# Ten native checkers and one English abstract

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It has been suggested that editorial work done by English teachers on writing produced by scientists may be superficial at best, harmful at worst. This study sought to identify: 1) revision strategies utilized by "native checkers" when editing an English abstract produced by a Japanese nursing researcher; 2) points where the checker feels interaction with the author is required; and 3) the effect that editorial changes have upon lexical cohesion. Participants consisted of two groups: English teachers employed at Japanese universities (n=5), and non-English teachers (n=5). Follow-up interviews were conducted with the English teachers. It was found that checkers employed a variety of revision strategies, and that changes affecting cohesion improved the abstract's cohesive structure. We conclude that editorial work done by English teachers on texts produced by authors in different fields can be effective, provided that interaction between author and checker is possible.

これまで，科学論文に対して英語教員が行う編集は，よくても表面的なものでおわっているといわれていた．本研究は以下の事を明らかにするために行われた．1）日本人看護研究者が作成した英語アブストラクトを編集する，ネイティブチェッカーが用いる修正ストラテジー，2）そのチェッカーが，著者との対話が必要と考える箇所，3）編集による変更が語彙的結束性にもたらす影響．対象者は5名の日本の大学で勤務する英語教員と同じく5名の教員ではないネイティブスピーカー．それぞれが1つの日本人看護研究者が作成した英語アブストラクトを編集した．事後インタビューを英語教員に実施した．その結果，チェッカーは多様な編集ストラテジーを用いており，語彙的結束性に影響する変更はアブストラクトの語彙的結束性構造を向上させていることが確認された．分野の異なる著者によって作成された原文に対して行われる英語教員による編集作業は効果的で，著者とチェッカーの対話の必要性が示唆された．

Academic journals and their reviewers often require that authors whose first language is not English have a native English speaker check their English submissions (Li & Flowerdew, 2007; Willey & Tanimoto, 2009). For researchers in non-English speaking countries, however, finding native speaker assistance can be a challenge. Many must settle for native speaker colleagues, often English teachers, who are likely unfamiliar with terminology and writing conventions in the researchers' fields (Burrough-Boenisch, 2003). In some cases these English teachers' editorial advice may cause problems in word choice (Swales, 1990), and in lexical cohesion (Ventola & Mauranen, 1991).

Other factors work against the efficacy of native checks. Checkers who have been living in foreign countries for many years may suffer from attrition of their English skills, or be

accustomed to non-native usages and unable to identify them as errors (Porte, 1999). Busy schedules may prevent checkers from communicating with authors, and checkers are thus forced to struggle alone, making corrections with uncertainty (Flowerdew, 1999). The checker may only be able to correct lexico-grammatical errors, such as in article use, leaving a paper with flaws in content and wording (Shashok, 2001). Some checkers may simply *satisfice*, or correct obvious errors while ignoring parts that the checker does not know how to resolve (Burrough-Boenisch, 2003). These obvious errors, moreover, may not bother journal editors, who are concerned more with content than native-like perfection (Flowerdew, 2001). Native checks, as they often occur, may be unnecessary at best, harmful at worst.

### Objectives

This project emerged from a desire to better understand how native English speakers edit texts produced by Japanese researchers. Specifically, we wished to identify 1) revision strategies employed by checkers when editing a nursing abstract written in English; 2) points where checkers feel that consultation with the author is required; 3) the effect that checkers' changes have on lexical cohesion; and 4) checkers' attitudes and approaches towards editing.

## Methods

### Materials

Following Kobayashi & Rinnert (2001), it was felt that the framework for coding checkers' revisions should emerge in data analysis. To establish this framework, several drafts of a conference abstract prepared by a Japanese nursing researcher and edited by a native English speaker (both of whom consented for the abstract to be used in this study) were examined.

### Coding

Revisions across drafts were identified and coded independently, and discussed in subsequent meetings by the authors of this paper. Inter-rater and intra-rater reliability checks using a randomized sample of the data were then performed. Results for the inter-rater check were low but acceptable (73% for changes identified and 71% for changes coded; the intra-rater check showed higher agreement: both researchers scored 79% for identification and 80% for changes coded).

This framework was later simplified to follow the distinction that Flower, Hayes, Carey, Schriver & Stratman (1986) make between editing and rewriting. When editing, an editor works with an original sentence, making minor changes; when rewriting, the editor produces something that is in a sense completely new. Editing and rewriting are different cognitive processes, and changes made in rewritten sentences cannot be broken down simply.

