

## Effectiveness of a Structured Training Module on Different Learning Domains among Yuva Parivarthakas under Yuva Spandana Program

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### ABSTRACT

**Background:** Yuva Spandana (YS) is a youth mental health promotion program implemented across all 30 districts of Karnataka. Yuva Parivarthakas (YPs - youth change agents) are trained to provide mental health promotion services to any “youth with issues” through Yuva Spandana Kendras (guidance centers) situated within district stadiums across Karnataka. Aim of the study was to evaluate the change (comparing before and after training) in different learning domains (cognitive – knowledge, affective – attitude, and psychomotor – practice) among trainees (YPs) attending YS training. **Methods:** Quasiexperimental study design was utilized for this study. A semistructured interview schedule was developed and used before and after the training. Data were analyzed by descriptive statistics. The difference in change of mean score was assessed using the paired *t*-test. The shift in the proportion of trainees post-training in the three domains was assessed using McNemar’s test. **Results:** The mean ( $\pm$ SD) age of trainees was  $27.5 \pm 3.3$  years. Majority of them were males (63.8%), had completed bachelor’s degree (53.4%), and were residing in rural Karnataka (77.7%). The knowledge and attitude scores significantly improved ( $P < 0.001$ ) post-training, without significant improvement in practical skills. **Conclusion:** It is recommended that future training programs need to be focused on creating opportunities to YPs in order to increase their practical skills to work with youth having issues.


**Key words:** Attitude, knowledge, learning domains, practice, training

**Key messages:** Yuva Spandana training program brings in significant positive change in the domains of knowledge and attitude among trainees. This research suggests incorporation of more practice-related aspects in both in-house as well as hands-on field training.

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**How to cite this article:** Banandur SP, Sukumar GM, Arelingaiah M, Garady L, Koujageri JM, Sajjanar SL, *et al.* Effectiveness of a structured training module on different learning domains among Yuva Parivarthakas under Yuva Spandana program. Indian J Psychol Med 2020;42:182-8.

Access this article online	
<b>Website:</b> www.ijpm.info	<b>Quick Response Code</b> 
<b>DOI:</b> 10.4103/IJPSYM.IJPSYM_144_19	

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**Submitted:** 16-Mar-2019, **Revised:** 17-Apr-2019, **Accepted:** 01-Aug-2019, **Published:** 09-Mar-2020

Nearly 70% of Indians (550 million) are <35 years of age.<sup>[1]</sup> It is a “young nation” as it is home to the largest youth population in the world. Youth is a very crucial period of life due to rapid physical, physiological, psychological, and behavioral changes. In general, though youth is considered as a healthy phase of life, major issues, such as academic and career, substance use and abuse, sexually transmitted infections, unplanned pregnancies, homicide, suicide, and motor vehicle crashes (including those caused by drinking and driving), either start or peak during these years.<sup>[2]</sup> Behavioral patterns during youth impact healthy and productive adult life. It also increases the risk of noncommunicable diseases.<sup>[3]</sup> Further, the youth are vulnerable to the influence of socioenvironmental factors such as family, peers, school, and neighborhood, impacting on their overall development including their health and well-being.<sup>[4,5]</sup>

Traditional Indian family system had provided the necessary support for all in the family. Dwindling traditional family systems, amidst globalization and technological revolution, have brought changes in individuals, family, and society. Particularly, support available within families and community is reduced. Hence, a need for support for youth is being felt as more relevant. As a result, professional help for resolving issues gained much importance in recent years, but affordability, availability, accessibility, and stigma limit reach to all youth in need of such support. Considering these realities, providing early support facilitates them to adopt healthy behaviors and, in turn, helps the adult population to have a better, productive future.<sup>[6]</sup> Support from either formal or informal systems help to empower the youth in this stage of metamorphosis. In this line, Yuva Spandana (YS) (meaning responding to youth), a youth mental health promotion program, was introduced by the Department of Youth Empowerment and Sports, Government of Karnataka, with the technical support from Centre for Public Health, Department of Epidemiology, National Institute of Mental Health and Neuro Sciences.

