Activating academic distance education, some empirical results about a new approach of the Open Universiteit (OUNL)

Rieny van den Munckhof
Expertise Centre for Education, Open Universiteit
Rieny.vandenMunckhof@ou.nl

Jeroen Winkels
Academic Affairs, Open Universiteit
Jeroen.Winkels@ou.nl

Abstract

Between 2014 and 2018, Open Universiteit (OUNL) rigorously transformed her educational approach in all courses by introducing a new model of activating distance education with an emphasis on degree programs instead of individual courses and with the introduction of more structure and social and academic integration. In September 2014 all master's programs (60/120 EC) and between 2016 and 2018 all bachelor's programs (180 EC) were being taught in the new model. This transformation, presented by Schlusmans, Van den Munckhof and Nielissen on the OOFHEC 2016: *Active online education: a new educational approach at the Open Universiteit of the Netherlands* introduced many changes from the perspective of the student, the lecturer, the student counselor and other support staff. These changes can be divided into four categories:

(1) changes with respect to the intake (such as introduction of an intake with a student counselor, strict entry requirements in the master's programs comparable to other Dutch universities, and design of a study plan);

(2) changes in the organization (an academic year was introduced, courses with fixed course schedules, exams at pre-arranged times, no automatic renewal of registration, no additional exams, deadlines within the course);

(3) changes with respect to the social and academic integration, such as more contact with lecturers, more meetings with fellow students and more collaborate learning;

(4) and changes in the didactic approach (e.g. active monitoring of the student, online and activating learning, more assignments and feedback).

In this paper, we use information from surveys amongst students, alumni and lecturers, administrative data about OUNL students, and information collected via focus groups to present empirical results about these changes. We concentrate on three effects: study pace, satisfaction and dropout. Our findings suggest that dropout rates did not change that much. However study pace did increase: students achieve more EC per year. Student satisfaction was already high at OUNL before 2015 (amongst the highest compared to the other Dutch universities) and has remained high since. These and other results presented below have been discussed within OUNL to see to what extent the various aspects of the new educational model are implemented. This has led to further refinements (Open Universiteit, 2022a).

Keywords: quality assessment in higher education, study success, activating distance education

1. Introduction

The Open Universiteit participates every year in the Dutch Student Survey (NSE), which determines (among other things) how satisfied students are with the education they follow at their university. The most recent measurement in 2021 shows that OUNL students are highly satisfied with their study program (Van den Munckhof et al., 2021a, 2021b, 2022). Bachelor's students score an average of 4.1 on their education (on a scale of 1 to 5) and master's students 4.0. These scores are slightly lower than before the introduction of the New Educational Model (NOM), when both bachelor's and master's students scored an average of 4.3. In the intervening years 2015 to 2019 (there was no NSE in 2020) the scores varied between 4.1 and 4.2, so there is a large degree of stability 'overall'.

When we look in more detail at student satisfaction with the study program in the sixteen bachelor's and master's programs of OUNL between 2014 and 2021, we see more variation. With one exception, no study program in any of these years shows a lower average score than 3.5, the standard used by OUNL as a lower limit. In this seven-year period, the computer science master's programs vary the most (3.3 – 4.6) and management the least (4.0 – 4.2). Between 2014 and 2021, the most variation can be seen in information science (4.0 – 4.7) among the bachelor's programs and the least variation in humanities (4.2 – 4.4). The somewhat larger variation in computer science and information science is probably also the result of the smaller numbers of students in these fields of study.

In recent years, students are generally very satisfied with the content of the various courses, the connection with current developments, teaching methods and the coherence of the curricula. The degree programs meet the expectations of most students in terms of difficulty and many students would recommend others to study at the OUNL. Students rate the expertise and explanation of lecturers as excellent, but do see opportunities for improvement in the supervision by lecturers, for example with regard to feedback on assignments, tests and reports.

The degree of bonding, an important factor with respect to study success (Hausman et al., 2009; Leest et al., 2022) varies when we look at bonding with the university respectively the study program, the regional study center (there are seventeen in The Netherlands and Flanders) and other students, as table 1 shows.

Table 1: Bonding with university, study program, regional study centre, other students, 2021

	University		Study program		Regional study centre		Other students	
	Bachelor	Master	Bachelor	Master	Bachelor	Master	Bachelor	Master
% Moderate and high sense of belonging	65%	63%	75%	76%	43%	22%	24%	42%
Mean score	2,7*	2,7	2,9	2,9	2,3	1,8	2,0	2,3

*) On a 1-4 scale: 1=not connected, 4 = strongly connected

Students feel most connected to the study program and the degree of bonding with OUNL is high. The degree of bonding with the regional study centers and with other students is considerably lower and bachelor's students in particular feel little connection with their fellow students.
Student satisfaction and feelings of belonging are important indicators. Passing or failing a course exam, obtaining or failing to obtain a diploma and study pace are also relevant to see whether the

interventions carried out by OUNL since 2013 were successful. The period since the introduction of a new educational model (in 2014 in the master's programs, in 2016 in the bachelor's programs) suffices to observe possible effects, although exact effects cannot be determined. After all, the interventions were often introduced simultaneously or to a large extent overlapping each other. This is often the case in Dutch higher education where interventions to improve study success seldom are accompanied by a serious research design to measure effects (Leest et al., 2022).

2. Changing the educational model of OUNL in 2014 to improve study success

OUNL is the open distance teaching university of the Netherlands, founded in 1984. In recent years, the number of students increased rapidly. From 14,244 students in 2018 to 17,015 in 2021. This increase can at least partially be explained by the firm reduction of tuition fees and the extension of student subscription rights. Both were the result of nationwide 'Covid-19-policy' introduced since 2020 in higher education.