Nine categories of revision strategies emerged from the preparation phase: addition, deletion, substitution, reordering, rewriting, sentence consolidation, sentence division, and suggestions. These categories are defined in Table 1. The category of SUGG (suggestion) was created to account for changes that ended in question marks, indicating uncertainty.

**Table 1. Revision strategies defined**

| Strategy | Meaning |
|---|---|
| ADD | Addition of words, phrases, sentences |
| DEL | Deletion of words, phrases, sentences |
| SUB | Substitution of words and phrases (not sentences) |

| Strategy | Meaning |
|---|---|
| REORD | Reordering of words, phrases, sentences |
| REWRT | Rewriting of sentences (cannot break down changes) |
| CONSOL | Consolidation of sentences |
| DIVID | Division of sentences |
| MECH | Mechanical changes (not affecting content) |
| SUGG | Suggestions (indicated by question marks) |

The coding categories of consultation circles and meta-comments emerged in the data analysis; because far less data was involved than for revisions, a formal reliability check was not considered necessary, though feedback was obtained from a professor with extensive experience in qualitative data analysis. These categories are described in the Results section.

## Participants

Participants were divided into two groups: five native speaker English instructors, employed full-time at Japanese universities, and who had lived in Japan for at least 10 years, made up the university (hereafter Uni) group; and five native English speakers whose profession was not English teaching and had never worked at a Japanese university, three of whom had never visited Japan, made up the non-university (hereafter Non-Uni) group. Two Assistant language teachers (ALTs) employed at Japanese high schools were selected for the Non-Uni group; however, their background was not in English education. The two groups were chosen in order to learn whether university-based English teachers and those working outside Japanese universities, whose primary careers are not English teaching, might approach such editing tasks differently.

## Editing task

Participants were given the first draft of the abstract prepared by the Japanese nursing researcher (Appendix 1) and asked to edit it. While working with the conference abstract we could only view each successive draft as it had been printed, which made identification of changes difficult. It was decided for this study that checkers should edit by hand on paper, so that instances of editing and rewriting could be identified more easily and with greater reliability.

Instructions indicated that the abstract would be submitted to an international conference as a presentation proposal, and that the author hoped for the abstract to be native speaker-level in quality. Participants were instructed to draw a circle around parts where they felt that they needed to consult with the author in order to make a revision, for instance if they were uncertain of the meaning of a word or phrase.

### *Interviews*

Following the editing task, interviews with all five Uni checkers were arranged to clarify and expand upon findings. Interviews with Non-Uni checkers could not be arranged due to distances involved. Each interview followed a semi-structured protocol (Appendix 2) and lasted between 30-60 minutes. Interviews were audio-recorded and fully transcribed. Transcripts were returned to each checker to verify accuracy.

## Results

### *Revision strategies*

Table 2 gives a breakdown of revision strategies employed by checkers. For both Uni and Non-Uni checkers, substitution was the most often used strategy, followed by addition and deletion. Reordering, rewriting, consolidation and division were relatively less frequent. Rewriting was done most frequently by the first checker (C1), with 10 instances of rewrites—twice as many as the second highest number. Two points require explanation. C2's low number of additions, deletions and substitutions appears striking; this is because C2 often wrote question marks after changes. C2 thus had by far the highest number of suggestions, at 30. Furthermore, C5 abandoned the editing task mid-way through, as the task was too far removed from how C5 typically does such editing work, working closely with authors. Results from C5's editing were thus unusable, though C5's consultation circles, written comments, and interview statements were judged usable. C3's high number of additions is also noteworthy. These additions resulted in a revision 114 words longer than the original.

This data suggests that Non-Uni checkers were broadly more similar in their choice of revision strategies than Uni checkers. Apart from C10, who did not do any rewriting, Non-Uni revisions contained three to five rewrites per checker. The total number of changes also ranged from 58 to 86 (a difference of 28 from lowest to highest) for Non-Uni checkers; this number ranged from 52 to 107 (a difference of 55) for Uni checkers. There were also no instances of suggestions in Non-Uni results.

