

Why Are Academic Summer Programmes For Gifted Youngsters So Successful?

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Abstract. From the analysis of feed-backs from participants, instructors, and teachers at the home schools as well as from non-reactive measures and evaluative studies the specific features of academic summer programmes are pointed out which are essential for their positive and sustaining effects.

Keywords. Summer programme, evaluation

1. Some quotes

"The Academy was a very enriching experience for me. When I think of those two weeks they're still so alive in me! The days were so tightly and interestingly packed, the people so motivated and full of vigour. It was great to always find people with whom you could get something going or turn upside down. (In those days I came to realise how much time you have to spend in everyday life just to get 'dull loafers' interested in anything; and above all: how much you can achieve when everyone pulls together. All at once you thrive in such a group and suddenly accomplish things you previously would never have attempted.)... I found the Academy (particularly for good students) terrifically important. One girl said to me: 'Do you know, in school I often used to feel so different; I actually thought I was abnormal. But here suddenly everyone's the same as me - I'm like all of them!' It was really a wonderful experience to meet 'like-minded' and not continually have to hide the fact that you're good in school – or (much 'worse') that you maybe even have fun there. Contact with the others then motivated me to stick to studying and not let my fun and interest in specific subjects be taken away from me. But aside from all these things it was the human components of the academy which I found most rewarding. Many friendships evolved and remained for which I am very thankful". (Participant)

"Overall the Academy was for me one of the most intensive, interesting and impressive events of the last few years. Both the organisation and the class work as well as the social programme and leisure time activities merit the highest appreciation and were embraced not only by myself with greatest interest and unanimous enthusiasm. ... I also liked very much the parallelism of six very different courses as they produced so many interdisciplinary topics of discussion and one was not mentally restricted to one's own course but one could also deal with other interesting topics and so such a

wide spectrum of stimuli and knowledge was meted out. ... One absolutely must emphasise the fantastic atmosphere during the whole academy. I met so many highly interested young people with whom one could have excellent discussions on all sorts of topics. ... It went beyond being simply a discerning mass of communicative, active and enthusiastic people, the academy developed an astounding momentum of its own. ... I felt that this esprit de corps, this feeling of belonging was the most fascinating thing about this already excellent programme." (Participant)

"What can't be put down on paper is the enthusiasm and interest of the participants which fundamentally distinguishes the SchülerAkademie from school. An enthusiasm which was manifest in discussions on Immanuel Kant during the lunch break or analytical conversations on course topics at lunch or dinner. An enthusiastic exertion while preparing presentations, documentation and rotation which was apparent particularly on the part of the instructors who devoted their all to us even giving up a considerable amount of sleep. After the Academy I often missed the excited talk and enthusiasm of fellow participants. ... Above all it became clear to me during the Academy what fun learning new things can be. One occurrence that will stay in my memory is the surprising feeling of suddenly having understood something." (Participant)

"Contact with the other participants was a 'revelation' for Nele. Finally studying, discussing etc. with peers who had similar interests and never tired of looking for challenges – nor ever eased up when tackling problems even when great exertion was required. ... By participating in the academy she was supported in an all-embracing sense. ... By the way, Nele has resolved to offer her services to hold a course at the Deutsche SchülerAkademie when she has progressed sufficiently in her studies." (Headmaster)

"Dörte returned with extraordinarily positive impressions from the SchülerAkademie. The programme provided her with considerable guidance concerning decisions where to go after her school years. She plans now to study physics. Dörte is pleased that through the alumni club losing contact with other academy participants can be avoided and people she can talk to seriously remain within reach. She feels she has been admitted to a network full of stimuli and information." (Headmaster)

"Everyone who had the opportunity to visit the Deutsche SchülerAkademie was grateful and enthusiastic. They have experienced their limits, received motivation and some have been awarded scholarships from the German National Merit Foundation, the Cusanus-Werk or the Evangelisches Studienwerk (other scholarship foundations). I should like to join the students in their thanks and assure you that participation in the Deutsche SchülerAkademie has been an invaluable enrichment for everyone." (Headmaster)

"I enjoyed the openness and natural curiosity of all the participants, got involved till I dropped and came home deadbeat but happy to dream about the next academy." (Instructor, [1])

2. Criteria for success

These statements are exemplary for countless other similarly rapturous reports which the organisers of the Deutsche SchülerAkademie (German Pupils Academy) receive year after year. The programme and its features have been described at the previous NATO-UNESCO workshops [2, 3]. What is it, what makes the participants so enthusiastic? What are the secrets of the academies' effectiveness? And how can we measure success?

2.1 Reactive measures

The immediate indicators for the quality of a programme are reactive measures, that is statements, reports, feed-backs or questionnaires requested from participants, instructors, academy directors, teachers or headmasters of the home school, or parents of participants.

