

# A comparative study of research trends in Canadian and Japanese occupational therapy journals (1982-2001)

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## KEY WORDS

Canada, Japan, Occupational Therapy, Trend, Research article

### Introduction

The Association of Canadian Occupational Therapists (CAOT, established in 1929) has a longer history than the Japanese Association of Occupational Therapists ; (JAOT, established in 1966), and they have been developing as an allied health profession<sup>1-3)</sup>. The beginning of the 1980's when and the first Journal of Japanese Association of Occupational Therapists was published, there were 1.000 Occupational Therapists in Japan and Canada. During 20 years the members of Japanese and Canadian OT have been increasing, in 2000 there were over 13.000 Japanese Occupational Therapists and 6.500 Canadian Occupational Therapists. There are big differences in languages (e.g. Japanese ; monolingual language, Canadian ; English and French bilingual) and racial structure (e.g. Japanese : a homogeneity, Canadian ; multiracial) between Japan and Canada, in both of these country there were the health care reform adapting to the aged/aging society<sup>1,3)</sup>. Also both of Occupational Therapists have been influenced from the change of World Health Organization disability concept from ICIDH to ICF<sup>4)</sup>. These social impact and increasing members of Occupational Therapy (OT) might effect on the to trends of the number of research articles, which would be the barometer of quantity the professional knowledge, and on research topics, which would be reflected the social needs. It would be contribute to the future OT that OT research trend was showed.

This reports the results of a comparative study of the Canadian Journal of Occupational Therapy (CJOT) and the Journal of Japanese Association of Occupational Therapists (JJOT). The Journals are the official publications of the Associations for Occupational Therapy in their respective countries. The materials examined were all the research articles, including short reports and clinical notes, which were published in the CJOT and JJOT during the 20-year period of 1982-2001. Book reviews, supplements, and editorials were excluded.

### Methodology

Articles were categorized by the main research topic. The category framework was consisted by 2 axes, and one article had 2 labels of the sub-category. An x-axis of category was "Topic/Content" as research topics of OT knowledge, and a y-axis was "Subject/Field" as patients/clients in the OT practice and Occupational Therapists, students and others related OT. The x-axis of Topic/Content consists of the following 6 sub-categories--i.e. Theory/Model, Practice, Measurement, Education, Survey and Ideal Note. The y-axis of Subject/Field consists of the 6 sub-categories--i.e. Elderly, Adolescent/Adult, Pediatrics/Child, OT/OT student, Vocational, and Community. The articles subcategorized OT Education and Theory/Model on an x-axis were OT/OT student on a y-axis. This approach yields a total of 12 sub-categories. ( $6 \times 2 = 12$ ) The above categories are in

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Table 1. Number of Articles of JJOT and CJOT (1982-2001)

Subject/Area	Theme/Content						Total
	Theory/Mode	Practice	Measurement	Education	Survey	Ideal note	
<b>JJOT</b>							
Elderly	0	27	6	0	8	4	45
Adolescent/Adult	5	157	56	7	11	23	259
Pediatric/Child	0	37	5	2	6	4	54
Vocational	0	3	3	0	2	0	8
Community	1	19	4	0	4	1	29
OT/OTstudent	15	4	5	7	5	1	37
total	21	247	79	16	36	33	432
<b>CJOT</b>							
Elderly	1	23	16	2	2	1	45
Adolescent/Adult	3	88	27	0	1	31	150
Pediatric/Child	3	31	17	0	1	1	53
Vocational	0	5	3	0	1	0	9
Community	4	6	1	1	2	0	14
OT/OTstudent	102	9	5	77	32	0	225
total	113	162	69	80	39	33	496

common use in Japan today, and were originally established by the OT model of World Federation of Occupational Therapists 35 years ago and developed. A slight exception might be the category of Survey that included miscellaneous topics. All of the articles were read thoroughly and then subjectively categorized into one of the 6 subcategories each dimension using the sub-category framework.

#### Statistical Analysis

The results of the above classification process for the two countries were then divided into 2 ten-year periods, 1982-1991 and 1992-2001, and compared statistically using Mann-Whitney test with a significance level of 0.05. The software used was the SPSS computer program version 11.0J.

#### Results

The total number of research articles in JJOT was 427 and that in CJOT was 491 during the 20-year period (1982-2001). The results of the initial subjective category using the category framework were shown in Table 1.

