

Making testers out of teachers – Swedish summer courses in IQ-testing¹

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Sweden has a long and peculiar history when it comes to teachers' assessment of students' knowledge. In Sweden, as probably the only country in the world, teachers' grading of students is informed by external national test. This model was developed in the 1940s and has since then, with minor changes, sustained an almost unquestioned societal legitimacy. Having autonomy over assessments are often considered as one of the most important prerequisites for a profession (Johannesson 2006). Consider for example the autonomy of medical doctors' diagnosis. In many countries it would be almost impossible to control teachers' grading using external assessments (e.g. Waldow 2016). The guiding model in Europe is instead that teachers do their grading and external examiners or external test becomes an additional grade, that is balanced with various weight into the students' final exam (Lundahl, Hultén & Tveit 2017a, 2017b).

But how come, that Swedish teacher accept that external tests sort of override their own judgment about the students' skills and knowledge? One way to understand this is by looking at how psychological test (mental testing) got an increasing influence in the educational field during the 20th century. Other scholars have claimed that this happened cause of the effective politics of IQ (Kamin 1974), the legitimization of merits (Carson 2006), the successful match, marketization, between applied psychology (group testing) and education (Danziger 1990) or the male testers higher status compared to the female teachers (Porter 1995). I think all these reasons applies also for Sweden (Ydésen, Ludvigsen, & Lundahl 2013), but I will also claim that Swedish teacher were, and still are, *trained to accept* external tests as at least equally valid, and more reliable, than their own assessments.

In the history of psychology, it is evident that the way of looking at individuals as measurable subjects became disciplinary successful partly because of its administrative relevance to bureaucracy and politics. Experts on individual differences were very attractive for those who administered social programs such as the military or the educational system:

...insofar as it could assist in the administrative process – specifically by providing a culturally acceptable rational for the treatment of individuals by categories that bureaucratic structures demanded. (Danziger 1990, 109)

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In education, mental testing of individual differences grew in fashion as education became compulsory and gradually demanded more and more effort and time from the pupils. During the 1940s in Sweden, children could be placed in at least 6-7 different help classes and their general school readiness was thoroughly tested (Lundahl 2006, 240). All this in order to adapt teaching methods in an optimal way. How various kinds of mental testing merged into the educational discourse and organisation due to its administrative usefulness in Sweden during the 20th century is well recorded (see further Härnqvist 1997, Husén & Hänqvist 2000, Lundahl 2006). Thinking in individual mental differences became an important tool for larger educational reforms in Sweden. However, it is not so well recorded how the techniques of mental testing and group testing reached teachers, and presumably also effected their own assessments. We know that teacher union magazines helped introducing the psychological perspective and language (Lundahl 2006), but what about training?

In this paper I will look closer at one institution that initially played a major role in training teachers to think like testers – The state psychological and pedagogical institute formed in 1944. This institute (SPPI) were prepared through a great lobbying work by many of Sweden's most progressive educators that in 1935 had formed the 'Society for a psychological and pedagogical institute'. The progressive movement in Sweden in the 1930s- and 40s consisted of a discursive alliance representing a kind of progressivism as a program for teacher professionalism. One important ingredient in this professionalism was closeness to psychologic and pedagogic research (Lundahl 2008). That was also exactly what SPPI was supposed to promote. The ambition was, strongly influence by similar institutes in Germany, USA and Scotland² (Lundahl 2008) to, according to its regulations:

§2 The institute shall promote and conduct research activities on the psychological-pedagogical field with a direct focus on the needs of school, and seek collaboration with the psychological-pedagogical and medical research at universities and colleges. The institute also, where appropriate, can provide individual researchers with an opportunity for independent research within the institute's field of activity. Cooperation should be organized between the institute and other institutions and associations in this area. (transl. Board meeting protocol 1944-53)³

Further it was regulated that the institute should, when appropriate:

§4 ... in cooperation with universities colleges and other institutions organize training courses of various kinds, both for future teachers and partly for educated teachers. In addition, as far as possible, the institution should arrange training courses for nurses in kindergartens. (transl. Board meeting protocol 1944-53)

² To be more precise the following institutes served as inspirational sources: Zentralinstitut für Erziehung und Unterricht in Berlin, Teachers College in New York, and the Scottish Council for Research in Education (SCRE).

³ All quotes are translated by the author.

At the time there were four professors in psychology and education in Sweden, one at each university Gothenburg, Lund, Uppsala and Stockholm. According to the regulations of the institute the professors were evident members of the board:

§7 The institute is a board consisting of twelve members. Self-written members are the head of the higher education institute, the institute's director, the professors of psychology, and in pedagogy and pedagogic psychology at Uppsala University, professors in psychology and pedagogy at Lund University, as well as Stockholm and Gothenburg colleges, also the head school doctor. Other members, of whom at least one should represent the primary school, at least one educational institution and one vocational education and one the interests of the public, particularly the parents, and alternates for them are appointed by Kungl. Maj:t for not more than three years at a time.⁴

As I will show, the institute promoted a test based grading system based on three learning strategies. Firstly, the institute built up a knowledge base on teacher assigned grades (and their problems) and on group testing in education. This was done both by the research project they financed, but also by developing own tests. Initially SPPI developed the so called 'school readiness test' in order to calibrate the course plans according to what children at a certain age normally could learn. Increasingly they then started to develop a national standardised test. Secondly, the institute gave a 'further development course' in psychology and pedagogy where theories on intelligence and intelligence testing were presented. Thirdly, the institute gave 'crash courses' to teachers on actual intelligence testing.

