The physician tends to adhere to these hypotheses in the further course of his investigation, and to collect data which can support them. This paper reports on an exploratory study of this so-called persistence of primary hypotheses. Some possible explanations of this phenomenon are suggested in conclusion.

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Barrows, E. S. and K. Bennet. The diagnostic (problem-solving) skill of the neurologist. (1972) *Arch. Neurol. (Chic.)* **26**, 273-277.

Broadbent, D. E. Perception and communication. *Pergamon Press, London, New York,* 1958.

Chapman, L. J. and J. P. Chapman. Genesis of popular but erroneous psychodiagnostic observations. (1967) *J. abnorm. soc. Psychol.* **72**, 193-204.

Elshout, J. J. and N. H. Frijda. Probleemoplossen en denken. In: J. A. Michon, E. G. J. Eijkman and L. W. F. de Klerk (eds.) Handboek der psychonomie. *Van Loghum Slaterus, Deventer*, 1976.

Elstein, A. S., N. Kagan, N. Shulman et al. Methods and theory in the study of medical inquiry. (1972). *J. med. Educ.* **47**, 85-92.

Festinger, L. A theory of cognitive dissonance. *Row/Peterson, Evanston (III)*, 1957.

Geldorp. G. van. Medisch probleem-oplossen. (1980). *huisarts en wetenschap* **23**, 174-179.

Geldorp, G. van, K. Hoekman en L. Krol. Medisch probleemoplossen. *Universiteit van Amsterdam*, 1978.

Kleinmuntz, B. The processing of clinical information by man and machine. *John Wiley, New York*, 1968.

Kooy, S. van der. Registratie van het probleemoplossend proces. (1978) *huisarts en wetenschap* **21**, 166-172.

Kozielecki, J. A model for diagnostic problem-solving. (1972) *Acta psychol. (Amst.)* **36**, 370-380.

McWhinney, I. R. Problem-solving and decision-making in primary medical practice. (1972) *Proc. roy. Soc. Med.* **65**, 34-38.

Miller, G. A. (The magical number seven; plus or minus two, some limits on our capacity for processing information. (1956) *Psychol. Rev.* **63**, 81-97.

Oosterhuis, H. J. G. H. Beknopt leerboek der klinische neurologie. *Bohn, Scheltema en Holkema, Utrecht*, 1978.

Treffers, P. E. Op de grens van leven en dood, de smalle marge van de perinatale geneeskunde. *Bohn, Scheltema en Holkema, Utrecht*, 1979.

Wagenaar, A. de beste stuurlui dempen de put. *Ambo, Baarn*, 1977.

Wason, P. C. On the failure to eliminate hypotheses – a second look. In: P. C. Wason and P. N. Johnson-Laird. Thinking and reasoning. *Penguin, Baltimore,* 1968.

Patient-doctor communication

An evaluation of a new training course

PROF. DR. J. J. C. B. BREMER*

A new training course on patient-doctor communication (PDC) was introduced in The Netherlands in January 1978: the PDC-course Roche. ** This report outlines the starting-points, objectives and design of this training and refresher course, and evaluates the results of forty-seven courses given in 1978 and 1979.

Introduction

Objectives. The objectives of the PDC-course are to foster awareness and provide training in basic skills, mostly in three areas:
- observation of verbal and non-verbal behavior of patients;
- self-observation during contacts with the patient;
- exploration of the physician's possibilities of aimed and efficient elucidation of complaints and problems together with the patient.

For this course, a staff group of experienced trainers/supervisors prepared a leaflet (*Looking, listening and asking questions*) and a course manual (*Patient-doctor communication*).

Starting-points. The development of this PDC-course proceeded from the following premises:
- any physician can make use of the course;
- the course concerns important aspects of the doctor-patient relationship, specifically its establishment and maintenance;
- the course is attuned to contacts between patients with organic and/or functional complaints and physicians with or without a special interest in psychosomatics or the psychosocial aspects of medicine;
- the course is suitable also for specialists, for example specialists in social medicine.

*Methodology.*** The two-day program takes the form of a strictly structured course with a phased learning process. This learning process aims successively at:
- observation of the patient;
- self-observation by the physician;
- establishing contact and optimal methodical exploration during the contact.

In each of these contexts, the activities looking, listening and asking questions receive special attention. In addition to the course manual, various video-tapes with casuistics in the form of doctor-patient interviews are used. Participants' initiatives are stimulated and time is reserved for discussion. Supervision of the courses is in the hands of specially trained psychologist-physician pairs.

