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ABSTRACT

This research reviewed the role and functions of the paraprofessional in the education process. The paraprofessional was defined as an individual who worked as part of an educational team, specifically complementing the instructional role of the teacher. Five general classifications of paraprofessionals were surveyed according to: (a) title; (b) relationship with the system; (c) education and/or salary; (d) skills; (e) functions and tasks. The functions and tasks of the paraprofessional were investigated further according to: (a) planning; (b) motivation; (c) instructional sequence; (d) supervision; (e) technical assistance; (f) nontechnical assistance. Implications were made for future roles of paraprofessionals in education, emphasizing expanded needs and complexities of mass education. Current needs in education in relation to the paraprofessional were also made: (a) continued research on validation of roles; (b) objective classification of tasks; (c) relevant training programs; (d) examination of team teaching; (e) the necessity of the element of humanity in education. A 4-page bibliography was included along with appendixes on specific tasks of paraprofessionals. (BRB)

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THE EDUCATIONAL RESOURCE TECHNICIAN

CLASSIFICATIONS AND IMPLICATIONS

SP 006 222

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"Truth is like the Summit of a Mountain.
One would appreciate its shape, only by
looking at it from many sides and many
angles."

(From "A Grammar on
Social Communication"
by J. Nicholas)

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THE PARAPROFESSIONAL IN EDUCATION

I FOCUS

This paper represents a review, albeit not an exhaustive one, of literature describing the role and function of the paraprofessional in the educational process. It also contains some thoughts and suggestions for emerging from an intensive contact with professional educators and paraprofessionals during the past four years. The literature surveyed has been recorded in the Bibliography. The sources of the thoughts and suggestions have been acknowledged where possible. Much of the material in Parts II and IV is taken from unpublished reports of contacts made by the writer in an on-going effort to design a viable Educational Resource Techniques program at Niagara College of Applied Arts and Technology.

With the impact, both negative and positive, of Living and Learning, (perhaps more aptly translated Living is Learning), the mass of concurrent educational experimentation, the expansion of post-secondary education as witnessed in the genesis of the CAATs, and the increasing emphasis on education as being a "continuing", life-long process, the unique role of the "teacher", as it was understood in our simpler, three "R's" economy, is changing beyond recognition.

In this educational ferment, the eternal question of "what is teaching" is constantly encountered. Variouslly defined as "information-giving", "enabling by instruction", "professional instruction" and

"professional duty", the fine line between professional and non-professional tasks waxes and wanes under the press of time, talent, economics and insight.

In examining existing classifications of educational staff, it is obvious that much of the organization is vertical in structure, sensitive to local conditions, economic stresses and individual empire-building. In essence the organization is based on an externally-imposed framework rather than internal pattern. It is evident that one of the more pressing needs of the educational organization in Ontario in the 1970's is a universally-applicable taxonomy of instructional and non-instructional functions, performed both inside the framework of the formal educational system - itself a most chameleon-type creature - and outside, in the complementary extensions of education into the experiences of living. Such a taxonomy would not only clearly support the need for more diversified staffing, allowing for the performance of many levels of tasks, but also it would provide guidelines for a better utilization of available educational dollars.

It is evident, without further support, that we want to provide the "best" in education ("best" being wide open to definition, of course) for our children and ourselves. From this desire comes another argument for the effective utilization of diversified staff. There is a need for an employment market within the field of education for individuals who have heeded our cry of "stay in school" but have not been able to reach the

apex of "professional" qualifications for a variety of reasons. Admittedly, while flaws are obvious in this particular argument, for those of us working with students in the CAATs, and particularly in an insular area where education is the second largest potential employer, it is an argument which we consider valid. There is no doubt that many "teaching" tasks can be performed by someone other than a "teacher" and equally there is no doubt that the practice of employing paraprofessionals, in well-defined task structures, is not only feasible, but economically sound.

In summary, the writer readily acknowledges serious problems in the support offered for conclusions drawn in this paper:

1. Ideally a complete classification of the tasks/functions would be attempted, based on the Taxonomy of Teaching Functions¹ with built-in modifications designed to accommodate the various levels and types of education in which paraprofessionals are employed. A compiled list of tasks, either expected or performed by paraprofessionals suggests over four hundred various activities with the base functions numbering almost thirty. The refinement of such a complication is beyond the scope of this paper and the availability of time and staff to the writer. In Appendix I, part of the list of tasks will be shown in an attempt to support the need for some extension of the Taxonomy, especially as it is applied beyond the elementary level.

¹ Prepared by Dr. H.G. Hedges, Director, O.I.S.E.,
Regional Office, St. Catharines.

2. Again, ideally, this paper should have been built around a research instrument rather than a descriptive format. This instrument would attempt to analyze the actual role of the paraprofessional as it is being practiced in a wider geographical and educational sphere.
3. The paper is intended, therefore, only to examine the role of the paraprofessional as described in the literature, defined by College curriculum, observed in Field Placements, and applicable to the modified Taxonomy. The development and application of an empirically-sound, specific instrument for delineating the role of the paraprofessional provides a challenging prospect for future endeavour.

II SURVEY OF EXISTING CLASSIFICATION SYSTEMS

Frequently in the literature, and almost universally by the Boards of Education in Ontario, non-teaching staff are described by local viewpoint rather than by any universal definition.

For purposes of this paper, the paraprofessional will be defined as an individual, who works as part of an educational team, specifically to complement the instructional role of the teacher. His complex function is to act under the direction of a professional educator to provide resources and services for students and staff at any level of education.