From assessing to testing

During the 1900th century grading and assessments were not particularly regulated in Swedish primary school. 1897 a standardized grading scale was introduced but how to assign the grades was pretty much up to the teacher. When grading, the teacher relied much on her or his observation of the pupil's performance and not least on how the pupil responded to homework inquiries and to the 'end of the school year' questioning held by the school inspector (Lundahl 2011). Some teachers held diaries where they took notes on their pupils' progress:

Karin Lindblad. Conduct well. Attention good. Generally good diligence. Her attitude has also got remarks this year; However, there is a clear improvement. Progress is due

⁴ Attending the first meeting did: Prof. Sven Grauers, chairman, professors Rudolf Anderberg, John Landquist, David Katz and John Elmgren, the head school doctor, associate professor C.W. Herlitz, Lecturer Frits Wigforss, director of education C.E. Sjöstedt, Head director Ryno Lundquist, Mrs. Gunnel Nyblom, and Head teacher Manne Ohlander, and also the Primary school inspector Bror, Jonzon, Principal Elisabeth Dahr, City Council Director, Gunhild Draka, Mrs. Sigrid Hasselrot and former Director of education Nils Hänninger. (Board meeting protocol Dec 6, 1944)

to her ability to follow the lessons so well, especially she seems to have easier to follow the math this year. The writing is still bad. (Anna Sandström School, 1902, SSA 0297A / D 2 B, vol 1)

At larger primary schools and at upper secondary schools (grammar schools) it was further common that teachers collectively assigned the pupils their grades. The teachers meet in their collegium and discussed every single student together; her or his achievements and progression. This was of course time-consuming and evidence available indicate that teachers were very careful in their assessment (Lundahl 2009, 2011), probably because it also meant something for their professional teaching skills, and of course for their status and power. In many regards we can consider this kind of assessment as have good a pretty good validity – teaches assessed close to what they thought and based on their everyday observations of the children. These assessments were functional as long as the communication about learning mainly took place within schools, but as the educational system became more complex, the need for a more standardised and reliable information concerning achievements arose, as also noted in a review of the history of the American grading system:

Before grading, communication about a student's work was without short-hand; it required full-length communication between teacher and pupil. This was a reasonable system for individual tutoring or for work with small groups of students. But the ability for that information to travel or be communicated to those not intimately involved with the learning process—teachers, students, parents—was severely limited. As the scale of the education system became larger and more complex, the limitations of these early forms of grading became more acute. (Schneider & Hutt 2013, 17f)

When grades were to communicate beyond the school site, marking systems had to be made more reliable, more universal and more standardized. In Sweden, some early studies conducted by a lecturer, Frits Wigforss, at the Teachers colleague in Kalmar indicated that teachers grading lacked in reliability (Wigforss 1937, 1941,⁵ see further Lundahl 2009, Landahl & Lundahl 2012). Wigforss suggested that standardised test should be deployed to help teachers to calibrate their grading in relation to a national norm (Fig 1 and Fig 2).⁶

⁵ Note that Wigforss wrote these on behalf of the aforementioned Swedish society for a Psychological pedagogical institute.

⁶ These figures were printed in a book that aimed at explaining the new system of standardised testing to teachers and to the public. The pictures can be seen as examples of how testing was played down in order to get acceptance.

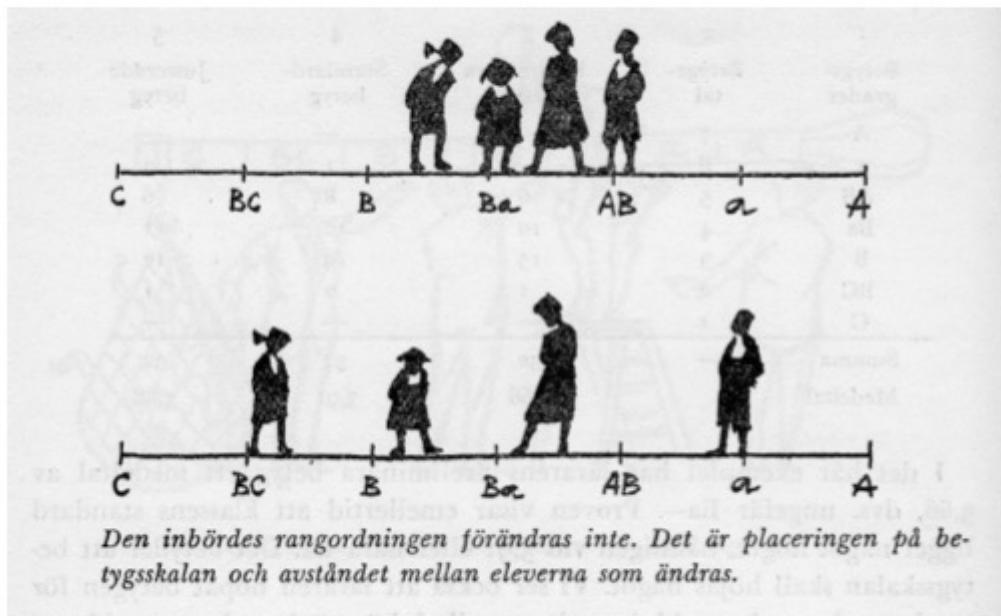


Fig 1. The national standard tests were supposed to adjust the grade scale but not the teacher's own ranking. From Husén et al. 1956, page 62. Drawing by Yngve Svalander.

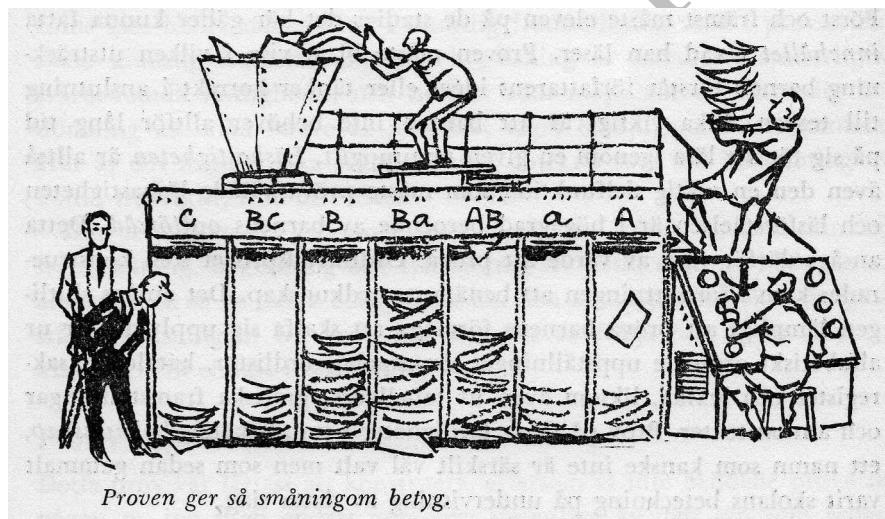


Fig 2. The normal distribution results from the tests form the basis for normal distributed grades (Husén et al., 1956, p. 33). Drawing of Yngve Svalander