A follow-up day is held six months after completion of the course.

This day is devoted, not only to retraining of various skills but also to the effect of the course on the participants' practice: to what extent is the training effective in day-to-day communication with patients? On this day the groups are guided by the same psychologist-physician pair that supervised the course.

At least three-quarters of the 546 participants attended this follow-up day – a response which clearly shows that the course is positively appreciated.

Activities. In the past two years, forty-seven courses were held in several places in The Netherlands, led by many different trainers.

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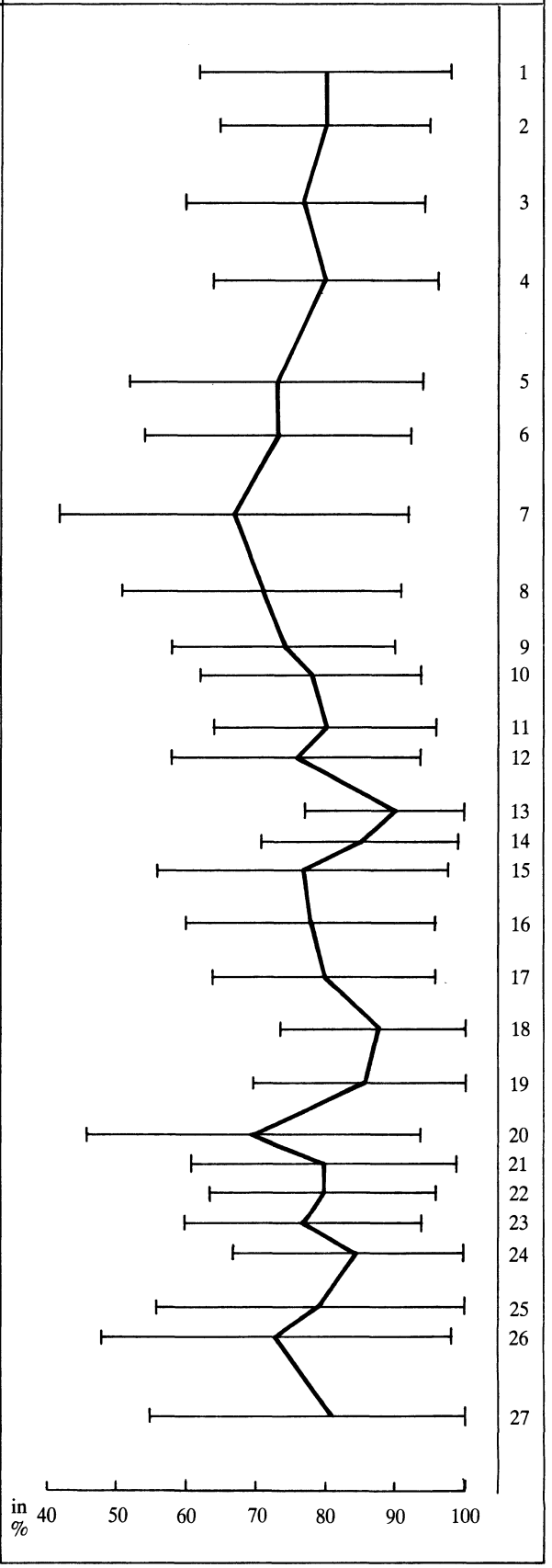
See (1977) *Medisch Contact* **32, 1658, and H. G. M. van der Velden (1978) *huisarts en wetenschap* **21**, 113-114.

*** The methodology was evolved by the psychologist Mrs Schönhals-Abrahamson.

Table. The twenty-seven items and the scores assigned by the general practitioners, instructors, and mixed groups.