In some areas, the paraprofessional is seen as simply being in vertical transition from non-professional to professional. In other areas, especially in Ontario at the present time, there is an increasing interest in the use of the paraprofessional, a somewhat static classification in its own right, to "assist" with the educational process. Historically, the paraprofessional has oftentimes been brought into the system to relieve a critical teacher shortage, and, closely related to this approach, (and in eloquent silence, neglected in current dialogue), the paraprofessional has been accepted as an economic expedience, rather than as an educational necessity.

Five general classifications, however, can be culled from the mass of practice. They are:

- (a) classification by title
- (b) classification by role (essentially a relationship within the system)

- (c) classification by education and/or salary
- (d) classification by skills
- (e) classification by functions and tasks

(A) CLASSIFICATION BY TITLE

The title applied to the individual whose education or certification does not allow him to be defined as a "teacher" varies widely from Board to Board and area to area. He may be known as a Teacher's Aide, Teaching Assistant, non-professional, paraprofessional, Educational Resource Technician, Lay Assistant, semi-professional, classroom aide, and even in some American systems, a sub-professional. The confusion evident in the minds of educators as to even the title of this type of individual is evident as we note the use of the terms semi-professional, paraprofessional and Educational Resource Technician to describe what appears to be one role by such an august institution of educational research as O.I.S.E. itself.

This process of classification by title becomes even more confusing when various types of "paraprofessionals" (the term most widely accepted) are used and called by varying titles such as Attendance Recorder, Social Welfare Technician, Audio-Visual Technician, Teaching Aid Technician, Instructional Media Technician, Reproduction Technician, Supplementary Staff, Remedial Aide and even Bus Counsellor.

Without some universally accepted job description accompanying a title, this method of classification serves mainly to compound an already confusing situation. A further distracting factor is the application of

some of these titles, such as Classroom Aide equally to paid staff and to volunteer staff. Both are useful in an effectively functioning situation. It would be helpful, obviously, to have distinct titles, accompanied with responsibility descriptions if differentiated staffing is to be used in the system.

(B) CLASSIFICATION BY ROLE

This type of classification differs from the first in its emphasis on relationships rather than titles. Within classification, the paraprofessional is described as fulfilling any number of relationships, "assisting", "helping", "supporting", "complementing", "supervising", "organizing", "arranging" and many others. The individual is usually employed, (although again he may be a volunteer, under present definitions) to fulfill certain functions subject to the direction of an individual teacher or a group of teachers rather than being employed to fulfill a specific, defined position. Again, clearly, in using this type of classification, countenance is not given to the "different", independent role of the paraprofessional, nor is any universal classification of positions applicable.

(C) CLASSIFICATION BY EDUCATION AND/OR SALARY

Educational achievement, especially that which can be verified by appropriate certification, has long been, and is increasingly, a passport for admission to certain classifications of employment. The paraprofessional has not escaped these tentacles of paper. In some systems,

the paraprofessional has, by definition, a B.A. or related degree, with no professional training. In others, the paraprofessional has completed two out of four years of professional training. In still others, such as sometimes with Ontario Boards, the paraprofessional must have obtained a two-year College of Applied Arts and Technology diploma.

These CAAT programmes are frequently considered as complete in their own right and essentially terminal, in the sense that although continuing updating in skills is encouraged, the completion of professional training is not frequently anticipated. In one system, very recently, a union was elected as the representative unit for support and paraprofessional personnel. At this time, the matter of exact definition of classification by education versus classification by title or role is of prime concern, as re-structuring and consequent salary adjustments loom.

Occasionally in some systems, salary itself has been used as a means of classification as individuals reach a maximum in one level, only to find themselves moved into a different grouping to allow for what are oftentimes well-earned increments.

(D) CLASSIFICATION BY SKILLS

Almost the converse of the final type of classification, this form of classification is almost self-explanatory. Prospective employers take notice of the specific skills/talents of an applicant and hire, not

for a specific role, nor even for a pre-existent classification, but simply on the basis of skills which an individual has to market. Strangely enough, the combination of creative skills and a pleasant, or at least an outgoing personality, has been the criteria for obtaining employment for a surprising number of graduates from the Educational Resource Techniques programme. Admittedly the use of this type of classification will not provide a universal market or even a stable, local market. Nonetheless, for want of another definition, it has been successfully applied.

(E) CLASSIFICATION BY FUNCTIONS AND TASKS

At first sight, a taxonomy of the functions and tasks of education seems most realistic because (i) it allows for a specific definition of the work to be performed, (ii) it encourages analysis of real and practiced differences in the responsibilities of the teacher and the paraprofessional, and (iii) it allows for maximum efficiency (a word which undoubtedly dismays us in our concern for the individual child) of the instructional purpose.

At second sight, this method of classification, ultimately useful and essential as it may be, presents many specific problems. Possible because of its very nature, it has been largely ignored by most systems which have, instead, been content to operate under the other, less specific classifications.

One taxonomy which presents a more universally-applicable framework,

based on observed practice rather than only theory, is the Taxonomy of Teaching Functions developed by H. G. Hedges et al. It is partly on the basis of the application of this Taxonomy to the present and projected role of the paraprofessional, that some of the suggestions for more effective utilization of paraprofessionals in the Ontario system will be presented.