The aim was to replace the admission test at the grammar school with the simpler and faster procedure of using the final grades from primary school for the selection to the grammar school (Lundahl 2008, Lundahl & Waldow 2009). Before standardized grades were used, teachers had to prepare and train the few pupils that wanted to go to grammar school with the consequence that the rest of the pupils got an education that was far too advanced for them. More than 75 percent of the student population in 1950 did not go to grammar school (SCB 1974). In order to preserve the elementary teachers' right to teach at a more basic

level, grades were seen as possible substitute for the old admission test on classical subjects. The grammar teachers did not like this idea, so it had to be legitimized, and so it was with the help of standardized testing. By standardizing the grades with help from external testing, it also became possible to accept the primary school as the foundation of the educational system. Sweden had a tracked school system with parallel classes in years 4 to 6. Between 1949 and 1962 all the school districts in Sweden changed that into a unified, comprehensive school system.

Many of the ideas behind the standardized test came from USA. The Swedish test developers were, as in the States, trained during the Second World War to construct and carry out group tests. After the war, many of the psychometricians that had been working at the so-called Institute of Military Psychology with group testing moved over to the field of education, and especially then to SPPI. The ongoing school reform, aiming at a comprehensive school system, provided standardized testing with an ideal playground perfectly suited for correlations and deviations. The new field offered this psychological brand of educational science a shelter for its own development. Not being very coherent in theory, skills in methodology gave this brand scientific status (cf. Danziger 1990, Porter 1995). Abstract and numerical calculations functioned as a way to gain legitimacy.

The whole procedure of student admission could now be conceptualized as an objective matter. The teachers initially did not really like this (Lundahl 2006). Their judgment had been replaced. Porter (1995) writes about a similar development in the US, that the teachers were mostly unmarried women and did not really have the professional self-confidence to put up against this “men of standardization”. In Sweden however the feminisation of the educational field came later. Self-confidence probably played a bigger part than gender. However, I would also argue that they learned to accept these new norms partly through the efforts made by SPPI.

SPPI and the promotion of standardised testing

SPPI had as one of its major purposes to “promote and conduct research activities on the psychological-pedagogical field with a direct focus on the needs of school”, as stated above, and in relation to the ‘comprehensive school reform’ the introduction of further reaching standardised testing become logic in several ways. Not least, in relation to admission and thus also as a way of legitimizing the comprehensive school reform as such.

SPPI promoted standardised testing, as mentioned, in three ways: 1) by themselves developing tests and test theories,⁷ and by supporting external research projects doing this,

⁷ In this process internationalisation was vital. The institute collected international texts and they also invited international scholars in psychology (Working committee protocol September 13, 1948), and specialised in testing such as Louis Thurston, professor in psychology at Chicago University, and actually also a Swedish descendant. He was handsomely paid 375 SEK for his lectures (Board meeting protocol March 7, 1953)

2) by giving introductory courses on psychology and pedagogy where theories about IQ and IQ testing were big parts, and 3) course actually training teachers in the hand-craft of testing.⁸ In this paper I will focus on the second and third strategy but will say something short also about the first one.

In a board meeting protocol December 11, 1944 we can see that the board calculated that these three areas would cost about 55.000 SEK. The board also wanted to continue investigations on “admittance to higher education and problems related to that”. This was an international engagement in what was called *The international examinations committee* (IEA) (see further Lawn 2008, Lundahl 2008). In total the board anticipated that they would use 75.000 SEK⁹ for investigations and courses, mostly within the testing area.

Supporting research on testing

I have not been able to find how it was possible to apply for funding from SPPI. Much research funds however went to internal initiatives. According to a protocol 17 September 1945 the four professors in psychology and education in Sweden, that all four of them were appointed to SPPI by their chair so to speak, got to share 24.000 SEK for own disposal in order to develop ‘psychological tests’. These test were supposed to measure the “standard” knowledge, or ability, within certain cohorts, in order to better calibrate the curriculum to what a “normal” school child could be anticipated to achieve. There was a division of labour here between the four universities and their professors:

Professor Katz age group 3 – 9 year
Professor Landquist age group 10 – 11 year
Professor Elmgren age group 13 – 14 year
Professor Anderberg age group 15 – 18 year (Board meeting protocol September 17, 1945)

In a later protocol it is noted that they accordingly had developed their tests:

§4 The chairman announced that those by Prof. D. Katz prepared and modified psychological tests have been submitted for printing and that those of Prof. J. Elmgren's processed and modified psychological tests were almost ready for printing. Prof. H. Siegvald announced that those of Prof. J. Landquist and his elaborated psychological tests were ready to be submitted for printing. (Board meeting protocol 30 September, 1949)

In another protocol dated 15 November 1945, we see that 25.625 SEK is handed out for in total 16 applications (out of which four were written by one of the professors, David Katz,

⁸ One important overarching ambition with SPPI was to build a national psychological and pedagogical library consisting of national and international literature. Obviously this library contained a lot on testing, however I have not looked deeper into that or the library's dissemination pattern.

⁹ 75.000 SEK in 1944 is about the same as 1.600.000 SEK 2017, or approximately 160.000 Euros.

rendering him an additional 3.500 SEK). Nine of these aimed at tracking the relation between various abilities (or lack of them) to school performances.

In a protocol dated September 16, 1946 SPPI grants 22 project a total of 21.150 SEK. Here seven was about ability and performance. In another protocol, dated Mars 11, 1948 in total 31 applications were granted 30.327. Of these 16 was about the relation between various abilities and school performance.

Some examples of projects concerning intelligence testing SPPI financed during these years are:

Bachelor of Arts, Gösta Ekman, Stockholm, 1625 SEK for an investigation concerning the existens of a central factor of intelligence.