The program YS was implemented in line with Karnataka Youth Policy 2012, with an objective to help the youth to help themselves, by providing guidance in their respective districts (“Youth for Youth”). Yuva Parivarthakas (YPs; meaning change agents of youth) work in the districts as youth motivators and youth guidance providers. YPs in the program are between 21–35 years of age, have completed bachelors’ degree, are residents of the local districts, and know the language of Kannada. They are selected through a systematic procedure. The youth are informed about training as YPs through local print and visual media

mentioning required qualification and experience by the Department of District Youth Empowerment and Sports. A three-step interview process, namely group discussion, brief written test, and personal interview is conducted to select YPs.<sup>[7]</sup> At the macro level, the program aims to create alternative support systems within the existing system to deal effectively with the dynamic social system in India and to support the youth to avail timely help. Yuva Spandana Kendras (meaning youth response centers), established in district stadiums across Karnataka, provide such support and guidance to youth having any issues. The issues addressed under the program are education and academics, relationship, personality development, health and lifestyle, safety, gender, sex and sexuality issues.<sup>[7]</sup> To achieve the same, a 5-day structured training program is conducted to train some youth to serve as YPs. This paper evaluates the effectiveness of this training on domains of knowledge, attitude, and skills of the trainees. This training was expected to improve their knowledge about the activities and procedures related to the program and to develop appropriate attitude and skills to work with youth and community.

## METHODOLOGY

We utilized a quasiexperimental study design to evaluate the changes in knowledge, practice, and attitude of trainees attending YS training between the year 2014 and 2017. The trainees were from all 30 districts of Karnataka.

### About the training

The training program of YPs utilized 10 modules developed by an expert team, adopted and piloted for its feasibility.<sup>[7]</sup> It was a 5-day, in-house training program developed using a systematic, logical process in a scientific manner, utilizing stakeholder, and expert consultations. The training program consisted of didactic lectures, group work, role play, and other feasible adult learning methods. Trained resource persons from within team YS, faculty from within and outside the department of Epidemiology, NIMHANS delivered the sessions in a uniform manner. Aim of the training was to empower YPs with the necessary cognition, attitude, and skills to implement activities and services of YS in their respective districts. The detailed training program schedule is listed in Table 1.

### Tool for assessment

A semistructured self-reporting questionnaire was developed and piloted for its usability. The tool was used to assess change in self-reported knowledge, attitude, and practice among YPs before and after training. The tool was developed by reviewing the literature and consulting experts in the field. Face validation

**Table 1: Session information and timings for each topic covered under Yuva Spandana**

Days	Topics	Duration (min)
Day 1	Youth and All about the Program “Yuva Spandana”	60
	Youth - Health and Life style issues	150
	Education and Academic issues	180
	Planning sensitization program for Youth group	105
Day 2	CMIS formats (sensitization and resource mapping)	60
	Relationship issues	150
	Gender, sex, and sexuality issues	120
	Training and supervision	120
Day 3	Planning sensitization program for parents and teacher groups	105
	CMIS formats (registration, visit and referral forms)	60
	Supporting and Guidance Skills	150
	Youth and safety issues	180
Day 4	Planning sensitization program for ASHA/Anganwadi workers	105
	Management Skills	90
	Personality Development and Emotional Regulation	180
Day 5	Sensitization demonstration in the field for field exposure	195
	CMIS formats online demonstration	210
	Feedback session, postassessment, and administration tasks in the afternoon	

CMIS – Computerized Management Information System, ASHA – Accredited Social Health Activist

of the tool was done by experts working in the field. The questionnaire contained 10 questions related to knowledge, attitude, and practice domains. Knowledge and attitude domains had three questions each, and practice domain had four questions. Each question in the tool was scored on a six-point rating scale from 0 to 5 (0 – “very poor,” 1 – “poor,” 2 – “average,” 3 – “good,” 4 – “very good,” and 5 – “excellent”). The maximum total summary score for knowledge and attitude domains was 15 each. The total score for practice was 20. The overall possible total score for the interview schedule was between 0 and 50.

All 373 trainees who were trained in 11 training programs conducted under the program YS from 2014 to 2017 were considered for the assessment. The assessment was carried out at two level: pretraining and immediate post-training. All YPs were given the questionnaire on the first and the last days of training. YPs were made to sit next to each other with an arm stretch distance to avoid copying and duplication. They were asked to circle their responses to each question. All participants were provided 30 minutes to complete the task.

