SUMMARY

Curriculum organization and study progress

In the Netherlands as in most other countries in Europe, there is a great concern about the costs of university education. The demand for university education has increased and until some years ago each year more students attended university. But not all of these students graduate and the students who do, use more time than the four years of the official program. The policy of the Minister of Education aimed at an increase of completion rates and a reduction of the time to graduate. The last decade in research on study progress as well in policy on university education, factors within the organization of university education have gained more attention. This is in contrast with the sixties and seventies, when student-related factors were more prominent. In this thesis we deal with the following research question:

Which model can explain differences in students’ study progress when we regard the effects of the curriculum organization as a starting point?

In our research project we investigated the study progress of five cohorts of students (enrollment years 1987-1991) within six different departments at the University of Groningen.

In chapter 2 we present some quantitative data for the departments of the University of Groningen used in this research. A measure for study progress used most in policy documents is numerical return. That is a fraction with enrolling students as the numerator and graduated students as the denominator. In Dutch university education two official examination moments are used for the calculation of the numerical return: the propedeutic examination and the doctoral examination. In 1982 a law (Wet Twee fasenstructuur) was accepted that limited the duration of university courses to four years (with some exceptions like medicine) and also limited the maximum number of years a student may stay at a university to six. Also universities were obliged to have in each department an examination after the first year of study, the so called propedeutic exam. In our research we only used the propedeutic examination. Until 1991 students had to succeed for the propedeutic examination within two years, otherwise they were
excluded from governmental financial support. When a student did not succeed in two years, he/she could enroll in another department in order still to get the financial support. However, mostly these students were only aiming to complete the first year examination in the former department and not in the department they were enrolled in their third year at the university. These students are referred to as "no-show". We demonstrated that some departments seem to have low numerical returns due to these "no-show" students. For example: cohort 1990 psychology seem to have a numerical return of 56%. When we recalculate this figure without the no-show students we get a percentage of 67%.

In chapter 3 we discuss factors that influence students' study progress: student characteristics, personal and background variables, study skills, planning behaviour, instruction characteristics and the curriculum organization are discussed. At the end of the chapter a theoretical model to explain students' study progress is presented. Based on this model nine hypotheses are formulated in chapter 4.

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\begin{align*}
\text{students' characteristics} & \quad \downarrow \quad \\\\text{\textbackslash} \\
\text{students' effort} & \quad \rightarrow \quad \text{study progress} \\
\text{curriculum organization} & \quad \uparrow
\end{align*}
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Figure 3.2 Theoretical model to explain differences in students' progress

In our analysis model student's effort is regarded as a black box, because we have no data about it. We analysed the effects of student characteristics and curriculum characteristics on student's study progress. Our data consist of descriptions of study programs, examination calendars and student characteristics available in the university administration. The model requires a three-level analysis with random coefficients (Bryk and Raudenbusch,1992). Student characteristics account for the first level, curriculum characteristics for the second level and the department is regarded as the third level. The analysis is carried out with VARCL (Long-
ford, 1988). On the first level we have used the following variables: gender, age and GPA (Grade Point Average on pre-university education) or the type of secondary education a student have had before enrolling in university. On the second level we have three groups of curriculum characteristics: spread of study load, effective instruction and formal examination rules. On the third level we have no predictor variables, only an intercept. The analysis model, operationalizations of variables and a description of the student - and curriculum characteristics are given in chapter 4.

The results of the analyses are described in chapter 5. We have used three dependent variables: the numerical return after one year and after two years and the obtained credit points after one year. For every dependent variable two analyses have been carried out. First only the students with a VWO-certificate are analysed on the three dependent variables with the grade point average on pre-university education as a student characteristic. After that the total group of students is analysed with the type of secondary education as a student characteristic, because there are no GPA-data available for other types of secondary education than VWO. The results on both groups were quite similar.

On the individual level females, younger students and students with a higher GPA on pre-university education appear to have higher probability of succeeding for the propedeutic examination.

In chapter 6 we discuss the results on the basis of the nine hypotheses from chapter 4. Our main interest was to investigate the influence of the curriculum organization on students’ study progress.

In general we found support for our hypotheses related to the spread of study load. The hypotheses were:

1. The more examinations are spread during the year, the higher students’ study progress will be.
2. The more subjects are programmed in parallel, the lower students’ study progress will be.
3. Two examinations in one week will reduce students’ study progress.
4. The more resits on examinations are spread during the year, the lower students’ study progress will be.
5. A resit in a week with at least one regular examination will reduce students’ study progress.

Curricula in which examinations are better spread over the year, with less spread in moments for resits and programs with less subjects parallel presented seem to influence students’ study progress positively. We did not
find support for our hypotheses on effective instruction:

6. The more attention is paid to feedback, the higher students’ study progress will be.
7. The more opportunity to practice is offered, the higher students’ study progress will be.
8. The more attention is paid to orientation, the lower students’ study progress will be.

These variables act often against our expectations. We demonstrated then that our variables on effective instruction seemed to be more dependent on the department than on the curriculum. In an additional analysis we showed that the instruction variables reduced almost all the variance at the third level, the field of study. The hypothesis about the formal rules on examination was:

9. More possibilities for compensations between subjects in the propedeutic examination will increase the numerical return.

was also not supported by the results from our analysis.

This research gave us some clues for programming a curriculum in such a way that students’ study progress will be influenced positively. Especially measures on spread of study load by spreading examinations and programming less subjects parallel seem to give good results on students’ study progress. In future research it would be desirable to follow students during their complete study career.