Items	Physicians n = 250		Instructors n = 25		Mixed n = 20		Mean scores and standard deviations of the target group: general practitioners
	MS*	SD**	MS	SD	MS	SD	
1. I found the start of the course, reception and getting acquainted satisfactory	80	18	80	22	70	22	1
2. I found the course to be well-introduced	80	15	78	15	62	18	2
3. The exercises on observation of the patient's non-verbal behavior (first morning) taught me much	77	17	80	18	70	18	3
4. I experienced the self-observation exercises based on video-tapes as meaningful	80	16	83	15	76	17	4
5. The exchanges of ideas and experience concerning contacts between doctor and patient during the evening session were important to me	73	21	69	24	84	12	5
6. I found the introduction to exploration (second morning) quite clear	73	19	62	26	70	13	6
7. Exercises on the basis of printed examples gave me new possibilities of exploring	67	25	61	28	61	26	7
8. The exercises with video-tapes gave me an insight into the exploratory interview	71	20	55	30	70	14	8
9. I liked the introduction to the exercises	74	16	68	23	66	11	9
10. I liked the exercises with video-tapes	78	16	77	17	68	14	10
11. I liked the exchange of ideas between participants	80	16	80	17	70	16	11
12. The course fulfilled my expectations	76	18	82	14	65	15	12
13. I found the atmosphere in the group pleasant	90	13	90	10	88	10	13
14. I found the course supervision good	85	14	83	15	79	10	14
15. I found the course manual very useful	77	21	75	25	66	25	15
16. The quantity of the course subject matter suited me	78	18	72	25	73	19	16
17. The quality of the course subject matter suited me	80	16	69	20	75	17	17
18. I had sufficient scope for personal initiative	88	14	85	19	87	10	18
19. The use of the video-tapes was effective	86	16	84	17	81	14	19
20. The use of the work-sheets makes sense	70	24	82	16	71	19	20
21. I learned much from tape 1	80	19	73	21	77	13	21
22. I learned much from tape 2	80	16	74	22	77	13	22
23. I learned much from tape 3	77	17	75	21	74	16	23
24. I liked the work-space	84	17	89	11	70	16	24
25. The house in general is suitable for this course	79	23	88	13	73	16	25
26. I consider the course fee acceptable	73	25	77	30	79	23	26
27. That the course is organized and partly financed by Hoffmann-La Roche is no objection in my opinion	81	26	55	37	73	23	27



* MS = mean score ** SD = standard deviation

The interest taken in the course had clearly increased in these two years, partly as a result of the support of the Foundation for Postgraduate Training of General Practitioners. Some 10 percent of all general practitioners in The Netherlands have so far attended voluntarily.
Many participants had previous experience with postgraduate and refresher courses on interviewing techniques and doctor-patient interaction. As a result, the starting situations and personal objectives (and therefore the patterns of expectation) were fairly diverse.
Surprisingly, this is less apparent quantitatively in the appreciation scores than qualitatively in the answers to three open questions.

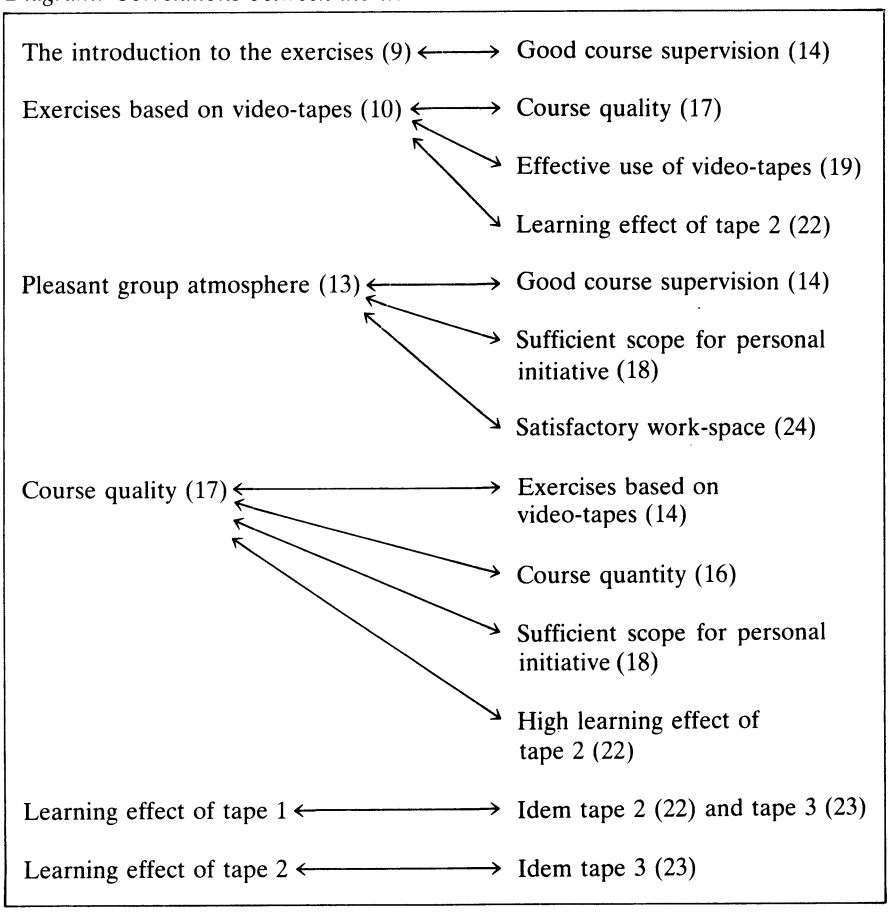
Participants. Until ultimo 1979, PDC-courses have been attended by 546 participants, distributed over forty-seven groups:
- thirty-nine groups of general practitioners, with a total of 478 participants;
- three groups of instructors of university institutes for general medicine, with a total of thirty-one participants;
- two groups including general practitioners as well as instructors, with a total of twenty-six participants;
- one group of psychologists and other social scientists, with a total of eleven participants.