### Statistical analysis

Descriptive statistics such as mean and percentage were calculated for understanding the disposition of the study population. Effectiveness of the training program was assessed by

1. Improvement in mean scores post-training compared with pretraining
2. Improvement in score grades post-training compared with pretraining.

Paired *t*-test was applied to test for significant change in mean knowledge, attitude, and practice scores of YPs before and after training and among different subgroups of age, sex, education, and domicile. The distribution was assessed for normality using the Shapiro–Wilk test. Scores obtained by YPs in knowledge, attitude, and practice assessment were expressed as the percentage of the maximum possible score in each domain (Score obtained/Maximum possible score\*100). Based on these percentages, level of knowledge, attitude and practice were graded (score grades) as  $\leq 25\%$  (Grade-I), 26%–49% (Grade-II), 50%–74% (Grade-III), and 75% (Grade-IV). Significant proportion change in different score grades before and after training was assessed. The proportion of trainees who shifted from lower grades to higher score grades was assessed using McNemar’s test of significance.

### Ethical approval

Ethical approval for the study was obtained from the institutional ethics committee of National Institute of Mental Health and Neuro Sciences.

## RESULTS

We utilized the data of all 373 YPs who were trained. The mean ( $\pm$ SD) age of YPs was  $27.5 \pm 3.3$  years; the majority (63.8%) were males, had completed (53.4%) bachelor degree, and came from rural areas (77.7%).

A significant improvement in knowledge and attitude ( $P < 0.001$ ) was observed after the training. Though an improvement in scores of practice domain was observed, it was not statistically significant. All the subgroups showed significant improvement in

knowledge ( $P < 0.001$ ) and attitude ( $P < 0.001$ ) after the training. With regard to practice, only postgraduates ( $P < 0.04$ ) and rural ( $P < 0.03$ ) YPs demonstrated significant improvement [Table 2].

Level of knowledge [Table 3]: All 17 YPs who had scored grades <25% in pretest assessment showed improved score grades after training. Nearly 47% of these 17 YPs improved their score grades from  $\leq 25\%$  to  $\geq 75\%$ . Similarly, 91% of all YPs in score Grades II and III showed an increase to the next grade. Nearly 71% of all YPs who were in Grade IV before training continued to remain in Grade IV. Overall, 53.3% (199) of all YPs showed an improvement in score grades after training, 36.1% continued to remain in the same score grades,

whereas the remaining (10%) showed down-shift in score grades.

Level of attitude [Table 3]: Out of seven YPs who had score grades <25% in the pretest assessment, six YPs showed improved score grades after training. Five of these seven YPs improved their score grades from <25% to 50%–74%. Similarly, 34 YPs who had score grades <25% in pretest assessment showed improved score grades after training. More than 70% of all YPs with the score Grades II and III showed an increase to next grade. About 83% of YPs who were in Grade IV before training continued to remain in Grade IV. Overall, 40% (149) of all YPs showed an improvement in score grades after training, 50.6% (189) continued

**Table 2: Pre- and post-training test scores of Yuva Parivarthakas attending training**

Domains and subgroups	Pretraining (mean±SD)	Post-training (mean±SD)	"t" score	P*
Knowledge	08.92±3.08	11.24±3.70	-13.21	<0.001
Attitude	10.75±2.72	12.44±2.43	-10.25	<0.001
Skills	15.79±3.24	16.22±3.04	-2.29	0.22
Age (year)				
21-25				
Knowledge	8.87±2.35	11.35±2.35	-13.00	<0.001
Attitude	10.66±2.66	12.45±2.31	-9.92	<0.001
Practice	15.73±3.24	16.11±2.93	-1.77	0.07
≥26				
Knowledge	9.11±3.11	10.79±2.39	-3.87	<0.001
Attitude	11.15±2.94	12.38±2.88	-3.17	<0.001
Practice	16.05±3.24	16.70±3.44	-1.62	0.10
Sex				
Male				
Knowledge	9.10±3.03	11.34±2.47	-9.73	<0.001
Attitude	10.66±2.81	12.37±2.44	-8.05	<0.001
Practice	15.63±3.41	16.04±3.19	-1.71	0.08
Female				
Knowledge	8.61±3.15	11.07±2.17	-9.24	<0.001
Attitude	10.91±2.54	12.56±2.42	-6.37	<0.001
Practice	16.08±2.90	16.54±2.75	-1.54	0.12
Education				
Bachelor degree				
Knowledge	8.48±3.19	11.17±2.54	-10.27	<0.001
Attitude	10.68±2.74	12.23±2.61	-6.63	<0.001
Practice	15.83±3.14	16.15±3.17	-1.23	0.22
Postgraduation				
Knowledge	9.43±2.88	11.33±2.16	-8.45	<0.001
Attitude	10.84±2.69	12.68±2.20	-8.00	<0.001
Practice	15.75±3.35	16.30±2.90	-2.04	0.043
Domicile				
Rural				
Knowledge	8.99±3.12	11.30±2.43	-11.76	<0.001
Attitude	10.70±2.73	12.38±2.56	-8.79	<0.001
Practice	15.82±3.10	16.26±3.08	-2.07	0.039
Urban				
Knowledge	8.66±2.91	11.06±2.14	-6.02	<0.001
Attitude	10.94±2.67	12.65±1.92	-5.35	<0.001
Practice	15.71±3.69	16.08±2.92	-0.97	0.33