Two examples are provided below to illustrate the kinds of changes made. The first shows changes made to the title, and

**Table 2. Revision strategies employed by checkers**

| Checker | ADD | DEL | SUB | REORD | REWRT | CONSOL | DIVID | MECH | SUGG | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| C1 | 4 | 9 | 24 | 0 | 10 | 2 | 1 | 1 | 1 | 52 |
| C2 | 6 | 7 | 10 | 0 | 1 | 1 | 0 | 6 | 30 | 61 |
| C3 | 41 | 10 | 46 | 0 | 2 | 0 | 1 | 7 | 0 | 107 |
| C4 | 27 | 12 | 25 | 4 | 0 | 0 | 0 | 1 | 2 | 71 |
| C5 | - | - | - | - | - | - | - | - | - | - |
| C6 | 13 | 3 | 35 | 1 | 5 | 0 | 2 | 9 | 0 | 68 |
| C7 | 25 | 10 | 37 | 0 | 3 | 1 | 1 | 3 | 0 | 80 |
| C8 | 14 | 18 | 35 | 1 | 4 | 4 | 0 | 10 | 0 | 86 |
| C9 | 12 | 14 | 23 | 1 | 4 | 0 | 0 | 4 | 0 | 58 |
| C10 | 18 | 11 | 28 | 1 | 0 | 2 | 0 | 5 | 0 | 65 |

*Note*. C1-5: Uni checkers; C6-10: Non-Uni checkers

the second to a sentence in the Results section of the abstract. In the first example, C4, C8, and C10 did not make any changes. In the second, C5 did not make any changes. Rewrites are indicated by asterisks.

### *Example one*

Original: Effect of preparation for Pediatric Patient with the Anxiety about surgery

- C1: The Effects of Preoperative Preparation on Anxiety Reduction in a Pediatric Patient*
- C2: Effect(s?) of Preparation for Pediatric Patient(s?) with Anxiety about Surgery
- C3: Preparing an Anxious Pediatric Patient for Surgery*
- C5: BENEFITS OF PRE-OPERATIVE Counsultations (P.O.C) with PEDIATRIC PATIENTS ANXIETY LEVELS (PRESENTING ANXIETY)*
- C6: The Effect Of Preoperative Preparation On A Pediatric Patient With Anxiety
- C7: The Effect of Using Kiwanis Dolls During Surgery Preparation for a Pediatric Patient Experiencing Anxiety*
- C9: Effect of Preparation for Pediatric Patient with the Anxiety about Surgery

### *Example two*

Original: She said that the doll was she, regarded the doll as herself.

- C1: She said that she regarded the doll as herself.
- C2: The patient was instructed to regard the doll as herself??*
- C3: The young girl said that she considered the doll was herself, that she regarded the doll as herself.
- C4: The child claimed that the doll was her, and that she regarded the doll as herself.
- C6: The girl said that she felt that the doll was just like her.*
- C7: The patient self-identified as the doll.*
- C8: Affection was given to the doll throughout the preparation.*
- C9: The girl regarded the doll as herself
- C10: The patient said that she regarded the doll as herself and took good care of it along with her transitional objects. [Combined with another sentence.]

## Consultation circles

Consultation circles (circles drawn around parts where the checker felt consultation with the author was necessary) were also counted and categorized (Table 3). Five categories emerged from the data analysis: nursing lexical items; academic lexical items; general (non-nursing, non-academic) lexical items; mechanical items; and combinations of one or more of these categories. Lexical items include phrases and may be as long as one sentence; the circle was judged to have been drawn primarily because of lexical items within the phrase/sentence that were unfamiliar or unclear to the checker. Because C2 did not draw consultation circles, C2's results were not included.

Non-Uni checkers made more consultation circles than Uni checkers overall; Non-Uni checkers made an average of four consultation circles, whereas the average for Uni checkers was two circles. Nursing lexical items seemed to pose the most difficulty to checkers in both groups. However, Non-Uni checkers made the most circles around nursing lexical items (a total of 11 versus a total of six for group one). Uni checkers also did not make any consultation circles around academic lexical items; a

total of three academic lexical items were circled by Non-Uni checkers.