Licentiate of Arts, Ragnar Hörfelt, Uppsala, 1000 SEK for an invesitgation concerning the degree, and kind of, variation in human intellect. (Board meeting protocol November 15, 1945)

Licentiate of Arts, Ragnar Hörfelt, Uppsala, 1200 SEK for a doctoral thesis on the intelligence structure

Associate professor, Wilhelm Sjöstrand, Uppsala, 1600 SEK for an investigation concerning the significance of different psychological qualities to school success.

Master of Arts Gudmund Smith, Lund, 500 SEK for investigations regarding the relationship between heritage and environment for the development of the psychic functions. (Board meeting protocol September 12, 1946)

Head teacher, Licentiate of Arts, Mauritz Wictroin, Lidingö, 1000 SEK for an investigation regarding the relationship between skills in arithmetic and heritage and environment, general intelligence, gender etc.

Acting Lecturer Bachelor of Arts, Göstaf Ögren, Falun, 400 SEK for researching the presence of different ability factors in learning and to what degree these can be analysed with knowledge- and intelligence test. (Board meeting protocol March 11, 1948)

With a slightly increasing amount of money and applications SPPI continues to fund project, not dominantly about abilities and testing, but to a large degree up till 1953. It is also worth noting that approximately one fourth of the total amount of applications were submitted by teachers, principals and school doctors, and many approved applications concerned practical and didactical issues as well.

Parallel to de development of mental test and to the approved applications, Frits Wigforss had a standing grant to develop standardised tests, assessing school content knowledge in math, writing and reading.

In conjunction with the new curriculum for the primary schools, called U55, the responsibility for the development of standardised test from SPPI and Skolöverstyrelsen [The National Board of Education] went over to the newly formed Teachers College in Stockholm. This happens in 1953, the same year as Frits Wigforss dies 67 years old. The head of the new test was the newly admitted professor of practical pedagogy at the Teachers College, Torsten Husén.

Courses in psychology and pedagogy

In total there are 53 documented course programs for eleven different types of courses (see Appendix).¹⁰ Some of these also show how many people that applied, and in some cases attendance lists are attached (Appendix). Most of the institute's courses were a summer activity (in the course programs encouraged participants to bring bikes and swimwear) so as many teachers as possible would be able to attend (Working committee protocol September 14, 1945). One problem though, was that it would be difficult to find children for the practical moments during summer, especially then conserving the testing course. Professor Katz therefore came up with the proposal to arrange these courses close to Barnens Ö [the Childrens' Island – a famous summer camp in the archipelago of Stockholm for socially disadvantaged children] and similar summer camps for children (*ibid.*).

Most courses lasted for about one week according to the course programs. However, the test courses were sometimes longer. In 1953 a three-week course was organized and in 1955 a four-week test course was organized, parallel to Karlstad, Arvika and Filipstad. At least 53 (51) courses were initiated over the ten years SPPI organized course activities.¹¹ Unfortunately, there is no annual report in the institute's archive, so it is not possible to say whether additional courses were offered during these years. Of the institute's diary for incoming and outgoing letters, however, there were a few courses in testing in 1945.¹² Of the eleven different courses SPPI organized, the educational training course for vocational teachers was the most commonly given, followed by the test course and a course in psychology and pedagogy (Table 1).

Table 1. SPPI's different courses. Some courses with a similar title have here been counted as the same course.

<i>Course</i>	<i>Quantity</i>
Educational training course for vocational teachers	14
Testing Course	11(9)
Courses in psychology and pedagogy	8
Institute's pedagogical training course	6

¹⁰ Riksarkivet i Arninge Statens psykologisk-pedagogiska institut. FII, Handlingar rörande kursverksamhet, ingår i FI:1, Handlingar rörande forskningsprojekt.

¹¹ I want to make a reservation that the test courses that began on 15/6 1953 are not two different courses but one and the same. It is not clear in the archive material. The same goes for the courses starting 21/6 1954 (appendix).

¹² Riksarkivet i Arninge Statens psykologisk-pedagogiska institut. CI:1, Diarium över in- och utgående skrivelser.

Supervisory course for application of free teaching methods	3
Help Class Course	3
"Courses in Psychological Measurements and Educational Statistics"	3
Undergraduate course in psychology and pedagogy	2
Course for psychology and philosophy teachers	1
Course in grading	1
Orientation course regarding group work, individualization and written exam in school work	1

The course programs show that "the Institute's pedagogical continuing education course" mainly focused on vocational teachers. In total, 20 of the documented courses were aimed at vocational teachers. As an approximation for the cost of these courses, all the courses held the academic year 1947/1948 were estimated to cost 35.000 SEK (Board meeting protocol September 15, 1947) and 1948/1949 the estimated cost was 50.000 SEK (Boar meeting protocol September 17, 1948).

The participants

Based on attendance lists, it can be ensured that at least 514 people participated in a course organized by SPPI. Appendix shows that each course had about 20 participants. Assuming that there were at least 20 participants even at those courses where this information is missing, SPPI trained and educated more than 1,000 people through their courses.¹³ Of these, 400 would have been vocational teachers. The application pressure on the courses was high where such information is available. For example, did the Testing course in June 1951 have 220 applicants and the one starting in June 1955 had 250 (appendix). The participants in the courses "Psychological Measurements and Educational Statistics" were exclusively academics, Teacher colleges teachers and principals. In other words, the university, seminars and educational institutions were probably the main target group for these courses. The same should apply to the course of psychology and philosophy teachers. Other attendance lists testify that the remaining courses aimed at upper secondary school teachers, primary school teachers and pre-school teachers.¹⁴

Course leaders

There were a large number of course leaders involved in these courses: teachers in psychology and pedagogy, primary school inspectors, directors of education, lecturers, principals and others. Jon Næslund, later the author of the well-spread book Allmän undervisningsmetodik [General Education Methodology] (1961), held most of the courses for vocational teachers. Wilhelm Sjöstrand, later a well-known Professor of Education at Uppsala university and Jan Gästrin held the first course in psychology and pedagogy. At the

¹³ In the 1950's approximately XXXX teachers worked in the Swedish primary and secondary schools.