\*P for paired t-test



**Table 3: Change in knowledge, attitude and practice levels - pre- and post-training**

Pretraining	Post-training				Total
	Grade I	Grade II	Grade III	Grade IV	
Knowledge levels					
Grade I	0	5 (29.5)*	4 (23.5)*	8 (47)*	17 (5)
Grade II	3 (3) <sup>†</sup>	6 (6)	40 (39)*	53 (52)*	102 (27)
Grade III	2 (1) <sup>†</sup>	10 (6) <sup>†</sup>	71 (41)	89 (52)*	172 (46)
Grade IV	0 <sup>†</sup>	0 <sup>†</sup>	24 (29) <sup>†</sup>	58 (71)	82 (22)
Total	5 (1)	21 (6)	139 (37)	208 (56)	373
Attitude levels					
Grade I	1 (14)	1 (14)*	5 (72)*	0 (0)*	7 (2)
Grade II	0 <sup>†</sup>	1 (3)	11 (31)*	23 (66)*	35 (9)
Grade III	3 (2) <sup>†</sup>	2 (1) <sup>†</sup>	42 (27)	109 (70)*	156 (42)
Grade IV	1 (0.5) <sup>†</sup>	1 (0.5) <sup>†</sup>	28 (16) <sup>†</sup>	145 (83)	175 (47)
Total	5 (1.5)	5 (1.5)	86 (23)	277 (74)	373
Practice levels					
Grade I	0	0*	2 (100)*	0*	2 (0.5)
Grade II	0 <sup>†</sup>	2 (13)	6 (40)*	7 (47)*	15 (4)
Grade III	1 (1) <sup>†</sup>	4 (5) <sup>†</sup>	25 (30)	53 (64)*	83 (22.2)
Grade IV	1 (0.5) <sup>†</sup>	1 (0.5) <sup>†</sup>	44 (16) <sup>†</sup>	227 (83)	273 (73.1)
Total	2 (0.5)	7 (1.9)	77 (20.6)	287 (76.9)	373

\*Shows improvement from their pretest score categories and are an indication of effectiveness of the training. <sup>†</sup>Indicates otherwise

to remain in the same score grades and the rest (9%) showed downshift in score grades.

Level of practice [Table 3]: Two YPs who had score grades <25% in pretest assessment showed improved score grades after training. Both the YPs improved their score grades from ≤25% to 50%–74%. Similarly, 86.6% of all YPs in score Grades II and III showed an increase to next grade. Overall, 18.2% (68) of all YPs showed improvement in score grades after training, 68% (254) continued to remain in the same score grades and rest (13.6%) showed downshift in score grades.

## DISCUSSION

Overall, our study showed that YPs obtained requisite improvement in knowledge and attitude related to youth issues after the training. However, there was no statistically significant improvement observed in the domain of practical skills.

Developed in-line with the Karnataka Youth Policy-2012, this unique program is probably the first state-level program that looks at delivering youth health promotion services by trained youth volunteers called YPs. The concept of YS is in-line with the concept of “homophily,”<sup>[8,9]</sup> which specifies that social contact occurs at a higher rate among similar individuals than among dissimilar individuals. This facilitates behavioral change or adoption among youth.<sup>[10,11]</sup> Thus, training youth as YPs is an appropriate investment towards youth empowerment. Their training is expected to

directly and indirectly impact service delivery, client satisfaction, and overall success of the program. Hence, it is not only a crucial strategy of the program but also a challenging one, as it involves translation of a lay-volunteer to a semi-skilled service provider, with sufficient quality to meet the service needs of beneficiaries.