**Table 3. Consultation circles**

| Checker | LEX (NURS) | LEX (ACAD) | LEX (GEN) | MECH | COMB | Total |
|---|---|---|---|---|---|---|
| C1 | 2 | | | 3 | 1 | 6 |
| C2 | - | - | - | - | - | - |
| C3 | 3 | | | | | 3 |
| C4 | | | | | | 0 |
| C5 | 1 | | 1 | | | 2 |
| C6 | 4 | 2 | | | 2 | 8 |
| C7 | | | | | 1 | 1 |
| C8 | 2 | | | | | 2 |
| C9 | 3 | | 1 | | | 4 |
| C10 | 2 | 1 | 1 | | | 4 |

*Note*. C1-5: Uni checkers; C6-10: Non-Uni checkers

## *Meta-comments*

Nine of the ten checkers wrote comments or questions directly on the paper while editing. These "meta-comments" were divided into the following categories in terms of their focus: nursing lexical; academic lexical; general-lexical; genre-specific; discourse-level; and mechanical. Genre-specific comments concerned features that the checker thought were appropriate or inappropriate in the genre of academic writing. Discourse-level meta-comments concerned aspects of the abstract that related to the abstract as a whole (for example, clarity, redundancy and organizational issues). C2 also made three comments pertaining to translation-related issues, and C8 wrote one comment praising a feature of the abstract. These comments were not included as they represented categories employed by one checker only. Table 4 displays the kinds and number of meta-comments written by checkers.

Overall, Uni checkers wrote more meta-comments than Non-Uni checkers, with an average of six meta-comments per checker in the Uni group, and four meta-comments per checker in the Non-Uni group. For both groups, nursing lexical items were the source of the most meta-comments (a total of seven for both group one and two). However, genre-specific meta-comments were written only by Uni checkers. Uni checkers also showed a greater concern for discourse-level aspects of the text, with a total of seven meta-comments written by Uni checkers, versus three made by Non-Uni checkers. Meta-comments related to mechanical concerns were made more often by Non-Uni checkers, with a total of seven, versus three in the Uni group.

**Table 4. Meta-comments**

| Checker | LEX (NURS) | LEX (ACAD) | LEX (GEN) | GENRE | DISC | MECH | Total |
|---|---|---|---|---|---|---|---|
| C1 | 3 | | | 2 | 2 | 1 | 8 |
| C2 | 1 | 3 | 1 | 1 | 1 | 2 | 9 |
| C3 | 1 | | | 1 | | | 2 |
| C4 | 1 | | 1 | | 1 | | 3 |
| C5 | 1 | | 2 | | 3 | | 6 |
| C6 | | | | | | 1 | 1 |
| C7 | | | | | | | 0 |
| C8 | 2 | | | | 1 | 2 | 5 |
| C9 | 3 | | 1 | | 2 | 1 | 7 |
| C10 | 2 | 1 | 1 | | | 3 | 7 |

*Note*. C1-5: Uni checkers; C6-10: Non-Uni checkers

### Lexical cohesion

Apart from C5, whose revisions could not be analyzed, all checkers made changes affecting lexical cohesion. This study focused only on changes in which a lexical item was replaced by another word, or vice-versa. There were 63 cases of such changes, and in all but one of them the lexical referent of a word was made clear (for instance, "she" was replaced by "the patient"). C9 was the only checker to make a cohesive change in which a word was replaced by a pronoun ("doll's" was replaced by "its"). As a whole, Non-Uni checkers made more changes affecting cohesion than Uni checkers, with a total of 43 cohesive changes made by Non-Uni checkers and 24 by Uni checkers (an average of 8.6 cohesive changes per checker in the Non-Uni group, and 4.8 cohesive changes per checker in the Uni group).

**Table 5. Changes affecting lexical cohesion**

| Checker | SUB | SUGG (SUB) | Total |
|---|---|---|---|
| C1 | 4 | | 4 |
| C2 | 2 | 5 | 7 |
| C3 | 9 | | 9 |
| C4 | 4 | | 4 |
| C5 | - | - | - |
| C6 | 9 | | 9 |
| C7 | 9 | | 9 |
| C8 | 6 | | 6 |
| C9 | 10 | | 10 |
| C10 | 9 | | 9 |

*Note*. C1-5: Uni checkers; C6-10: Non-Uni checkers

### Interviews

Describing interview findings in detail is beyond the scope of this paper. However, a brief summary of Uni checkers' responses regarding their approaches and attitudes towards editing is relevant. When asked whether interaction with authors is part of their editing approach, C1, C2, C4, and C5 replied that it is, and for C3 it is not (when editing texts produced by faculty members). When asked whether they enjoy editing, C1 gave the most negative response ("I hate it"). C3 claimed to enjoy working with students on their writing projects, but did not enjoy editing colleagues' texts (calling it "like torture"). C5 claimed to enjoy editing, but of papers and not abstracts. C2 and C4 gave the most positive responses. Reasons given by C2, C4 and C5 for enjoying editing include a love of language, an enjoyment of the mental "puzzle" involved in editing, and learning interesting things by reading texts they ordinarily would not read.