¹⁴ To participate in SPPI's courses, travel allowances and subscriptions were paid, which often lay around a crown over the cost of the in-reservation. In the first few years, the participants received five crowns in retirement, and by the end the grant was twelve crowns. The participants also received travel allowance for a train trip in the 3rd class car.

time both were associate professors, and they worked mainly on intelligence testing. Sjöstrand was also responsible for this course in 1947 together with, among others, Stellan Arvidsson and Alf NymanIn this course. Stellan Arvidsson was responsible for a course moment of individual education (a form of internal differentiation). Stellan Arvidsson was also deeply involved in the ongoing comprehensive school reform at the time. Gästrin also returns in a number of courses. Torsten Husén, another familiar name, participated in many courses. Frits Wigforss, Elisabeth Dahr and Rosa Katz (married to David Katz) also appears as lecturers. From the educational institution in Stockholm, representation came from the teachers Gösta Ekman and Arne Trankell, both skilled test- researchers (the latter an expert on the problems of the left-handed). Sten Henrysson, later a driving force behind the Swedish SAT [Högskoleprovet], and Sven-Erik Henricson, a few decades later head of the testing department at the National Board of Education, both doctoral students to Torsten Husén, also appears on the lecture lists. Gothenburg is represented via Elmgren's phd-student Karl-Gustaf Stukát. The collection also includes a large number of less-known people, but in sum, many of those who made a name for themselves in Swedish education in the decades to come, served as teachers at the courses given by SPPI.¹⁵

The representatives from the discipline of psychology and pedagogy came from the younger generation. However, from the institute's diary for incoming and outgoing letters, it appears that the older generation also was involved in at least the testing courses. There are notes about correspondence between John Elmgren, John Landquist, Rudolf Anderberg and David Katz (as well as Sjöstrand and Siegvald from the younger generation). It was, in other words, a large number of course leaders who appeared at SPPI; a system which could be summarized more systematically with the finding that both representatives of the 1940s school committee, the 1946 school commission (i.e. the comprehensive school reform), psychological-pedagogical research and teacher education participated in this form of teacher education work.

Course schedule and literature

The Course programs in the archive often have a schedule and a bibliography list. The interest here lies primarily in the courses that spread psychological terminology and measurement technology. The courses in psychology and pedagogy had some recurring themes and consisted of lectures from morning to afternoon. Sjöstrand and Gästrin for example lectured in their first course on the development of knowledge and of intelligence, testing, fatigue and overstrain, aptitude testing, the psychological structure of the curriculum, admission processes at the transition from primary school to higher school etc. Psychology and school organization were the very essence of the course. There were, however, some variants on this course and, for example, the course week 9-14 August 1948 had some more educational elements such as the "mother tongue's position in the overall teaching" (Lecturer Ester Hermansson), and "teaching in English at the lower stage". The course was also given in 1949 with a special focus on Art teachers. The Art teachers were

¹⁵ The course leaders of course also received some payment for this, for example, Wilhelm Sjöstrand received twelve SEK a day for his participation in the course in psychology and pedagogy, 5-10 August 1946. The National Archives of the Arninge State Psychological Educational Institute. GI: a, Revised Accounts.

taught in gestational psychology, behaviourism, characterology, psychoanalysis, test psychology, left-handedness and more obviously artistic subjects such as "From children's painting to youth painting".

Many of the courses in psychology and pedagogy mixed (differential) psychology with subject education. However, one of the courses that maintained the worst balance was the continuing education course for kindergarten teachers. Already the third lesson on the first day, June 25, 1951, was a demonstration of individual testing (Terman) according to the course schedule. After lunch, another pass of the Terman test followed by two lessons on the theme of heritage and environment. The following morning began with a "double lecture" in heritage and environment followed by testing by Büler-Hetzer. Then throughout the week, teaching followed on: aptitude test, psychological tests, mental hygiene test, school readiness and left-handedness. Clearly, the study of school readiness seems to be the main subject of this test orientation. These teachers would be the first outpost of the differential thinking when the school met new children.

It is thus obvious that not only the courses called test courses teach the testament's arts. However, the test courses were further refined with practical exercises in testing.

The test courses

The three courses called "Psychological measurements and pedagogical statistics" were led by Husén and Ekman, by then new professors, Licenciate of arts Henrysson and Elisabeth Dahr. With some minor variations, the courses were structured so that after the lectures by Ekman on the first day, day 2 had seminars in pedagogical statistics and demonstrations in individual- and group tests. On day 3, Henrysson lectured on methods of measurement in schools, after which the participants were allowed time for an excursion. Henrysson continued his lecture on day 4, when Dahr also informed about admission to higher schools. The fifth day was then devoted to personality tests as well as group tests for 15-year-olds and elderly. Last day, according to the program, a debate was held in which Husén and Henrysson were appointed as respondents. The participants were expected to attend the course week equipped with Ekman's book *Intelligenstmätning* [Intelligence testing], Husén's book *Testresultatens prognosvärde* [The forecast value of test results] and Wigforss book *Matematisk statistik för pedagoger* [Mathematical statistics for educators].

However, this course was not very test intensive compared to the eleven (nine?) Test courses. These courses would make testers of the primary teachers so that the teachers themselves could sort children to the Help classes. From 1950 to 1952, SPPI issued a letter to the school inspectors in the country in which they examined the needs of test-trained teachers, partly on the basis of proposals for suitable teachers to train. There are a total of 51 answers in the archive, the vast majority of which suggest that there was such a need. For example, Äppelviken's primary school inspector Helge Haage responded as follows:

Testers are common in the larger school districts but are missing for the smaller ones. It is therefore desirable to train those who can live something so centrally in an inspection area and are willing to assist in testing in different school districts. There is a

need for such testers, for example, at Djurö, Ed, Ekerö, Färentuna, Hilleshög, Lovö, Munsö, Möja, Skå, Sånga and Värmdö.¹⁶

The courses took off, and Helge Haage and the other college school inspectors returned with ranking lists of teachers who reported interest in the course in their area; in the first, second and third proposition rooms. To judge from the number of applicants to these courses (see appendix) they appear to have been very attractive. SPPI was also careful to offer them in many parts of Sweden, not just in the larger cities (Working committee protocol, September 6, 1946). The initial idea was that each of the four universities should arrange one testing course per year, supervised by the professor in psychology and pedagogy (The Research committee protocol February 13, 1945). The research committee had described on the basic structure of these courses as follows:

4 to 5 lectures for orientation

15 seminars

80 hours' practical work – testing, discussion etc. – distributed so that each participant gets 10 hours' individual supervision. Every participant shall also independently test at least 10 pupils.