Numerous features are mentioned in the above cited reports which are clearly indicative of the academies, contrast with normal school routines and therefore are clearly of particular significance for their impact and success:

- the company of like-minded peers, i.e. interested, achievement motivated, enthusiastic and highly able students who are "on the same wavelength";
- the experience of their own growth as a result of the high standards; the awareness of what they can achieve in coordinated team work and the ensuing increase in self-confidence;
- feeling "normal" and completely accepted without having to "apologise" for their interestedness and standards or having to pretend;
- reinforcement of their joy to study and their motivation to work;
- the emergence of strong, profound and lasting friendships;
- the role model effect of inspiring and highly qualified specialist instructors;
- the "flow" experience connected with absorption in challenging work, the experience of acquiring knowledge and suddenly grasping a difficult issue which inspires further study.

Incidentally it is the latter feature which current neuroscientific insights are beginning to elucidate. Positive learning experiences trigger dopamine signals which lead to the release of endogenous opioids activating a cerebral reward system [4]. Spitzer further speculates that "Human learning has always taken place in a collective setting and collective activity or collective action is probably its most significant reinforcer." [4, p. 181]

2.2 Evaluative studies

The reactive measures are, of course, rather subjective and especially when taken at the end of the programme, influenced by the euphoria and the enthusiasm which usually develops in the course of the academies. Evaluative research undertaken by Neber and Heller at Munich University [5] showed, however, that the participants' positive assessments even intensify with time. Participation in an academy influences above all

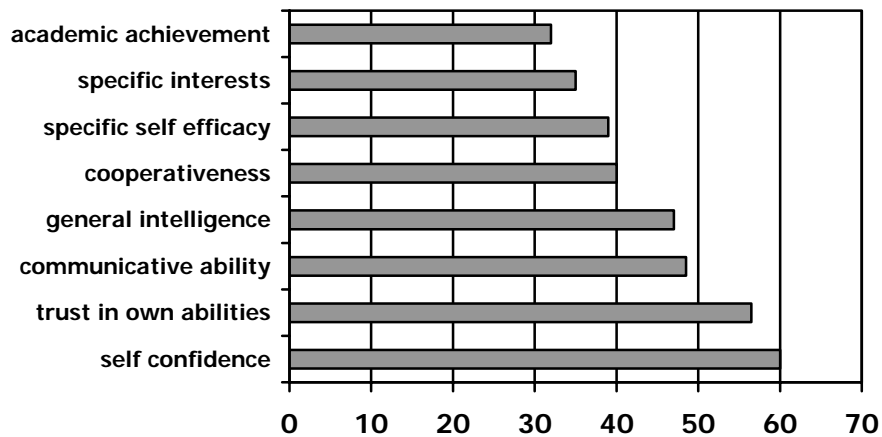


Figure 1: Effects of academy participation on cognitive, motivational and social characteristics, self ratings ("Has the participation in the academy changed the respective aspect?"), percentage of consenting students (N=237). Adapted from [5] p. 104.

motivational and social characteristics, such as interests, self-confidence, cooperativeness and ability to communicate (cf. Fig. 1). Perception of one's own abilities also changes in almost half the participants' cases. Generally they are rated higher, but some rate them lower than before. Comparison with non-accepted aspirants whose ability and willingness to achieve are otherwise altogether comparable with those of the participants, shows the effects do indeed result from academy participation.

Participants from earlier years who now study indicated that academy participation had eased their transition from school to university and had helped them with their choice of major. Independent working methods as practiced in class are regarded in retrospect as the most important element of the academy. In addition, contact to tutors and team work are also of particular importance.

A further evaluative study is currently being carried out by Prof. Ernst Hany (Erfurt University) which is to explore, in particular, the sustainability of the effects of academy participation after a distance of ten or more years.

2.3 Non-reactive measures of sustaining effects of participation

Although the 16-day duration of the academies is relatively short, they do have lasting effects. This can be shown by several actions and initiatives undertaken by the alumni. Many former participants keep in touch through the "Alumni club", organise reunions and holiday trips as well as academies for themselves and found regional groups at university sites. A bi-annual periodical "*exPuls*" provides a forum for exchanging views and publishes reports on its members' activities. The alumni club also paved the way for the emergence of the association "Jugendbildung in Gesellschaft und Wissenschaft e.V." (Youth Education in Society and Science Inc., www.jgw-ev.de) which has been organising its own pupils academies since 2004, thus creating additional capacity for those who cannot be accommodated by the Deutsche

SchülerAkademie. Numerous former participants who have already completed their studies return to the Deutsche SchülerAkademie as instructors, and by now about one third of all the instructors are former participants.

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