III TAXONOMY OF TEACHING FUNCTIONS AND
THE ROLE OF THE PARAPROFESSIONAL

TAXONOMY OF TEACHING FUNCTIONS

FUNCTIONS	PROGRAM		GROUPING		
	Main Enrichment	Activity	Class	Group	Individual
			Reg. Spec.	Reg. Spec.	Reg. Spec.
<u>PLANNING</u>					
Broad					
Narrow					
<u>MOTIVATION</u>					
Broad					
Specific					
<u>INSTRUCTIONAL SEQUENCE</u>					
Initiating a concept, attitude, or skill; Consolidating a new concept					
attitude, or skill; Adding content to structure; Consolidating content					
<u>SUPERVISION</u>					
Active					
Passive					
<u>TECHNICAL ASSISTANCE</u>					
Skilled					
Nonskilled					
<u>NONTECHNICAL ASSISTANCE</u>					
Designing of Instruments; Administration of tests; Objective marking; Subjective marking; Interpretation of scores; Diagnosis					

To analyze the plausibility of applying the Taxonomy to the role of the paraprofessional I undertook the following tasks:

- (1) to study the Taxonomy in depth, applying examples suggested to researchers in Volunteer Helpers in Elementary Schools;
- (2) to note questions which arose in these applications;
- (3) to consider further functions for classification;
- (4) to then determine that the functions provided would be adequate if three further horizontal columns could be added;
- (5) to analyze some of the tasks listed in Appendix I on the extended taxonomy (supportive examples in context and Appendix II)

My specific intent was not to critically examine a proven research instrument, but simply to determine if the Taxonomy would accommodate tasks performed by paraprofessionals at all levels and in varying settings of education.

Questions which occurred in the study include:

- (1) Knowing that in one local Board only nine out of forty-seven paraprofessionals are employed in Elementary Schools and that out of an employment placement of twelve paraprofessionals in May 1971, none went into the Elementary level, did the Taxonomy have to be modified to accommodate what, at this time, appears to be a majority of the employed paraprofessionals?

- (2) Again knowing that paraprofessionals are being used more and more frequently in educationally-related tasks, such as media display and sales, community out-reach programmes and professional development programmes, outside the limits of the classroom and even the generally known "school" structure, would the taxonomy accommodate their tasks?
- (3) Could the taxonomy be used as an instrument to differentiate teaching and non-teaching tasks, professional and paraprofessional responsibilities and, even the difference in role between paraprofessional and volunteer?
- (4) Can the hypothesis, as stated and supported by Mr. Hedges that, "the use of volunteers in the classroom will enable teachers to spend more of their time in "professional functions" be directly or equally applied to a similar use of paraprofessionals?
- (5) Can Mr. Hedges' second hypothesis which states in effect that the use of volunteers will allow individual students to have more attention from adults; presumably enhancing the learning process, be applied similarly to the use of paraprofessionals.

Consideration of methods of determining viable answers to these questions led me to the obvious conclusion that the first two were within the scope of this paper and that the last three could provide the impetus for a further paper in which the lines of demarcation (if any) between the role of the paraprofessional and the volunteer in education could be

examined. In this regard, though the taxonomy certainly does allow for clarification of "the unrealistic teaching/nonteaching distinction", I am of the opinion that what it really provides is an excellent framework on which to analyze the impact of the responsibility sequence in education. Using the frequency of task performance as one determinant of professional/paraprofessional roles, the taxonomy could serve as a guideline for effective differentiated staffing. If the professional educator is ultimately responsible for the provision of the learning environment, then perhaps the assignment of tasks to individuals could also be made on the basis of the most expedient (and human) enabling of learning, irrespective of frequency of task performance.

To respond to the first two questions appropriate to the context of this paper, I would be presumptuous enough to suggest four changes, in the terminology and structure of the Taxonomy. These changes would not invalidate the Taxonomy for use as it was intended. They might perhaps even add to its ultimate flexibility.

- (1) Special grouping does not seem to allow for specific definition, i.e., remedial or enrichment. I would, therefore, suggest that one additional column be added to PROGRAM, namely REMEDIAL, to allow for grouping within Remedial classes/programmes.
- (2) The use of the term activity alone tends to belie the presence of "activities", complementary and supportive, within all programmes. Although the intent of the word is clear within the context of the

explanation, the terminology seems to distract from the total impact. For want of a more original term, I would suggest the use of extra-curricular activities or extra-programme activities.

- (3) The phrase nontechnical assistance used in conjunction with skilled and nonskilled technical assistance appears somewhat awkward. Again the explanation is very clear but the initial contact with the phrase nontechnical assistance, in context, is perhaps not the most enlightening. Perhaps the substitution of the phrase adjutant services might clarify the category and preserve the original intent.
- (4) To accommodate the broadest possible spectrum of education, I would suggest the addition, not of function, as I first believed to be necessary, but of horizontal columns to allow for classification of three further factors (i) focus, either administrative or instructional, (ii) impact on learner, either "direct" or "indirect" (iii) Location, Classroom or Other. Although these factors are included to a point in the basic taxonomy, the addition of them as independent factors allows for the inclusion of many tasks performed by paraprofessionals at all levels of the system. It also would seem to allow for the increasing use of frequency of task performance as a guide to delineating professional/nonprofessional roles.

An analysis of three tasks, performed by paraprofessionals and taken from the random list provided in Appendix I, supports the inclusion of these modifications.