The theoretical training through lectures and seminars is held by a professor or an associate professor, the practical part by an assistant. (Research committee protocol February 13, 1945)

To give an example of what the participants could expect from these courses we can look at what happened to the teachers who came to Ljungskile Folk High School for three weeks in the summer of 1953. They had a lot to do! Even before they arrived, they were requested to read books by Anderberg, Wigforss and Terman-Merrill. Up until 1952 there was no pre-reading requirements, but it turned out that the course leaders didn't find the participants knowledge about psychology good enough to be able to follow the course (The Research committee protocol September 15, 1952). During the first week, the 18 teachers conducted a total of two tests on Monday, 18 on Tuesday, 21 on Wednesday, 21 on Thursday and another eight tests on Friday, i.e. a total of 70 tests. Each test lasted for a maximum of 1.5 hours. In addition, the teachers had seminars and lectures in the evenings. The first week's tests they performed on each other. However, the second week they had access to real children. Five groups of five children from Ljungskile folk schools and from Örebro school district experienced how it felt to be tested with Terman-Merill's or Ohlander-Wessman's test. According to an earlier Working committee protocol the 'subject to the experiment', i.e. the children, should be handsomely paid 1 SEK each [about 2 Euros in today's value] (Working committee protocol April 29, 1946, Bil. 4). The third and last week, the teachers were instructed to test retarded children in the help classes. This was called "doing field tests" (for example see schedule in appendix). The course ended with a written examination of the course participants. If they passed they got a certificate.

¹⁶ Letter dated December 22, 1950 in folder: Enkätundersökning 1950–1952 angående inspektionsområdenas behov av testningsutbildade lärare. Finns i: FII, Handlingar rörande kursverksamhet, ingår i FI:1, Handlingar rörande forskningsprojekt. Riksarkivet i Arninge Statens psykologisk-pedagogiska institut.

The Test course in January 1955 went on in a similar manner: lectures throughout the first week, and the second week test exercises under the supervision of the course management. The third week, they were allowed to do five own tests as well as some related exercises. Forth and last week, they would conduct two test tests in the field. If they got their exams they had all in all carried out nine tests each and passed a written assignment. Now they were (thought to be) ready to meet the children on "advocacy" at for example Värmdö.

In 1957 most of the work carried out at SPPI were moved to the newly funded Teachers college in Stockholm (1956 – 2008). It was assumed that the Teachers college would continue offering these courses. In a referendum to the proposition called “Den första lärarhögskolan” [The first Teachers college] (SOU 1952:33), the board of SPPI clearly stated that they approved to an idea of letting The teachers college take over these courses (Board meeting protocol December 6, 1952). If they did, I have not yet been able to find out. For sure they continued to develop the standardised test and the heritage from Frits Wigforss, thus moving away from mental testing towards knowledge assessments (Lundahl 2009)

Overall, SPPI's course activities illustrate a way in which a specific knowledge is spread to the primary school teachers in the 1940's and 50's. It should be quite clear that SPPI was an important player in the dissemination of both testing techniques and psychological concepts. In addition, SPPI can be seen as a common platform for some progressive scholars and school reformers to base a chaired ambition for Swedish education.

Final remarks

There is substantial evidence that Swedish teachers during just a few decades after World war II, went from assessing students' knowledge to trying to measuring it (e.g. Lundahl 2006, Jönsson 2013, Lundahl & Tveit 2014). How was this possible? Taken all together the activities of SPPI aimed at, and to some degree resulted in, training teachers to understand, conduct and accept (mental) testing as a natural part of everyday education.

While the testing courses very much focused mental testing or school readiness testing, the work SPPI itself carried out in the testing area these years gradually turned from ability testing towards knowledge assessments and the development of standardised tests. In 1957 most of what the Institute work on was moved into the newly funded Teachers college in Stockholm (1956 – 2008), where Torsten Husén carried on with the development of the Swedish national test. In one way it is possible to think that SPPI normalised testing and when this enterprise moved to the Teachers college, the process of institutionalising these kinds of external test in Swedish education was completed. At the same time, they were not fully that external any longer, since they were developed at the heart of Swedish teacher education. In the years to come the national tests became even more calibrated to the curriculum and the everyday teaching in schools, in an effort to measure more complex skills. The Swedish progressive movement, aiming at professionalising teacher through science, was in this endeavour relatively sensitive to teacher practice, even though they clearly proclaimed that test were more objective and reliable than teachers own

assessments. In recent time, the last two decades since the test reform in 1996, one important aspect has been that the test should be supportive to teachers own assessments, and not a control of them. It is the teachers themselves that scores today's national test in Sweden, and decide how much weight to give them when grading their pupils. The main principle has been that teachers are guided, or trained through the test, in order to realise how to give fair grades (Lundahl 2009). Interestingly though, a recent government proposition (SOU 2016:25) stresses that the test should become more external again; digitally distributed and scored by computers or at least teachers foreign to the pupils assessed. And a bill in 2017 opens up for a situation where the teachers must follow test results when grading.¹⁷

Further, SPPI was a place that organised the discourse on testing in that it tied representatives from the four Universities psychological and pedagogical departments together, as well as connected them with representatives of the comprehensive school reform and their education. SPPI became a hub for 'professional alliances' (Danziger 1990). It financed their meetings, their research on policy relevant matters (mainly testing) and helped disseminating a testing discourse to participants through courses. Most of the persons mentioned in this paper, were for several decades visible in the discursive and material construction of the comprehensive school system. SPPI gathered international experiences, it offered opportunities for disseminating written material, opportunities for meeting teachers, and perhaps not least, the opportunity for the researchers involved and the reformers to meet each other. SPPI helped 'marketing' the science of psychology and education; allowing it to show usefulness (c.f. Danziger 1990). This kind of state relevant research became criticised in the 1970s and 80s though, and the science of psychology and of pedagogy (in Sweden they were separated as two different disciplines in 1949) distanced themselves from policy as well as teacher practice. Therefor it is interesting to see that a new agency, similar to SPPI was formed in 2014 – Skolforskningsinstitutet [The Swedish Institute for Educational Research], with the purpose to "compile the best available knowledge of educational working methods and practices" and to distribute funding for practice-centred research (<http://www.skolfi.se/in-english/>). Seemingly, once again there is a need for an institute making teaching more research based, teachers more informed and researches more useful to educational practice.

