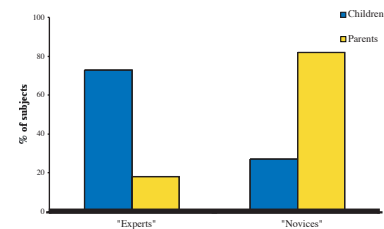*How many Pokémon can a trainer carry at one time?*

Children were also asked where they learned about Pokémon.

Subjects

11 children (8 boys, 3 girls; mean age = 6 years, 7 months)
11 parents (9 mothers, 2 fathers)

Who are the experts?
Based on the pretest results, most children were classified as Pokémon "experts", and most parents were classified as "novices".

Percent of Children and Parents Classified as Experts and Novices

Validation Tests of Expert/ Novice Status:

Information-Production Task: Subjects saw 20 Pokémon pictures, each on a separate index card. They were asked to tell the experimenter "everything you know" about the Pokémon, including what it looked like, its name, other members of its family, etc.

Short-term Recall: 20 Pokémon names were presented at the rate of one name every two seconds. Subjects were then asked to recall as many names as they could.

Coding

Character Names: Generated character names were coded as correct or incorrect. A failure to reply was not scored.

Generated Information: Coders counted how many facts each subject gave for each Pokémon, and then counted how many of these facts were perceptual and how many were conceptual.

Perceptual information includes all observable properties (e.g., color, posture).

It looks like a mushroom, It's drooling

Conceptual information includes all information that cannot be deduced from looking at the picture. This includes facts about: power, stature, habits and lifestyle.
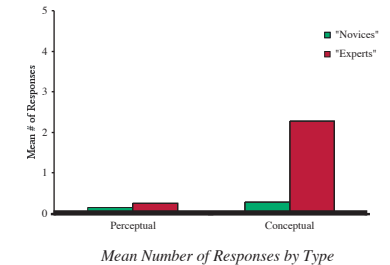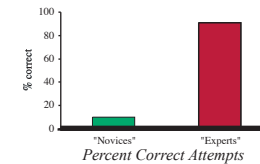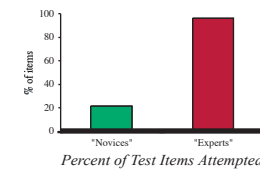
It has 45 hit points, It weighs over 1,000 pounds, These guys move in herds, It drools when it's scared

Results

Do designated "experts" differ from "novices" in terms of the quantity and quality of information they produce?

The short-term recall test did not indicate significant differences between experts and novices, or between children and parents. Experts were more likely to respond to items in the information-generation task, and to be factually accurate in their responses.

In addition to saying more than novices, experts were more likely to reference nonobvious, conceptual information in their reponses.

Percent of Test Items Attempted

Percent Correct Attempts

Mean Number of Responses by Type

Novices frequently dismissed the Pokémon characters in the information-generation task with "I don't know", while experts said more, were more accurate in what they did say, and were more likely to spontaneously provide conceptual details or analogies.

Below are excerpts of transcribed test sessions for one child/parent pair:

Target Pokémon	Child	Child's mother
Seel	Child: *Seel. He's a water pokémon and he looks like a seal. He evolves into Dewgong and he does horn attacks.*	Parent: *That's a mouse. A big mouse?*
Snorlax	Child: *Snorlax is one of my favorite Pokémon. The heaviest Pokémon in the world. It weighs 1014 pounds and it's six feet and eleven inches, and its favorite activities are sleeping and eating thorns.*	Parent: *I don't know*

Conclusions

- Young children are very knowledgeable about Pokémon, and can structure their knowledge in meaningful, organized ways. Information about a character is often linked to relevant information about other characters, and child experts are adept at thinking about nonobvious properties.

- Most of the experts in this study were children, and most of the novices were the experts' parents. Many parents, in fact, seemed puzzled by Pokémon and by their child's fascination with the topic. This suggests that parents are not actively providing their children with Pokémon information, or that the two age groups are processing relevant data in different ways. We suspect that this is one of many cases in which children learn from and teach one another, rather than relying on adults to direct their thinking. Pokémon is an excellent example of the type of learning and memory competencies that thrive in a cultural setting that feeds children's interest through a variety of media.

References
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