- Task: to set up a Careers Day display
Narrow planning/ specific motivation/ active supervision/
enrichment/ group/ skilled technical assistance/ instruc-
tional focus/ indirect impact/ other location/
- Task: to abstract retention statistics from records to provide
one tool for evaluating programmes
broad planning/ broad motivation/ skilled technical
assistance/ administrative focus/ indirect impact/ other
location/
- Task: to set up an interest centre
narrow planning/ broad motivation/ nonskilled technical
assistance/ class/ instructional focus/ direct impact/
class and location

In appendix II there are a few further examples of the application of this extended taxonomy. Admittedly, the addition of further parameters initially appears to complicate the analysis of tasks. After considerable experimentation, on paper only, with classification of tasks on the modified framework, I was unable to find any tasks from the list of four hundred which did not fit easily. Perhaps using this instrument, research could be undertaken now at all levels to classify a wide variety of educational responsibilities.

The headings of the Taxonomy would then appear as shown.

JUNCTION	PROGRAM				GROUPING			FOCUS		IMPACT ON LEARNING		LOCATION	
	Main	Enrichment	Extra Curricular	Remedial	Class Reg.	Group Spec.	Individual Reg.	Administrative	Instructional	Direct	Indirect	Class room	Other

IV IMPLICATIONS FOR FUTURE ROLES OF PARAPROFESSIONALS IN EDUCATION

One immediate and obvious implication for the future is there is an urgent need to realistically consider the emergence of the "new" paraprofessional who is searching for a career pattern within the educational structure. With a large percentage of Boards in Ontario already having a variety of paraprofessionals on the staff, it becomes evident, to quote Professor Brady, The College of Education, University of Toronto, they "are here to stay," This paraprofessional intends to provide service and skills which complement the broad and narrow purposes of education. In direct contrast to the traditional image of an "aide" as a volunteer who (to quote from an article in the September issue of New Dimensions) enjoys "escaping from the dull routine of vacuuming rugs", the "new" paraprofessional is turning to large systems which need both his peculiar expertise and his humanity.

In examining the tasks performed by paraprofessionals, it seems evident that many of these tasks have evolved as a result of the tremendous increase in our understanding of how technological devices can expedite the learning process. As the use of video-taping, computers, electronic retrieval systems, programmed texts and a multitude of other devices become commonplace, paraprofessionals with special skills must be trained and employed. In the face of the complexities of team teaching, project learning, unit programming and individual progression, paraprofessionals are needed to provide resources and services to staff and students alike. (How strange

that for years we have taught "technical" subjects and concurrently denied their necessity in our classrooms. I am reminded of a public statement made by Premier Davis, in his former capacity of Minister of Education in which he urged the leaders of local businesses and industries to hire the fine young graduates of "their" Community College, only to contradict this policy within his own "business" when budgets were slashed and paraprofessionals with them.)

In contrast to the possibilities of "mass production" education, nourished by machines and gained in a form of isolation unknown before, there is an increasing awareness of the need for more contact between children and adults and a retention of the emphasis on acquiring the basic tools of learning despite the onslaught of permissive discovery learning. The paraprofessional here too can provide "an element of humanity" and, again, become a source of materials and time for reinforcement of basic concepts. We may well ask ourselves whether our "Sesame Street" generation, with its learned need for entertaining education, when it now invades the old silent classroom, (of which there are still some) will not take a shortcut and escape without the essential ingredients of education. This is perhaps only a rhetorical question, but one that presses for consideration.

Both the efficiency of technology and the opportunities available for creative self-learning provide avenues of endeavour for paraprofessionals, initially as skilled technical assistants and ultimately as other adults to whom the student can relate as a change from his two-dimensional, celluloid world.

A further implication for the future is to be found in consideration of the ease with which the long list of tasks suggested can be applied to the modified Taxonomy. The conclusion can be drawn that paraprofessionals, if they are to perform the required tasks (i) have a place in the educational team; (ii) have a need for training in specific areas.

In view of the expenditure to fund the training programmes which do exist in Ontario, and the apparent need for paraprofessionals, it would seem likely that training programmes should be expanded. Before this is done, I must hastily underline that it behooves all of the professionals involved including the Ministry, the Trustees, the Federation, the Boards and individuals principals and teachers to take time NOW to research the viability of the role of the paraprofessional, to determine a pattern of effective utilization (perhaps through the use of the Taxonomy) and then to move ahead in employment of paraprofessionals if research and experience so indicate.

One last implication, again based on the list and its relationship to the taxonomy, is the tremendously broad scope of tasks which paraprofessionals are expected to undertake. This is the greatest specific problem which we encounter at the College level - namely how to develop a programme with enough depth of exposure to be relevant and enough breadth to train a flexible, self-starting paraprofessional. Suggestions range from the instituting of a wide variety of specialist programmes, for example, video-tape technician or administrative assistant, to the designing of a broad programme which concentrates on communication skills and the social sciences

and leaves the specific skill training to the individual employer. I believe that somewhere in the middle lies the better solution. The paraprofessional obviously must be flexible. He must be able to communicate. He must, as well, have skills to market.

If we accept the premise that paraprofessionals are in the system to stay, not subject to local whim and fancy, but as part of the team, dedicated to a career in education, different from that of the professional but just as meaningful, then we must support the need for research, for effective utilization of resources, both human and material, and the consequent development of effective training programmes to prepare adults to function as skilled paraprofessionals.

V SUMMARY

Several factors, which require further action, definition and/or research have become evident in the reading for and writing of this paper.