On way to understand why SPPI (and similar institutions) emerge is in relation to the need of a new kind of central control and control instrument. SPPI promoted a new type of control instrument based on the production of psychometric information. SPPI is in the broadest sense an example that the modern society for its organization begins to require targeted knowledge in certain sectors. With such an interpretation, it is possible to consider SPPI as a complement, at the time, to the universities and to the National Board of Education [Skolöverstyrelsen]. The Scottish equivalent of the State Psychological Educational Institute, SCRE, has been described as, on the one hand, an institution that took care of a knowledge production that the universities considered themselves to politically neutral to provide and, on the other hand, an institution that took care of 'modern' issues which the School

¹⁷ Lagradsremiss: Nationella prov – rättvisa, likvärdiga, digitala [National test – fair, equal, digital] <http://www.regeringen.se/rattsdokument/lagradsremiss/2017/06/nationella-prov--rattvisa-likvardiga-digitala/>

bureaucracy was not developed for (Lawn 2004). SPPI was created because existing school authorities did not adequately force the modernization of the school ahead.

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Appendix. The State Psychologic-Pedagogic Institute's courses

Tabell:1. Psykologisk-pedagogiska institutets anordnade kurser 1946–1956.

Kurs	Antal sökande	Antal deltagande	Datum
Kurs i psykologi och pedagogik			5–10/8 1946
Pedagogisk utbildningskurs för yrkeslärare			8–13/7 1946
Kurs i psykologi och pedagogik			7–12/7 1946
Kurs för psykologi och filosofilärare			11–16/8 1947
Pedagogisk utbildningskurs för yrkeslärare			2–10/7 1947
Pedagogisk utbildningskurs för yrkeslärare	20	20	23–31/7 1947
Kurs i psykologi och pedagogik			9–14/8 1948
Pedagogisk utbildningskurs för yrkeslärare	20	20	20–28/7 1948
Pedagogisk utbildningskurs för yrkeslärare	20	20	15–23/7 1948
Kurs i psykologi och pedagogik för barn-trädgårdslärare			28/9–3/9 1949
Kurs i psykologi och pedagogik för teckningslärare			13–18/8 1949
Kurs i psykologi och pedagogik för 1–2-lärare			1–6/8 1949
Pedagogisk utbildningskurs för yrkeslärare			21–29/7 1949
Pedagogisk utbildningskurs för yrkeslärare	67	20	19–27/7 1949
Pedagogisk utbildningskurs för yrkeslärare			3–11/7 1950
Pedagogisk utbildningskurs för yrkeslärare			13–21/7 1950
Testningskurs	220		11–23/6 1951
Kurs i psykologi och pedagogik för barn-trädgårdslärare		35	25–30/6 1951
Pedagogisk utbildningskurs för yrkeslärare			2–10/7 1951
Pedagogisk utbildningskurs för yrkeslärare	20	20	16–24/7 1951
Fortbildningskurs i psykologi och pedagogik			6–11/8 1951
Fortbildningskurs i psykologi och pedagogik			13–18/8
Hjälpskolekurs	130	35	21–26/7 1952
Institutets pedagogiska fortbildningskurs		20	14–22/7 1952
Handledarkurs för tillämpning av friare undervisningsmetoder			11–18/8 1952
Pedagogisk utbildningskurs för yrkeslärare		22	21–29/7 1952
Testningskurs			start 15/6 1953
Testningskurs		15	15/6–4/7 1953
Institutets pedagogiska fortbildningskurs		20	20–29/7 1953
Hjälpskolekurs		35	22–29/7 1953
"Kurs i psykologiska mätningar"*			10–15/8 1953
Testningskurs		20	start 21/6 1954
Testningskurs			21/6–9/7 1954
Handledarkurs för tillämpning av friare undervisningsmetoder**		34	1954
Institutets pedagogiska fortbildningskurs		20	11–20/7 1954

"Kurs i psykologiska mätningar och pedagogisk statistik"**		40	4–11/8 1954
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Tabell:1 forts. Psykologisk-pedagogiska institutets anordnade kurser 1946–1956.

Kurs	Antal sökande	Antal deltagande	Datum
Handledarkurs för tillämpning av friare undervisningsmetoder			8–14/8 1954
Institutets pedagogiska fortbildningskurs		20	18–27/7 1955
"Kurs i psykologiska mätningar och pedagogisk statistik" **			
Institutets pedagogiska fortbildningskurs		20	18–27/7 1955
Orienteringskurs rörande grupperbetet, individualisering och skriftliga prov i skolarbetet			10–17/8 1955
Pedagogisk utbildningskurs för yrkeslärare		20	11–20/7 1955
Hjälpskolekurs			15–20/8 1955
Testningskurs ***			3–29/1 1955
Testningskurs			4–16/7 1955
Testningskurs	250	18	start 26/6 1955
Testningskurs			start 20/6 1955
Institutets pedagogiska fortbildningskurs		20	5–14/7 1956
Kurs i betygssättning			13–18/8 1956
Psykologisk pedagogisk kurs i Bollnäs			5–14/7 1956
Pedagogisk utbildningskurs för yrkeslärare		20	16–25/7 1956

* Titel på kursen inte angiven i kursprogrammet. Här anges därför syftesbeskrivningen.