Evaluation*

Program evaluation should be distinguished from effect evaluation. The former involves an inventory of impressions and opinions about the form and substance of the training course. The latter measures the results on the basis of previously established criteria. Of course the latter type of evaluation is much more difficult and laborious than the former. So far effect evaluation of the PDC-course has not yet been carried out. The following, therefore, is exclusively a program evaluation.
A questionnaire with twenty-seven statements on various aspects and features of the training *(table)* was used for this evaluation.
All participants were invited to respond to these statements by assigning a score ranging from 0 through 100 (0 = entirely wrong; 100 = entirely right). Statements 1 through 23 concerned the form and substance of the training provided, while statements 24 through 27 concerned the organization. The final additional question (28) was: do you feel that the course has given you something?
The last question was answered in the affirmative by 540 participants(!); five participants answered ,,moderately" or ,,doubtful", and only one participant answered in the negative: ,,no". This overall appreciation was confirmed by the assessments of the various aspects of training: the average scores ranged from 67 (amply sufficient, for exploratory possibilities on the basis of the printed case material – item 7) to 90 (very good, for the atmosphere in the training groups – item 13).
The instructors of the university institutes for general medicine assigned the relatively lowest scores, particularly for item 8 (gaining insight into the possibilities of exploratory interviews with the aid of video-tapes) and item 27 (the fact that a pharmaceutical firm had organized and partly financed the course).
After determination of the means and their standard deviations per group and per category of participants *(table)*, the t-test was applied to the various scores assigned on the one hand by groups of general practitioners, and on the other hand by groups of instructors or mixed groups. With regard to possible differences between these categories, the following expectation seems justifiable: since the mixed groups consisted largely of general practitioners, the difference between these groups and the groups of general practitioners should be smaller than that between the groups of general practitioners and the groups of exclusively instructors.
This expectation was confirmed by the t-test results. The evaluation scores of the groups of general practitioners differed significantly from those of the mixed groups on only one of the twenty-seven statements ($t \leq 0.001$ for item 3). However, instructor group scores differed significantly from the general practitioner group scores on five of the twenty-seven items ($t \leq 0.01$ for items 5, 9, 16, 22 and 25). Generally, however, the number of significant differences between the evaluation scores of the various participant categories revealed by this test was so small that these evaluation findings can be considered to apply to all groups of participants.
Next, the correlations between the scores assigned by all 295 participants in 1978 were calculated. This intercorrelation calculation shows that statements 1 through 4 and 25 through 27 had a low correlation with the other items; otherwise, however, there was a high degree of internal consistency in the totality of the twenty-seven items (936 > α-coefficient > 926).
The connections indicated by the high correlations (≥ 70) are presented in a *diagram*.
The correlation matrix was then submitted to factor analysis, with six factors as a result. Three of these factors have a value exceeding 1.0, and these three together explain 87.2 percent of the variance. Rotation of the factor axes to an optimally meaningful structure results in a factor matrix for the factor loads > 30. In view of the factor loads of the various items, the three most meaningful factors can be described as follows:
Factor 1, by far the most important factor with loads diminishing from 0.84 to 0.41 on twenty of the twenty-seven items, is a pronounced *appreciation* factor. In the appreciation of this training course, a few characteristic features of its set-up emerge: use of video-tapes, guidance, and working in groups. Moreover, this general appreciation factor proves to be determined largely by the endorsement scores for the course supervision (item 14) and the introductions to program features given by the supervisors (items 2, 9 and 6).
Factor 2 – which, given its loads, is typified most clearly by the respective items 25, 24, 13 and 1 – can be characterized as the *atmosphere/climate* factor; it seems to be the treble staff for the program melody of the training course. The group atmosphere item (13) is a notable trait d'union between value factor 1 and atmosphere factor 2 – given the high load of this item in both factors.
Factor 3 – typified most clearly by the respective items 4, 3, 10 15, 1 and 21 – can be characterized as *learning gain* factor which, apart from the value factor 1, mostly expresses the element of meaningful learning experience/training output. The major contributors to this learning gain factor prove to be (the items concerning) training in self-observation and non-verbal observation, the course manual and the video-tapes – in brief: all the essential ingredients of this training program.
In view of these three factors and the predominant extent to which they explain the variance, the positive evaluation of this training program is produced jointly by appreciation, atmosphere and learning gain. The first factor – appreci-

*The data were statistically analyzed by J. van Houten and Mrs Th. van der Loo, assistants in the Department of Medical Psychology, State University Limburg.