1. There is a pressing need to determine an appropriate title for the "aide", cum paraprofessional, and consequently to abandon the mass of terms applied to what is essentially the same role. This step in itself would greatly facilitate the researching of the role to determine what responsibilities it should include.
2. Standardization of employment classifications would be useful, again for the purposes of research and ultimately for the development of training programmes.
3. The availability to and utilization of a taxonomy, such as The Taxonomy of Teaching Functions, by educators to delineate roles, would be invaluable.
4. The Taxonomy, with suggested modifications, at least within the scope of applications undertaken in relation to this paper, appears adequate to be used with the total concept of education.
5. A definition of the role of the paraprofessional as a member of the teaching team as well as an examination of tasks classified on a taxonomy, are essential to meaningful curriculum development within training programmes for paraprofessionals.

6. The complexities of mass/individual education and the increasing use of technological devices to allow for such education, demand the skills of the paraprofessional as well as his potential for providing one more adult in the classroom. Perhaps through the increasing contact of adult and child within the system, generation and communications gaps can be narrowed or, at least, bridged.

The current needs then are for:

1. continuing research to determine the validity of the role of the paraprofessional;
2. objective classification of tasks to be undertaken by paraprofessionals;
3. on-going planning for relevant training programmes;
4. examination of methods of effective (and economic) use of all members of the teaching team;
5. and, finally, a persistent re-examination of the need for the element of humanity necessary to the ultimate education of the student, no matter what his age.

B I B L I O G R A P H Y

A. BOOKS AND PAMPHLETS

1. College for Human Services. Human Services, A Syllabus
New York, 1969.
2. Doll, Ronald C. Curriculum Improvement: Decision-Making
and Process. 2nd Ed. Boston: Allyn and Bacon, 1971.
3. Engel, B. A Guide on the Effective Use of Teacher Aides
Halifax: Allen Print Ltd., 1970.
4. Ferelon, W.J., and D. Dinkmeyer. The Time is Now.
Dept. of Pupils Personnel Services, Division of
Pupil Services, Office of the Superintendent of
Public Instruction, State of Illinois, 1967.
5. Grossmont College. Instructional Media Technology El
Cajon: 1971.
6. Grossmont College. Teacher Assistance: Elementary Edu-
cation. El Cajon: 1970.
7. Hostos Community College. Si usted fuera maestra aux
iliar. New York: 1971.
8. McComb County Community College. Teacher Aides.
Michigan, 1968.
9. Neagley, Evans Lynn. The School Administrator and Learning
Resources: A Handbook for Effective Action.
Englewood Cliffs: Prentice-Hall, Inc., 1971.
10. Norris, W. Public Service and Education Specialists
Chicago: J.G. Ferguson Publishing Company, 1969.
11. Ontario Department of Education, Living and Learning
The Report of the Provincial Committee on Aims
and objectives of Education in the Schools of
Ontario. Toronto, 1968.
12. Ontario Institute for Studies in Education. The Use of
Voluntary Aides in the Elementary School Program:
A Survey of Current Practice in the Niagara Region
and an Analysis of Instructional Roles. Compiled
by Cecilia Yau, Ed. by Jane Hill. Toronto 1970.

13. Ontario Institute for Studies in Education. Volunteer Helpers in Elementary Schools. Profiles in Education, No. 1, Conducted and compiled by Floyd Robinson, David Breson, Harry Hedges, Jane Hill, Cecilia Yau, Lee Palmer, Series Editor, Hugh Olwa.
14. Pold, Kaspar, Innovation in Teacher Education and Training, Canada, U.S.A., Britain, A Collection of Papers with an Introduction. Toronto: O.T.F.
15. Rolchich, I. and F. Koenig. Guidance and the Physically Handicapped Child. Toronto: Science Research Associates, Inc., 1963.

B. JOURNAL ARTICLES AND PUBLISHED PAPERS

1. Bascom, Mark E. Suggested Tasks for the Teacher Aide Croft Leadership Action Folio, Bay City, Michigan.
2. Bascom, Mark E. The Teacher Aide Program After Fifteen Years. Bay City, Michigan.
3. Blessing, K. "Use of Teacher Aides in Special Education: A Review and Possible Applications" Exceptional Children, October, 1967.
4. Branch, J. "How to Train and Use Teacher Aides" Altoona, Pennsylvania, 1968.
5. British Columbia Teacher's Federation Ad Hoc Committee on Teacher Aides. A Report on Auxiliar School Personnel. Vancouver, 1968.
6. Bucknall, Beverley, et al. Guidance Resource Technician The School Guidance Worker, Nov. 1969, Vol. 25, No. 2 (also published Careers, Inc., Largo, Florida, Fall, 1970).
7. Canadian Education Associates, Newsletter. March, 1970 Dalhousie's novel aide scheme benefits both Halifax Schools of Board of Education students.
8. Canadian High News, Educational Resource Technician, Spring, 1970.
9. Central Michigan College. A Report of the First Two Years of the Study, 1955.