Fig. 1a, 1b, 2a and 2b showed the number of the articles by the year published as well as the framework for each country across the same time period. There were most obvious differences of the numbers of articles between JJOT and CJOT in Adolescence/Adult, OT/OT student, Theory/Model, Education, and Practice. The trend of the numbers of

articles in JJOT (fig. 1a) showed the tendency that most sub-category except Practice were static under 10 of the number of articles. Practice's trend line was flat during 1982-1987, it started increasing from 1988 and keeping more over 10 articles each year 1989-2001 and the peak was in 1993. Measurement's trend was increasing gradually. Theory/Model's trend line is flat and the number is 1982-1986, and there were 2-4 articles during 1987-2001. The trend of the number of articles in CJOT (fig. 1b) showed the complicated and intricate tendency. The Survey and Ideal Note, their trend lines were under 5 and decreasing recently. Practice's trend line was within number 5-13, Measurement's trend line was within 0-7. Theory/Model's trend line was under 4 except 1984, in the first half 1990-2001, the number of articles of it within 7-10, and the peak was in 1993. Education's trend line was unstable; the peak was in 1985, and during 1994-1998 the number of articles was within 4-6. In CJOT, the relation between increase of Education and decrease of Theory/Model has been reversed, when the relationship between the transitions of number of article is noticed. In 1985, 1987, and 1989, Education showed over of 7, Theory/Model was fewer than 4.

Futaki, T, et al. Table 2 showed the results of the statistical comparison of the two countries. The CJOT had significantly more articles in the subcategories of OT/OT Student ( $p < 0.01$ ), Theory/Model ( $p < 0.01$ ), and