## Discussion and implications

### Limitations

This study had limitations. The small number of participants did not permit statistical analysis, and generalizations cannot be made about the results. Moreover, this study did not include a group of "professional" checkers—native English-speaking nursing professionals who would likely have a greater familiarity with the terminology and writing conventions employed by the abstract's author. Comparing changes made by these professional checkers to the first two groups may reveal the impact that sharing an author's disciplinary knowledge has on the choice of revision strategies and consultation points. However, this was a pilot study, focused primarily on native-English speakers working at Japanese universities. In fact, data is now being collected from nursing professionals, and the number of participants in each group has been expanded to allow for

statistical analysis, but we are not yet ready to present these findings.

Another interesting point that this study did not examine was the effect that being paid for editorial services would have on a checker's work. However, payment is a sensitive issue, as some Japanese universities do not permit faculty to engage in unreported work, and for this reason this issue was intentionally not mentioned in interviews with checkers. Two participants, however, did state in their interviews that on principle they do not receive payment for their editorial work; rather, they include this work in their work performance document which they must submit to their universities annually. Future studies can explore the relationship that payment and professional acknowledgment have with editing done by English teachers.

## Implications

Though generalizations cannot be made, several statements can be made about the editing done by participants in this study. First, substitution, or replacing one word or phrase with another, was the revision strategy most often used by these checkers, followed by addition and deletion. These relatively simple strategies were more common than more complex strategies, such as sentence consolidation and rewriting. Checkers seemed to make changes primarily at the lexico-grammatical level, as has previously been reported (Shashok, 2001). However, this does not indicate that changes were superficial, or that these checkers "satisficed." Most participants reported that they spent about an hour on the task, and appeared to take it seriously. (It should be noted that participants who seemed as though they would take the task seriously were selected). Interestingly, several checkers' alterations and comments went beyond a simple language check, and indicated attention to organization and layout, even study design. Overall, Uni checkers displayed the greater concern for organization and genre-specific aspects of the abstract, as well as discourse concerns such as redundancy. Uni checkers tended to write more meta-comments, were more varied in their selection of revision strategies, and in several instances gave suggestions to authors rather than make explicit revisions. These tendencies may result from Uni checker's greater exposure to academic writing and experience in editing, as well as the marking of students' papers.

Also, most participants made consultation circles, primarily around nursing vocabulary items, such as "Kiwanis doll" and "transitional objects," as well as academic terms such as "confidentiality." These academic terms were circled only by Non-Uni checkers, while Uni checkers primarily circled nursing terms. One Uni checker (C5) gave up halfway through the task because the teacher felt frustrated at being unable to communicate with the author. In interviews, four of the five Uni checkers indicated that some form of correspondence with the author would be required, but they acknowledged that deadlines and their own busy schedules often do not permit this. However, Uni checkers made fewer consultation circles overall, which again may be attributable to their greater familiarity with academic writing as well as greater editing experience.

This study may challenge Ventola & Mauranen's (1991) finding that native checkers' editorial work can damage a text's cohesive structure. The checkers in this study showed a concern for removing potential ambiguities by replacing words or pronouns with their cohesive referents. However, Ventola & Mauranen (1991) had native English speakers check papers produced by non-native English speaker scientists, whereas this study focused on the editing of abstracts, which are much shorter texts. Drawing a comparison between these two studies may thus be difficult. Moreover, one Non-Uni checker stated in a follow-up correspondence that the instances of "she" were removed to give the abstract a more objective sound; a concern for cohesion was not necessarily involved. Interestingly, Non-Uni

checkers showed a greater concern for the abstract's cohesive structure. Further research is needed to determine why checkers made revisions affecting cohesion.

This study focused on the university-based English teachers, and four of five checkers were able to complete the task; their familiarity with academic terminology and genres may also have given them an advantage over English speakers who do not teach English in universities. They also expressed a need to consult with authors about texts to be edited, in order to gain information about the content and purpose of texts. Whether or not such consultation would improve the quality of editorial work is a question that this study did not explore. However, the checkers interviewed in this study for the most part believe that consultation is a necessary part of the editing process. A greater awareness at Japanese universities of the challenges faced by native checkers is needed, in order to reduce some of these challenges, and better enable teachers to improve the texts they are asked to edit.

