Abstract

This thesis is based on four empirical studies. The overall aim was to identify and examine
different profiles of reading. In Study I, two latent profile analyses were conducted with the
aim to identify subgroups, or profiles, of reading performance among 9-year old Swedish
students. The latent profile analyses focussed on four aspects of reading performance: reading
of continuous texts, reading of document texts (maps, charts etc.), word reading and reading
speed. Eight performance profiles were obtained in the first study (N=5099), and were
replicated with highly similar profiles in the second study (N=4184). The largest profiles,
good and average readers, exhibited even reading performance across measures, implying that
reading is a skill with high transfer and generality, whereas poor readers exhibited more
heterogeneous performance patterns. The most stable profiles across studies were high
performing students, poor comprehenders and dyslexic students. The phonological deficit
hypothesis of dyslexia was assumed, which states that a phonological impairment is supposed
to be the underlying cause of the manifest reading and writing problems. In Study II, a battery
for group screening of dyslexia among adults was designed. The battery consisted of a self-
report questionnaire, four tasks tapping phonology and one task tapping orthography.
Administration time was 40 minutes. All tasks discriminated highly between a group of adults
with dyslexia (N=50) and a control group (N=67). Thus, it was possible to meet the challenge
of implementing a nonvocal, phonologically-based group screening of dyslexia problems.
Study III attempted to investigate the often observed association between visual creativity and
dyslexia, evidence for which is mainly anecdotal. Suggested causes of this observed
association include different brain structures or functions, or compensation for deficiency in
the area of reading and writing. In two studies, the prevalence of dyslexia among art
university students as compared to non-art university students was examined. A total of 268
art students and 282 non-art students participated. The screening was based on word reading,
a phonological choice test (in the second study) and a self-report questionnaire. In both
studies the art students showed, as well as reported, significantly more dyslexia signs than the
non-art students. In Study IV the incidence of phonological and surface dyslexia among
Swedish dyslexic university students was examined. Participants were 40 university students
with dyslexia, 40 academic-level matched students and 40 younger reading-level matched
students. Two different methodologies were used. Firstly, a regression method was applied,
where performance scores on a phonological choice task were plotted against performance
scores on an orthographic choice task and vice versa. Confidence intervals (90%) were
derived from the regressions of the control groups separately and superimposed on
corresponding plots for the dyslexic group. When the academic-level control group was used
as reference group, a substantial number of both phonological and surface dyslexia was
found. However, when the reading-level group was used as reference the phonological
dyslexia subgroup remained, but the surface dyslexia subgroup virtually disappeared.
Secondly, a latent profile analysis was conducted on the dyslexia group based on five
phonological and four orthographic measures. Seven profiles were obtained, of which none
clearly exhibited poor performance on the orthographic tasks but not on the phonological
tasks or vice versa. These results suggest a deviant development in phonological dyslexics
and a delayed development in surface dyslexics. It thus supports the phonological deficit
hypothesis. Educational consequences for varying reading problems are discussed and
instructional intervention is suggested.