** Ofullständigt i arkiv.

*** Kursen erbjöds parallellt i tre städer under denna period.

Appendix. Exemple of schedule for the Testing course

Draft - do not quote!

Program för testningskurserna

i Ljungskile 15/6 - 4/7 år 1953.

Inkvartering i Kavaljersgården, Ljungskile folkhögskola. Husmor: fröken Vall.

Dagsschema: Frukost 8.30

Arbete 9.00-12.00

Lunchpaus 12.00-13.30 (lunchen serveras 12.45)

Arbete 13.30-18.00

Middagspaus 18.00-19.30 (Middagen serveras 18.00)

Arbete 19.30-21.00

Lokaler för testning: Centralskolan.

Lokaler för föreläsningar (då ingenting annat speciellt meddelas) folkhögskolan.

Obs! testningar får inte utsträckas utöver $1\frac{1}{2}$ timme. Är de inte avslutade inom denna tidrymd, avbryts de.

Schema för testningar under första veckan. Under denna tid försiggår testningarna i handledningsgrupp.

första testningen 9.00-10.30

andra ~"~ 10.30-12.00

tredje ~"~ 13.30-15.00

fjärde ~"~ 15.00-16.30

femte ~"~ 16.30-18.00

sjätte ~"~ 18.30-21.19.30 (denna lämnas oavslutad c:a 19.20)

	Magne	Greta Wahlberg	Stukát	Malmström	Summa
måndag		kl. 14-16 seminarium	demonstrations- testning	16-18 demonstrations- testning	2 testn.
tisdag	2 testn.	5 testn.	5 testn.	6 testn.	18 testn.
onsdag	5 testn.	5 testn.	5 testn.	6 testn.	21 testn.
torsdag	5 testn.	5 testn.	5 testn.	6 testn.	21 testn.
fredag	2 testn.	2 testn.	2 testn.	2 testn.	8 testn.
summa	14 testn.	17 testn. + + 1 dem-testn.	17 testn.	20 testn. + + 1 dem-testn.	70 testn.

Föreläsningar och seminarieövningar under första veckan:

- måndag seminarieövning: skriftligt förhör 9-11 (Magne)
föreläsning: allmänna anvisningar för Terman-Merrill-testning
11-12 (Magne)
- seminarieövning: analys av Terman-Merrill-testet, form L,
(Magne) 19.30-21.00
- tisdag seminarieövning: grupptestning (Stukåt) 19.30-21.00
- onsdag föreläsning: Porteus Maze-testet (Magne) 19.30-21.00
(hålls i centralskolan)
- torsdag föreläsning: Pedagogiska prövningsmetoder som komplement till
intelligensprövning - Ahnsjöschemat (Magne)
19.30-21.00

Andra veckan

- måndag 2 seminarieövningar i följd: Ohlander-Wessmans grupp-prov, med
demonstration (Wahlberg) 9.00-12.00
Kursdeltagarna indelas därefter i fem grupper med tre deltagare
i var grupp: Övningstestningar med Ohlander-Wess-
mans grupp-prov utföres av kursdeltagarna; Nr 1 i
gruppen gör testningen på måndagen.
13.30-16.30: 5 grupper av barn med 5 i var grupp.
- seminarieövning: Rådgivningsbyråer för uppfostringsfrågor -
psykisk barna- och ungdomsvård (Stukåt) 19.30-21.00
- tisdag övningstestningar med Ohlander-Wessmans grupp-prov utföres av
kursdeltagare. Nr 2 i var grupp testar på f.m. och
nr 3 på e.m.
9.00-12.00: 5 grupper ^{av} barn med 5 i var grupp.
- 13.30-16.30: 5 grupper av barn med 5 i var grupp.
- seminarieövning: Uttagning till hjälpklass samt hjälpklassernas
ungorganisation och om undervisningen i dem (Wahlberg)
19.30-21.00
- onsdag: Kursdeltagarna gör övningstestningar med Terman-Merrill-testet
torsdag: och Porteustestet samt författar utlåtanden om de un-
dersökta barnen

Schema för dessa testningar:

- 9.00-10.30 första testningen
10.30-12.00 andra -"-
13.30-15.00 tredje -"-
15.00-16.30 fjärde -"-

Under onsdagen erhålls barn från Ljungskile folkskolor, under

torsdagen och fredagen från Örebro skollovskolonier i Ammenäs.

lördag 2 seminarieövningar: de sinnesslöa barnen - klassifikationsproblem (Magne) 9.00-12.00

Tredje veckan:

måndag seminarieövningar:

intelligensteori (Magne) 9.00-12.00

övningar i statistisk räkning 13.30-18.00.

tisdag Övningstestningar i handledningsgrupper för de kursdeltagare som ev. inte gjort alla fem övningstestningarna under kontroll:

9.00-10.30 första testningen

10.30-12.00 andra -"-

Grupp 1 och 4 testar på hjälpskolans kolonier hela dagen
(tre testningar)

Engenar Nordin Grupp 2 och 3 gör fälttestningar enl. senare meddelande 13.30-
-18.00

Sven-Evert Löfventberg seminarieövning: skolpsykologerna i Danmark. De läs- och skriv-
retarderade barnens problem (Wahlberg) 19.30-21.00

Gert Rehnström onsdag Grupp 2 och 3 testar på hjälpskolans kolonier (tre testningar)
Grupp 1 och 2 4 gör fälttestningar enl. senare meddelande.

Karl-Olof Österholm tordìag Fälttestningar hela dagen
seminarieövning: om bedömnings tillförlitlighet /medverkan har
utlovats av herr Österholm, lärare vid Ljungskile
folkskolor) 19.30-21.00

Greta Magne fredag Fälttestningar

Ev. avslutande samkväm

Erik Löfdag avslutande förhör (skriftligt). Kursen avslutas.
organisatoriska detaljer 13.30 - 15.00.

En vägjan till kursdeltagarna: Är det någon som önskar vara frånvarande
från någon speciell del av kursen, önskar kursledningen av organisato-
riskar skäl ha upplysning härom första eller andra kursdagen. Observera dock
ett ledighet kan medges i ytterst begränsad omfattning om intyg skall
kunna lämnas.

Draft - do not quote!