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## Informed consent

The authors hereby declare that the research participants gave their informed consent.

## Bio data

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## References

Burrough-Boenisch, J. (2003). Shapers of published NNS research articles. *Journal of Second Language Writing*, *12*(3), 223-243.

Flower, L., Hayes, J. R., Carey, L. Schriver, K., & Stratman, J. (1986). Detection, diagnosis, and the strategies of revision. *College Composition and Communication, 37*(1), 16-55.

Flowerdew, J. (1999). Writing for scholarly publication in English: The case of Hong Kong. *Journal of Second Language Writing*, *8*(2), 123-145.

Flowerdew, J. (2001). Attitudes of journal editors to nonnative speaker contributions. *TESOL Quarterly, 35*(1), 121-150.

Kobayashi, H., & Rinnert, C. (2001). Factors relating to EFL writers' discourse level revision skills. *International Journal of English Studies, 1*(2), 71-101.

Li ,Y., & Flowerdew, J. (2007). Shaping Chinese novice scientists' manuscripts for publication. *Journal of Second Language Writing*, *16*(2), 100-117.

Porte, G. (1999). Where to draw the red line: Error toleration of native and non-native EFL faculty. *Foreign Language Annals*, *32*(4), 426-434.

Shashok, K. (2001). Author's editors: Facilitators of science information transfer. *Learned Publishing*, *14*(2), 113-121.

Swales, J. (1990). *Genre analysis: English in academic and research settings*. Cambridge: Cambridge University Press.

Ventola E., & Mauranen, A. (1991). Non-native writing and native revising of scientific articles. In E. Ventola (Ed.), *Functional and systemic linguistics: Approaches and uses*. Berlin: Mouton de Gruyter.

Willey, I., & Tanimoto, K. (2009). Checking the "native check." In A. M. Stoke (Ed.), *JALT2008 Conference Proceedings*. Tokyo: JALT.

## Appendix 1

### *Abstract used in editing task*

### *Effect of preparation for Pediatric Patient with the Anxiety about surgery*

**Background**

Surgery can be anxious experience for everyone, especially for children. We, as pediatric care professionals, strive to reduce the negative impact of stressful situation and events that affect well-being of children..

**Objectives**

To clarify the effects of preoperative preparation on stress reduction in a school-aged child.

**Method**

The participant was a girl aged 7 years who was admitted for elective surgery. The design of this study was a single-case design. The data was obtained from the record of the preparation process, her words and behaviors and was analyzed. The consent was obtained from her and her mother after they were told about the purpose and the confidentiality.

**Result**

1. Before intervention (assessment): she had sleep disorder and a poor appetite and dependant on her mother badly. She had never spoken about the operation to the nurses.
2. Intervention: 1) Assessment: Her anxiety were picked up from her behavior observation and her mother's information.2) Planning: The preparation was going to be performed on the day before the operation because she was 7 years old and an introvert. The preparation tool was Kiwanis Doll. She, her mother and the nurses played with the doll, drew the face and made the doll's hair and clothes. She said that the doll was she, regarded the doll as herself. It was taken good care(was fondled) with her transitional objects. 3) She and her mother were invited to receive the preparation using Kiwanis doll with her transitional objects. It included a scenario that demonstrated how they would go through all of the perioperative procedures.
3. After intervention: It was like a fun drama and understandable. I would make my best, she said. She got good sleep and went to the operation-room without upsetting. I did it and didn't fear, she said after operation.

**Conclusion**

After intervention she commented affirmatively to the surgery and went to the operation with confidence. After surgery she also obtained the achievement feeling. The preparation meets the cognitive development is effective in understanding and adaptation to operation in pediatric patients, and guides to produce the positive self-esteem.

## Appendix 2

### *Interview protocol*

- Did you have any specific difficulties in editing this abstract? If so, please describe these difficulties.
- If you could meet the author, what questions would you like to ask? (If any).

- What are your impressions of the overall organization of this abstract?
- What are your impressions of the language used in this abstract?
- How would you describe your own editing approach? (What were your goals in editing this abstract?)
- Do you enjoy this kind of editing work? Why or why not?
- Do you enjoy writing? If so, what do you like to write?
- Is there anything else you would like to say about this abstract or editing task?