10. Central Michigan College. A Co-operative Study for Better Utilization of Teacher Competencies. Second Printed Report, 1955.
11. Central Michigan College. A Co-operative Study for Better Utilization of Teacher Competencies. Third Report, June, 1957.
12. Central Michigan College. A Co-operative Study for Better Utilization of Teacher Competencies. Final Evaluation Report, 1958.
13. Central Michigan College. A Co-operative Study for Better Utilization of Teacher Competencies. Final Report, 1960.
14. Clayton, D. Let's Make More Use of Paraprofessionals Business Education World.
15. Engel, B. An Experimental Teacher Aide Program Journal of Education, 1970.
16. Glovinsky, A. and J. Johns. "Paraprofessionals: 26 Ways to Use Them" School Management, February, 1969.
17. Howell, John J., et al. Yale-Fairfield Study of Elementary Teaching - Report for 1954 - 1955.
18. Howell, John J., et al. Teacher Assistants: An Abridged Report. The Yale-Fairfield Study of Elementary Teaching. New Haven, Connecticut, Feb. 1959.
19. Howell, John J., et al. Teaching Fellows: An Experimental Program for Recruitment and Preparation of Superior Teachers. The Yale-Fairfield Study of Elementary Teaching, May, 1960.
20. Kern, A. "What Teacher Aides Can and Cannot Do" Education Digest, 1968.
21. Mallette, A., Chairman, Sudbury Committee O.T.F. Advisory Committee on Educational Resource Technicians. The Educational Resource Technician in the Schools. O.T.F. Toronto, Feb., 1971.
22. Miller, E. Proposed: A Media Clerk-Technician Audio-Visual Instructor, Nov. 1964.

23. Monday Morning. Ed. B. Mickleburg. Territorial Classroom Assistants by Leigh Brintnell, Sept. 1971.
24. National Foundation for Educational Research in England and Wales. N.F.E.R. Research Information The Teaching Day Project.
25. Niagara Falls Evening Review. "Volunteer Key to Success in Programs". Hviliirtzker, J. Sept. 20, 1969.
26. Nugent, E. Ed. New Dimensions. Ontario Department of Education, Toronto, Sept. 1971.
27. Nugent, E. Ed. Differential Staffing, New Dimensions, Ontario Department of Education, Toronto, Oct. 1971.
28. Riessman, Frank. "Issues in Training the New Non-Professional" Subcommittee on Training, The National Manpower Advisement Commission, March, 1967.
29. S.R.A. Research Project, Teacher and Guidance Aides Science Research Associates, 1969, Part I, II, III.
30. Seattle Community College. 35mm Slide-Tape Presentation, Teacher Aide Training, January, 1970.

C. UNPUBLISHED PAPERS, MEMORANDA AND CORRESPONDENCE

1. Brady, Daniel B. (correspondence from) Director, Social Counsellor Education Program, O.C.E., to Miss Jane Nugent, Editor, Dimensions, Oct. 26, 1971.
2. Brown, Hazel (correspondence from) Curriculum Co-ordinator, Ontario Department of Education, to Mrs. G. Hilyer, Niagara College of Applied Arts and Technology, October, 1971.
3. Duffin, G. L. (memorandum from) Assistant Deputy Minister of Regional and Area Superintendent Program Counsellors, et al re The Use of Non-Professional Personnel in the Schools, November 27, 1968.
4. Engel, B. (correspondence from) Dalhousie University, Halifax, Nova Scotia to Mrs. G. Hilyer, Niagara College of Applied Arts and Technology, January, 1971.

5. Field Supervisors' Reports, 1968 - 1971, Educational Resource Techniques Program, Niagara College of Applied Arts and Technology.
6. Health and Physical Education Resource Technician, Educational Resource Technicians, Niagara College of Applied Arts and Technology.
7. Hilyer, G. (correspondence from) Program Co-ordinator, Educational Resource Technician Program, Niagara College of Applied Arts and Technology to Miss Jane Nugent, Editor, Dimensions, June 1971 and October, 1971.
8. Hilyer, G. Paraprofessionals in Guidance Services ERIC, Princeton, New Jersey, Sept. 1971.
9. Hilyer, G. and U. Kothare. Report, Guidance Assistant Project, Deerfield Public School, Deerfield Illinois, November, 1968.
10. Hilyer, G. Report, Internal Articulation of Educational Professional Education Division, Harrisburg, Commonwealth of Pennsylvania, October, 1969.
11. Hilyer, G. To Be or Not To Be What? Published by Resource Centre on Women, National Y.W.C.A., New York, October, 1971.
12. Hurley, P. A Case for E.R.T.s in Education. Paper presented at Niagara University, April, 1971.
13. Instructional Media Technician: Do you Need One? Educational Resource Technicians, Niagara College of Applied Arts and Technology, 1971.
14. McIntyre, D. O.P.S.M.T.F. (memorandum to) Public Elementary School Principals, Welland-Haldimand District.
15. O.T.F. Reporter, Board of Governors Policy, re Teacher Assistants, O.T.F., January, 1971.
16. Progress Reports, Educational Resource Techniques Program, Niagara College of Applied Arts and Technology, September, 1970 to June, 1971.
17. A Resource Technician for Education, Educational Resource Technicians, Niagara College, June, 1971.
18. Report of Committee on Joint evaluation of Technical Assistants in Science Department, Lincoln County Board of Education, April, 1967.

19. St. Gelais, S. (ed.) Educational Resource Technician Program, Niagara College of Applied Arts and Technology, 1969.
20. Simpson, D.A. Do You Need a Technician? Ontario School Conference Association Workshop Paper, November, 1969.

D. BIBLIOGRAPHIES

1. Bibliography in Education #15 Differential Staffing Canadian Teachers Federation, Ottawa, Dec. 1970.
2. Bibliographies in Education #16 Paraprofessional School Personnel, Canadian Teachers Federation, Ottawa, Dec. 1970.
3. Differential Staffing The library Reference Information Services. O.I.S.E. Current Bibliography #3.

APPENDIX I

Based on the list of more than four hundred tasks which paraprofessionals have been asked to undertake and/or which are described in the literature, the following, for brevity's sake, is a list abstracting every tenth task, without reference to level, complexity, or skill needed.