To achieve the same, the program utilized indigenous modules that were developed through a systematic and logical process. The process of developing modules involved stakeholders and expert workshops consisting of youth, parents, teachers, and professionals. Around 4,162 person-hours were expended to develop ten modules.<sup>[7,11]</sup> The detailed process of module development is available in a study conducted at NIMHANS.<sup>[10]</sup> Structure, content, and mode of training of all the 10 modules were finalized in the expert workshops as well. The training was customised to address cognitive (knowledge), affective (attitude), and psychomotor domains (practice).

Majority of the YPs selected and trained under the program were males. It is because of the ratio of 1:3, which was followed for female and male to recruit YPs.

Knowledge level among the majority of the trainees improved to better grades after the training. Many training programs for various purposes generally demonstrate an improvement in cognitive/knowledge capacities.<sup>[12]</sup> Our training was particularly successful in this aspect, as nearly 53.3% ( $n = 199$ ) of trainees reported improved knowledge levels. At the same time, about 10% ( $n = 39$ ) of our trainees showed downgradation in knowledge level after the training. Ideally, this should not happen. However, in real-life situations, these things are likely. These participants (whose grades got lower) were not selected to work as YPs in the field. It is very true that a small portion of trainees tend to remain same and may not improve post training. Attitude change is a key thing about behavior change, and it reduces knowledge, attitude, and practice gap. Our study revealed that about 40% of the trainees moved to better attitude grades, and the majority (50.6%) remained in the same grade post-training. A few trainees downshifted after the training. Improvement is lesser as compared with knowledge as attitudinal changes need some time to manifest, unlike knowledge, and as attitude change happens as a process. The finding was in consensus with a study, which showed no significant improvement on the aspect of emotional responses post-training.<sup>[12]</sup> Individuals undergo a process of receiving information, analyzing and synthesizing the same, and relate the same to their life events. Some even conduct a trial before they consider moulding their attitudes

and behavior.<sup>[13]</sup> In addition, our classroom-based assessment may not be reflective of the measurement of the actual attitude change. It is likely that the changes could be better observed in response to real-life situations or cues rather than as rational responses to the simulation events created for training.<sup>[14]</sup> The actual improvement could have been much higher, but it is a matter of speculation.

With regard to practical (psychomotor) skills, only 18.2% showed improvement post-training. Lack of improvement in practical skills of trainees implies that the schedule adopted for training was more knowledge and attitude oriented rather than focused on the practical skills required for an efficient delivery of YS activities in their respective districts. This demands the inclusion of sessions focusing on the practical skills required for the efficient delivery of YS activities in the districts. It might also be important to have a component of handholding and supervision for the trainees in the field. This is likely to ensure the quality of services delivered under the program. From this learning, a field training component to provide practical exposure to trainees focussed on improving their practical skills in delivering program activities has been subsequently included. An Objectively Structure Practical Examination (OSPE) method for evaluating improvement in psychomotor skills may be incorporated in the future in classroom training. As assessment of psychomotor domain was done immediately after training in a classroom setting, it does not exactly reflect skill acquisition by trainees. This is one limitation of this assessment. It has been planned to repeat follow-up assessment to measure skills acquired due to the training and experience.

Practical skills are expected to improve with handholding and support in the field, which is currently in-built into the program. A lesser improvement in practical skills may be due to the timing of the post-test assessment, which was done immediately after the classroom training. Results might have been better if this was conducted after a certain period of on-site training. We also observed that the trainees who had postgraduation or came from rural areas showed more improvement in their practical skills compared with other groups. This may be attributed to increased chances of being connected to real-life experience compared with urban areas as well as more years of experience in addressing the adversities faced personally. However, there are no data to support this argument.

The interview schedule utilized for the study had only 10 questions to explore all these three domains. Except for face validation, we have not done any systematic assessment on psychometric properties (testing) of the

tool we developed. Only the major aspects were covered in the questionnaire. Hence, the results of this study need to be interpreted keeping in mind this limitation. Further, a few questions did not test attitude or skills; rather, they tested “knowledge” about attitude and skills. Another potential limitation of the study is the absence of a control group.