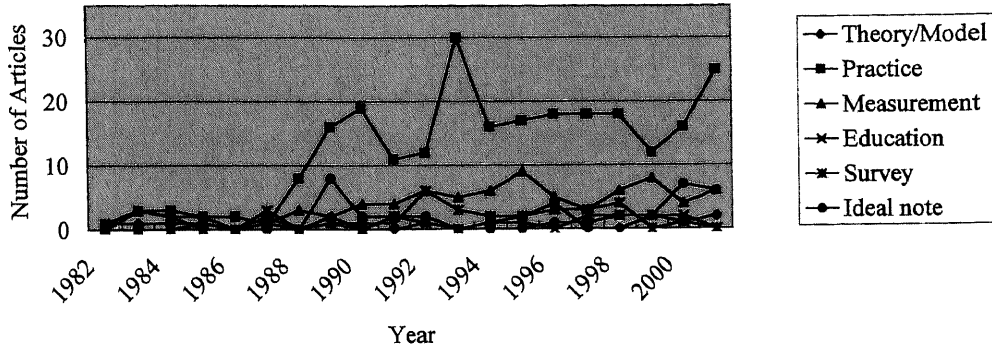


Fig. 1a JJOT articles 1982-2001 categorized by Theme/Content

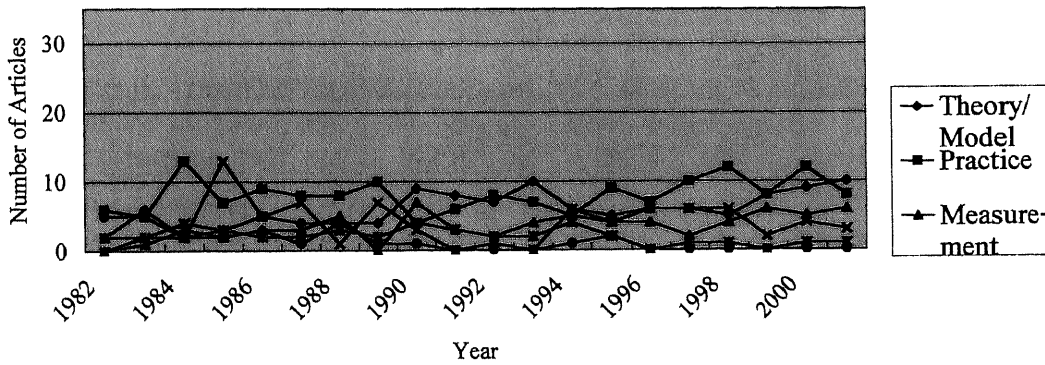


Fig. 1b CJOT articles 1982-2001 categorized by Theme/Content

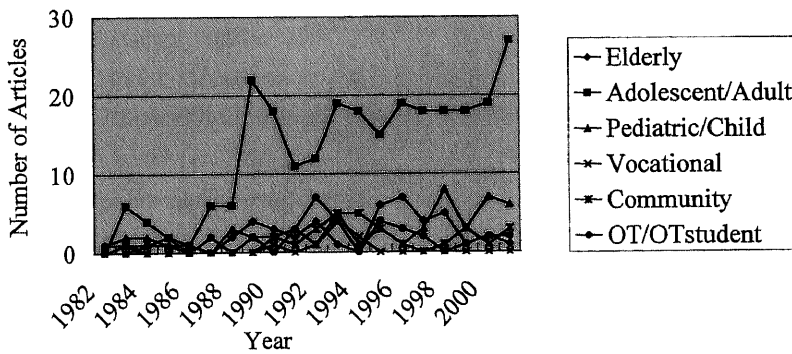


Fig. 2a JJOT articles 1982 - 2001 categorized by Subject/Field

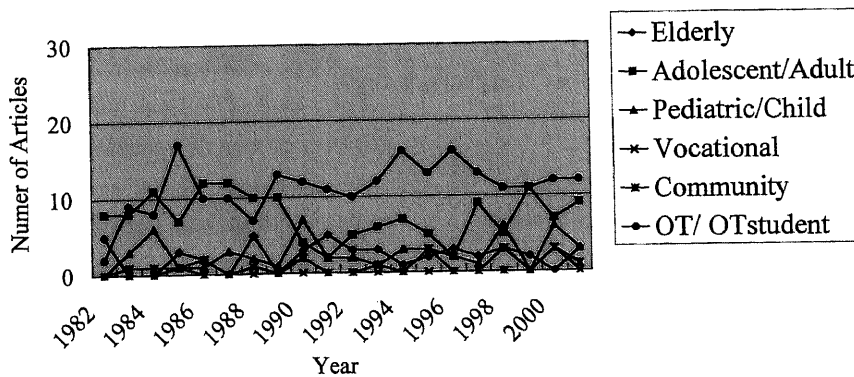


Fig. 2b CJOT articles 1982-2001 categorized by Subject/Field

Table 2. Comparison of the number of articles between JJOT and CJOT (1982-2001)

Category	JJOT		CJOT		$\chi^2$	df	P value*
	M	SD	M	SD			
Theory/Model	1.1	1.050	5.7	2.796	23.722	1	0.000
Practice	12.4	8.475	8.1	2.426	2.968	1	0.085
Measurement	4.0	2.460	3.5	1.932	0.329	1	0.566
Education	0.8	0.834	4.0	3.112	15.602	1	0.000
Survey	1.8	1.609	2.0	1.276	0.306	1	0.580
Ideal note	1.7	2.477	1.7	1.954	0.067	1	0.796
Elderly	2.3	2.099	2.3	1.682	0.076	1	0.783
Adolescent/Adult	13.0	7.884	7.5	3.052	4.592	1	0.032
Pediatric/Child	2.7	2.227	2.7	2.084	0.001	1	0.978
Vocational	0.4	0.995	0.5	0.999	0.003	1	0.954
Community	1.5	1.669	0.7	0.979	1.900	1	0.168
OT/OTstudent	1.9	1.755	11.3	3.354	27.118	1	0.000

\*The Kruskal Wallis test was used for group comparisons.

Table 3. Comparison of the number of articles between JJOT and CJOT (1982-1991)

Category	JJOT		CJOT		U	Z	P value*
	M	SD	M	SD			
Theory/Model	0.8	0.789	4.1	2.726	7.000	-3.315	0.000
Practice	6.5	6.721	7.6	2.633	35.000	-1.137	0.256
Measurement	2.1	1.449	2.7	2.163	43.000	-0.541	0.589
Education	0.5	0.707	4.2	3.910	11.000	-3.037	0.002
Survey	1.2	1.135	2.5	1.179	21.500	-2.206	0.027
Ideal note	1.2	2.530	3.0	1.886	20.500	-2.313	0.021
Elderly	1.4	1.350	2.3	2.214	40.000	-0.777	0.437
Adolescent/Adult	7.6	7.306	8.4	3.340	35.500	-1.100	0.271
Pediatric/Child	1.6	1.075	2.6	2.271	40.000	-0.776	0.438
Vocational	0.1	0.316	0.3	0.675	44.500	-0.669	0.503
Community	0.4	0.699	0.6	0.699	41.000	-0.781	0.435
OT/OTstudent	1.2	1.033	9.9	3.957	2.500	-3.617	0.000

\*The Mann-Whitney test was used for group comparisons.

Table 4. Comparison of the number of articles between JJOT and CJOT (1992-2001)

Category	JJOT		CJOT		U	Z	P value*
	M	SD	M	SD			
Theory/Model	1.3	1.252	7.2	1.932	0.000	-3.805	0.000
Practice	18.2	5.514	8.6	2.221	2.000	-3.656	0.000
Measurement	5.8	1.751	4.2	1.398	24.000	-2.016	0.044
Education	1.1	0.876	3.8	2.251	16.000	-2.621	0.009
Survey	2.4	1.838	1.4	1.174	32.500	-1.351	0.177
Ideal note	2.1	2.470	0.3	0.675	22.500	-2.29	0.022
Elderly	3.1	2.424	2.2	1.033	41.500	-0.653	0.514
Adolescent/Adult	18.3	3.773	6.6	2.591	0.000	-3.808	0.000
Pediatric/Child	3.8	2.573	2.7	2.003	37.500	-0.967	0.834
Vocational	0.7	1.337	0.6	1.265	46.000	-0.398	0.691
Community	2.5	1.716	0.8	1.229	20.000	-2.37	0.018
OT/OTstudent	2.5	2.121	12.6	2.011	0.000	-3.798	0.000

\*The Mann-Whitney test was used for group comparisons.