To quote Miss Beverley Bucknall, a graduate Guidance Resource Technician, (paraprofessionals) on staff at Counsellor Education, University of Toronto: "When your job is to be creative, then the object of your training must be to prepare you to do just about anything." (Canadian High News, Fall, 1970)

- preparation of space utilization timetables
- organization of print materials
- accompanying staff and students on field trips
- organization and up-dating of current event files
- effective display of occupational monographs
- community outreach contacts
- putting away Physical Education (or supervision of) equipment
- cataloguing subject periodicals and journals for distribution
- abstract retention statistics
- distributing media equipment for classroom use
- arranging and distribution of duty roster
- operation of information retrieval systems
- previewing specific films for instructional use
- correcting and recording seatwork
- arranging and supervising low-level organization indoor games
- assisting with communication skills, as in providing reinforcement

set up a Careers Day display
supervising small group project work
scoring of standardized tests
supplies management
First Aid
preparing, duplicating, and collating of
spirit master material
preparation of sets of visuals such as drill
cards
structured, non-counselling interviews
preparation of displays of student work
researching instructional materials
effective utilization of educational games for
enrichment
preparation of a variety of newsletters
design, application and correlation of basic
information surveys (i.e., timetable require-
ments, etc.)
preparation of anecdotal reports
inventory of equipment
preparation of bulletin boards which reinforce
concepts taught
making puppets representing specific people
sign-making
collection, delivery and retrieval of resource
materials for home and hospital instructional
services
officiating at tournaments

APPENDIX IISAMPLE TASKS DEFINED IN RELATION TO
THE MODIFIED TAXONOMY OF TEACHING FUNCTIONS

This appendix contains samples of the results of applying the tasks which have been performed by paraprofessionals in educational settings to the revised taxonomy. Again, for the sake of brevity, out of the forty tasks listed, six have been analyzed here.

1. Preparation of space utilization timetables
Broad and Narrow planning/skilled Technical Assistance/
Administrative focus/Indirect Impact/Other Location/
2. Effective display of occupational monographs
Broad Planning/Broad Motivation/Non-skilled Technical
Assistance/Enrichment Programme/Instructional Focus/
Indirect Impact/Other Location/
3. Setting up laboratory demonstration material
Narrow Planning/Specific Motivation/Consolidating a
New Concept/Skilled Technical Assistance/Main Program/
Regular Class Grouping/Instructional Focus/Direct
Impact/Classroom Location/
4. Previewing specific films for instructional use
Broad Motivation/Skilled Technical Assistance/Instructional
Focus/Indirect Impact/Other Location/
5. Supervising small group project work
Active Supervision/Special Grouping/Instructional
Focus/Direct Impact/Classroom or Other Location/

6. Preparation of sets of visuals such as drill cards
Specific Motivation/Non-Technical Assistance/Main or
Remedial Programme/Group or Individual/Instructional
Focus/Direct Impact/Classroom or other Location/
7. Making puppets representing specific people
Specific Motivation/Skilled Technical Assistance/
Enrichment Program/Instructional Focus/Direct Impact/
Class or other Location/

EDUCATIONAL RESOURCE TECHNIQUES PROGRAM

The following is a list of tasks which have been undertaken by or required of Educational Resource Technicians, either in their Field Placement or Employment. It is intended that the reader will feel free to make deletions or inclusions as his needs indicate and will communicate to the program any changes or additions which he considers valuable.

M E D I A

Taking of: 8mm films
super 8mm films
35mm slides
photographs

Organizing of: multi media presentations
master slide series

Preparation of: reel-to-reel tapes
Cassette tapes
audio tapes
transcript for audio visual presentations

Repairing and Splicing of: Films
Tapes
Slides

Editing of: Tapes
Films
Audio-visual presentations

Video Taping: Filming
Arrangement of sound
Operation of monitors

Preparation of audio-slide presentations to complement specific lectures
or topics

Operation of language labs

Ordering and returning films

Setting up media equipment

Taping student reading assignments

Giving demonstrations of media equipment to teachers and students

Taking inventories of media equipment and supplies

Ordering media equipment and supplies

Preparation of multi-media kits

Set up Bulletin Boards to: Display student's work
Teach and reinforce concepts
Provide stimulation
Display Current Guidance and Career information
Provide General information

Poster preparation

Sign making

MEDIA Cont'd

Previewing films
Application of media to schools, hospitals, reform institutions, business,
recreational institutions, old age homes
Handle P.A. systems
Production and use of broadcast systems
Servicing information labs
Clipping services
Preparation and management of Resource laboratories
Development of black and white negatives
Production of transparencies
Ordering of print materials: books, magazines, catalogues
Acquisition of Library materials
Supplies management
Preparation and management of Current Events file
Production of Flash cards
Production and distribution of newsletters
Simple maintenance of media equipment
Cataloguing of media equipment and supplies
Set up demonstration materials
Conduct laboratory demonstrations
Preparation of daily announcements
Preparation of programmed materials
Preparation and presentation of graphs
Preparation of graphics
Reproduction of student materials
Preparation of academic aids
Put work on blackboards
Requisition of supplies and equipment
Typing, duplication and distribution of instructional materials
Preparation of bulletins for home and school
Arrange interest centres
Proof-read instructional materials
Ordering and returning films
Preparation of specific instructional materials
Instructing students as to how to use equipment
Instructing students as to how to use educational tools
Press clipping service
Furniture orientation in preparation of labs and meetings