Diagram. Correlations between the items.



ation – should be regarded as general appreciation. The atmosphere/climate in the group should be regarded as conditional to the objective: learning gain/training output.

To the above described program evaluation by means of weighted endorsement of statements concerning aspects of the training program, three open questions were always added fot the benefit of the course supervisors:
– I consider it a positive point for the supervisors that:....
– I consider it a negative point for the supervisors that:....
– I would suggest:....
In this way, an extra feedback from participants to supervisors was ensured, and this was amply utilized in every course. Apart from this often personal feedback, the remarks in question again and again broach the theme ,,more of the same, please", and indicate the need for more rehearsal work, for example in role-playing settings. The desire for ,,more of the same" is expressed in, among other things, requests for more follow-up days and for a continuation course on the same lines.

Summary. This paper presents a program evaluation of the training course in patient-doctor communication (PDC-course Roche), which in 1978 and 1979 was attended by some 10 percent of all general practitioners in The Netherlands. This two-day course with a follow-up day after six months focuses on awareness and training in basic skills concerning:
– observation of non-verbal and verbal behavior of patients;
– self-observation by the physician in his contacts with patients;
– exploration of possibilities of intervention.
The data presented pertain to forty-seven courses with a total of 546 participants, whose appreciation of the course in general and of the atmosphere proved to be decidedly positive. The output of the structured training in non-verbal observations of the patient, self-observation by the physician, use of the course manual, and exercises with casuistics on videotapes, was likewise positively appreciated. In the answers to a few open questions, the need for ,,more of the same" and for expanded exercise possibilities was expressed.

Samenvatting. Patiënt-arts communicatie. Een evaluatie van een nieuwe training. Verslag wordt uitgebracht van de programma-evaluatie van een training in patiënt-arts communicatie (PAC-cursus Roche) die in 1978 en 1979 door ruim 10 procent van de Nederlandse huisartsen werd gevolgd. In deze tweedaagse cursus met een follow-up van een dag na een half jaar staat centraal de bewustwording en de vaardigheidstraining ten aanzien van:
– waarneming van non-verbaal en verbaal gedrag van patiënten;
– zelfobservatie van de arts in zijn contact met patiënten;
– exploratie van interventiemogelijkheden.
De gegevens hebben betrekking op zevenenveertig cursussen met 546 deelnemers; deze deelnemers waren uitgesproken positief in hun waardering voor de cursus als geheel en voor de sfeer. Ook het rendement van de gestructureerde training in non-verbale observatie van de patiënt, de zelfobservatie van de arts, het gebruik van het cursusboek en het oefenen met casuïstiek op videobanden werd positief gewaardeerd. Bij de beantwoording van enkele open vragen werd de behoefte geuit aan ,,meer van hetzelfde" en aan uitbreiding van de oefenmogelijkheden.

Information on course organization: A. H. M. Schoenmakers (coordinator), ROCOM division, Hoffman-La Roche B.V., P. O. Box 42, 3640 AA Mijdrecht; telephone 02979-3251. Information on course substance: Mrs E. L. Sleeuwenhoek-Hajek, Obrechtlaan 10, Bilthoven (telephone 030-786931) or R. C. Veldhuyzen van Zanten, Marcus Samuelstraat 2, Enter (telephone 05478-1250 (practice) or 05478-1740 (private).

*

Samenvatting (vervolg van pagina 321, kolom 1). Probleem-oplossen door de arts. Een menselijk gebeuren. In het eerste contact met de patiënt, waarbij deze de arts een probleem presenteert, genereert de arts hypothesen met betrekking tot de diagnose. De arts is geneigd gedurende het verdere onderzoek vast te houden aan deze hypothesen en gegevens te verzamelen die deze hypothesen kunnen ondersteunen. Verslag wordt uitgebracht van een exploratief onderzoek naar dit zogenaamde persisteren van primaire hypothesen. Tot besluit worden enkele mogelijke verklaringen voor dit fenomeen gegeven.