Education ( $p < 0.01$ ), while the JJOT had significantly more articles in the subcategories of Adolescent/Adult ( $p < 0.05$ ) for the entire 1982-2001 period. JJOT had more articles in the category of Practice which was not statistical significant ( $p = 0.085$ ) (Table 2).

Table 3 and Table 4 showed the results of

comparing the journals for 2 ten-year periods 1982-1991 and 1992-2001. As shown in Table 3, for the 1982-1991 period, the CJOT had significantly more articles in the categories of OT/OT student ( $p < 0.01$ ), Theory/Model ( $p < 0.01$ ), and Education ( $p < 0.01$ ) as well as Ideal Note ( $p < 0.5$ ) and Survey ( $p < 0.05$ ). The

JJOT did not have significantly more articles in any category for the 1982-1991 period. However, for the 1992-2001 period (Table 4), the JJOT had significantly more articles in the categories of Adolescent/Adult ( $p < 0.01$ ), Practice ( $p < 0.01$ ), as well as Community ( $p < 0.05$ ), Ideal Note ( $p < 0.05$ ), and Measurement ( $p < 0.05$ ). Meanwhile, the CJOT continued to have significantly more articles in the categories of OT/OT Student ( $p < 0.01$ ), Theory/Model ( $p < 0.01$ ) and Education ( $p < 0.01$ ) in the 1992-2001 period.

### **Discussion**

The JJOT did not have significantly more articles in any category for the 1982-1991 period. However, for the 1992-2001 period, the JJOT had significantly more articles in the categories of Adolescent/Adult, Practice, as well as Community, Ideal Note, and Measurement. The CJOT continued to have significantly more articles in the categories of OT/OT Student, Theory/Model and Education in the 1992-2001 period. Theory/Model was being increased from 1990, and Education was being decreased from 1990 by 1993. Though Practice was shown the reverse relation to Theory/Model in Education similar, it was indistinct rather than Theory/Model. These could be considered that the effect of the change in the latter half in 1980's appeared in the education field first of all, and in this interval new theory and/or model has been produced. We supposed that these differences result from the facts that most JJOT articles were authored by practitioners<sup>1)</sup>, while most CJOT articles were authored by university professors, and that the number of occupational therapists in Japan increased rapidly in the 1990's. The categories of Adolescent/Adult, Practice, Community, Ideal Note, and Measurement would seem to reflect the interests of practitioners. Professors would tend to be interested in topics such as OT/OT Student, Theory/Model and Education, while practitioners would tend to be more concerned with the clinical and practical topics such as Practice that articles had a label as Adolescent/Adult, and did not have label as OT/OT Student. However, the number of the OT school and the university has been on the increase rapidly after 1995 in Japan, and recently there were many teaching

staffs of OT including Professors. Authors' background would be not enough reasoning to explain the difference observed in Theory/Model category between JJOT and CJOT. Another factor behind the difference between the two countries might be that the official Canadian OT practice model<sup>5)</sup> contained the step of selecting an appropriate theoretical approach while the official Japanese OT practice model did not<sup>6)</sup>. The background was a shifting paradigm in medicine and Health care in North America. Many health care system were shifting from a biomedical, acute-centered, and provider-driven approach to one that shares with the consumer the responsibility of employing healthy behaviors<sup>7)</sup>. With the shifting paradigm in medicine, OT practice patterns are rapidly shifting in the North American.. In 1997 CAOT showed the Canadian OT Process Model that the concept was based on client-centered approach. This client-centered approach required the occupational therapist to work collaboratively with individuals in the client's environment including family, teacher, independent living specialists, employers, neighbors and friends to assist the client to obtain the skills and make the modifications to remove barriers that would create a social disadvantage<sup>7)</sup>. This expanded role extends beyond the traditional biomedical approach to incorporate a broader socio-medical purpose, such as taking an active role in building healthy communities<sup>7)</sup>. In the 1990's CAOT must be coping with the change and CJOT Editorial Board was actively promoting the publication of research articles of OT models. In Japan Occupational Therapists would be adapting traditional OT model and traditional approach as using crafts. One of these reasons would be that a strong social impact had not appeared to change the Japanese OT model completely, and other reasons might be the differences in Japanese culture and medical health system.

### **Conclusion**

Some social factors that brought to change from scientific and practical research topic to research topic of OT models caused the differences of research trends between 1980's and 1990's in Canadian OT and Japanese OT In this study, we analyzed only research topic trend in the occupational research trend

sing 2 official associations' journals. It is necessary to study the trend of research type, research authoring more broad journals.

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## カナダと日本の作業療法学会誌（1982－2001）における研究動向の比較

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