MEDIA Cont'd

Organizing set up of Resource Centre
 Locating resource materials
 Providing instructional resource materials for a teaching team
 Display of occupational monographs
 Distribution of media equipment for classroom usage
 Operation of information retrieval system
 Preparation of visuals, such as drill cards
 Setting up displays of student work
 Researching instructional materials
 Creation of slide or film presentations on specific subjects
 Basic library services
 Preparation and management of resource laboratories
 Make arrangements to bring in guest speakers for classes
 Photo copying
 Making and running off of stencils and dittos
 wet copying
 Dry copying
 Audio meter tests
 Taping of reading assignments
 Taping of remedial work questions
 Locate and identify visual resource materials for studies

OPERATION OF EQUIPMENT

Laminating Press
 Gestetner
 Photo Copier
 3M Copier
 Wet Copier
 Dry Copier
 Thermo Copier
 Morgan Line-O-Scribe Sign Machine
 Transparencies
 A. B. Dick Master/Transparency Maker
 Opaque Projector
 Overhead Projector
 Slide Projector
 16mm Projector

OPERATION OF EQUIPMENT Cont'd

8mm Projector
 Super 8mm Projector
 Loop Projector
 Reel-to-Reel Tape Recorder
 Cassette Tape Recorder
 Vari-typer
 Transpaque Projector
 Repnor Slide Copier
 Reprovit Slide Maker
 Photo Modifier
 Enlarger
 35mm Camera
 8mm Camera
 Super 8mm Camera
 Diazo Copier
 Spirit Master

PHYSICAL EDUCATION AND RECREATION

Providing recreational-social experiences for the aged, the handicapped, etc.
 Assisting in assembly programs
 Help with the organization of committee meetings and dinners
 Providing craft instruction for the aged, the chronically ill, and the handicapped
 Checking squads
 Teaching warm-up skills
 Arranging and supervising indoor and outdoor games and activities
 Preparation of materials for art
 Organize tournaments
 Officiate at tournaments
 Coaching
 Puppetry
 Socio-Creative Drama
 First Aid, St. John's Ambulance Certificate

GENERAL

Open House: Information
 Guide
 Set up presentation
 Help organize program
 Help in advertising

GENERAL Cont'd

- Abstract retention statistics from attendance records (i.e., in Continuing Education) to provide one tool for an evaluation program
- Act as interpreter for non-English speaking parents
- Assist head-start programs in organization and during follow-up
- Assist with staff meetings and staff development
- Answer telephone
- Dictation of spelling, shorthand, etc.
- Requisition of supplies
- Supervise pupil clean-up time
- Preparation and serving of refreshments at snack time
- Telephone check of absentees
- Accompanying child to office
- Act as a link between the school and home
- Checking on connecting papers
- Assist with clothing, e.g., aged, handicapped, kindergarten
- Providing instructional resource materials for team teaching
- Correcting seat work
- Marking tests and exams
- Helping small groups with specific activities
- Tutoring individual children
- Remedial work
- Repeating concepts already taught
- Assisting in communication skills, e.g., spelling, composition, etc.
- Conducting laboratory demonstrations
- Supervising:
 - Study areas
 - Lunch areas
 - Recreation areas
 - Pupils
 - Extra-curricular sports
 - Extra-curricular interest clubs
 - Playgrounds
 - Buses
- Assisting with contingencies
- Handle P.A. System
- Attend clinics and workshops
- Supervise student dances
- Preparation of graphs and grading systems
- In-service training programs, i.e., planning, organization, implementation
- Reproduction of student material
- Academic aid
- Performing routine health tasks

GENERAL Cont'd

Preparation, collating, and recording of anecdotal reports

Evaluation surveys: Preparation, both content and mechanical
Distribution and collection
Recording and basic statistical analysis

Production and distribution of newsletters

General public relations work

Recorder in group work

Preparation of resource materials for group and individual Guidance

Group testing, scoring and recording

Orientation of new students: Preparation of Orientation Booklet
Tours of the school
Displays

Applications of media to recreational and institutional settings

Planning and organization of Outdoor Education Programs and trips

Organize intra-mural and intra-school programs

Conduct review sessions for groups and individuals

Set up Displays and Interest Centres

Assist committees engaged in special projects, i.e., Environmental Studies

Timetable volunteer assistants

Student scheduling

Field Trips: Organization
Accompanying
Follow-up activities

Summarizing data from cumulative records

Supervise teacher made tests

Research for lesson preparation

Research for curriculum

Record marks for assignments submitted

Organization and management of Student Records

Assist with Registration - planning, arranging, advertising

Plan and conduct tours

Preparation of Report Cards

Work with Home and School Associations

Prepare reports for administrative staff

Planning with teachers

Preparation of pupil work areas

Setting up appointments for Parent-Teacher interviews

Maintenance of master timetable boards as per instructions for change
from faculty

Planning and supervising grade/seasonal parties

GENERAL (cont'd)

Administer group standardized tests

Score and record standardized test results

Prepare agendas

Typing

Maintain attendance records

Conduct surveys

Construct tests

Prepare timetable tags for master board

Prepare, distribute and retrieve timetabling informative forms

Assist with preparation of student and staff timetables

Compile up-to-date master timetable books: Students
 Teachers - Faculty
 Course outlines
 Course times
 General Program
 Room Utilization

Collecting specific information for work-load assignments

Analyzing specialist space utilization