This is the first evaluation of a training module for a comprehensive mental health promotion model. The training module developed was based on a desk review and consultation of stakeholders, and experts. There was no experience previously of such community mental health promotion model in the country. This assessment does not provide information on expected frequency or contents of refresher training nor anyway helps us to measure the quality of their work in the field, after completion of the training. This requires a longitudinal and objective assessment of quantity and quality of work done by the trained YPs. The digitized management information system specifically developed for program YS is equipped to provide such information, thereby providing opportunities for such an analysis to be conducted in the near future.

## CONCLUSION

The training program was effective in improving the requisite knowledge and attitude of YPs as lay counsellors to provide youth mental health promotion services in Karnataka under the program YS. It is recommended that future training programs need to be focused on creating opportunities to YPs in order to increase their practical skills to work with youth having issues. It is also recommended that the tools for assessing the effectiveness of the training program need to be strengthened, incorporating more measures covering psychomotor domain assessment.

## Acknowledgements

The authors would like to express their sincere gratitude to the Department of Youth Empowerment and Sports, Government of Karnataka for the constant direction, support and funding for this program. The authors would also like to sincerely thank all the resource persons of training and trainees who attended.

## Financial support and sponsorship

Department of Youth Empowerment and Sports, Government of Karnataka and Centre for Public Health, Department of Epidemiology, NIMHANS.

## Conflicts of interest

There are no conflicts of interest.

## REFERENCES

1. Registrar General of India. Census of India. New Delhi, India: Office of the Registrar General and Census Commissioner, India; 2011. Available from: [https://www.censusindia.gov.in/Census\\_data\\_2001/Census\\_Data\\_online](https://www.censusindia.gov.in/Census_data_2001/Census_Data_online). [Last accessed on 2019 Mar 14].
2. Healthy People 2020: Adolescent. Available from: <https://www.healthypeople.gov/2020/topics-objectives/topic/Adolescent-Health>. [Retrieved 2015 Sep 23]. View in Article. 2012.
3. Qureshi NA, Van HD, Schmidt HG, Al-Habeeb TA, Magzoub ME. Effectiveness of a training programme for primary care physicians directed at the enhancement of their psychiatric knowledge in Saudi Arabia. *Educ Health (Abingdon, England)* 2006;19:52-60.
4. Mulye TP, Park MJ, Nelson CD, Adams SH, Irwin CE Jr, Brindis CD. Trends in adolescent and young adult health in the United States. *J Adolesc Health* 2009;45:8-24.
5. Commission on Behavioral and Social Sciences and Education. *Losing Generations: Adolescents in High-Risk Settings*. Washington, D.C.: National Academy Press; 1993.
6. McNeely C, Blanchard J. *The Teen Years Explained: A Guide to Healthy Adolescent Development*. Center for Adolescent Health at Johns Hopkins Bloomberg School of Public Health; 2010.
7. Banandur PS, Gopalkrishna G, Garady L, Banu H. *Yuva Spandana*. NIMHANS; 2017.
8. Lazarsfeld PF, Merton RK. Friendship as a social process: A substantive and methodological analysis. In: Berger M, Abel T, Page CH, editors. *Freedom and Control in Modern Society*. New York: Van Nostrand; 1954. p. 18-66.
9. Centola D. An experimental study of homophily in the adoption of health behavior. *Science* 2011;334:1269-73.
10. Aral S, Walker D. Identifying influential and susceptible members of social networks. *Science* 2012;337:337-42.
11. Chandankumar S. *Performance Assessment of Yuva Spandana Project*. NIMHANS; 2016.
12. Lowe K, Jones E, Allen D, Davies D, James W, Doyle T, *et al.* Staff training in positive behaviour support: Impact on attitudes and knowledge. *JARID* 2007;20:30-40.
13. Brooks I. *Organisational Behaviour: Individuals, Groups and Organisation*. Pearson Education; 2009.
14. McBrien JA, Foxen TH. Staff training in mental handicap. In: *A Pyramid Model of Staff Training in Behavioural Methods: The EDY Project*. In: Hogg J, Mittler P, editors. London: Croom Helm; 1987. p. 375-427