For a long time OUNL philosophy has been to provide higher education for self-directed adult students who could decide for themselves what, where and how to study. There were no entry requirements, there was no academic year and students could start studying whenever they wanted and write the exams when they felt they were ready for it. There was no other distance teaching university, which offered such a degree of freedom to her students (Van den Boom et al., 1989). In 'the eighties' openness for all groups of students was key and study success and student retention were only minor concerns. In the first decade of this century, however the reduction of student dropout and the increase of academic success came to figure much more prominently on the educational policy agenda's. Reducing dropout became one of the key strategies in Europe (Vossensteyn et al, 2015). In the Netherlands dropout rates became part of systematic monitoring (Wartenbergh et al., 2008; Van den Broek et al., 2021).

In comparison with the other public universities in the Netherlands OUNL did not perform very well with respect to study success: two thirds of the thousands of students that start studying at the OUNL each year has the intention to obtain a bachelor or master's degree, but less than 15% actually got their diploma (Open Universiteit, 2012). In its institutional plan 2012-2016, the OUNL therefore stated: *"Our success rate can and must be improved and the traditional model of independent self-study is not sufficient anymore to serve this goal"* (Open Universiteit, 2012, p. 5). The educational approach was renewed. In this paper, we report on this renewal. We describe the new model and report on several evaluation studies that were carried out between 2014 and 2022.

Although the explanation for study success is complicated, research shows that student-related factors are mainly responsible for academic success (Schlusmans et al., 2016b; Delnoij, 2022; Leest et al., 2022). Student characteristics include personality traits, intelligence and personal circumstances such as family life and work load. This was also evident from the annual OUNL student survey (Van den Munckhof et al., 2012, 2013): students who dropped out gave a variety of reasons which mainly relate to personal circumstances, such as lack of time to study (in conjunction with parenting, work and other commitments) and life events (ill health of self, partner or children, moving house, divorce etcetera). Only a few students mentioned institutional factors such as too much freedom, too little support and too little contact with fellow students. Next to this group, about one third of the active students had actually thought of quitting because of the slow progress in their studies, which had a

very negative effect on their study motivation. When asked what made them stay, they contributed this to personal characteristics and to the fact that they have already made many investments (in both time and budget). Only very occasionally, students mentioned an action from OUNL as a reason to persevere.

The picture that emerged from these studies ten years ago corroborates the findings at other distance teaching institutions (Simpson, 2012; Powell, 2009) which stated that academic success is largely the result of a combination of factors outside or mainly outside the sphere of influence of the institution. However, this should not prevent a university to take action. When the new educational model of OUNL was designed, several potentially relevant measures were combined to improve study success (see figure 1).
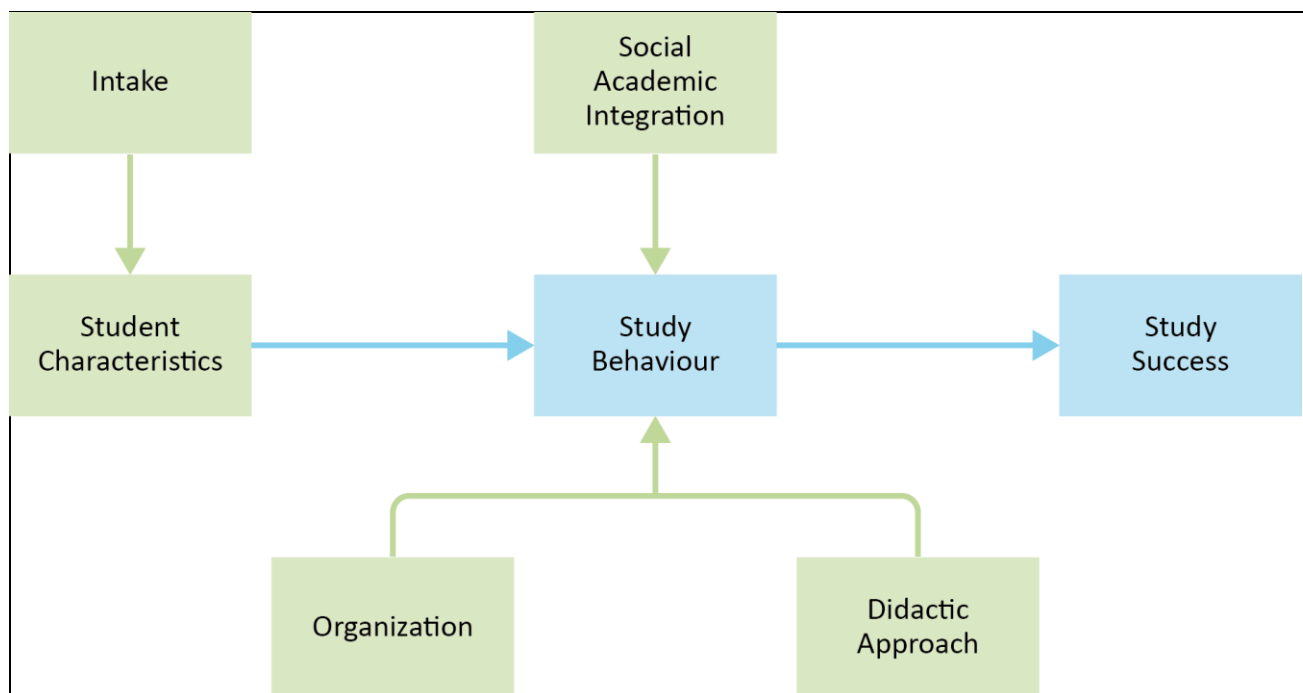

Figure 1 A model for improving study success (Schlusmans et al., 2016b)

In this model, student characteristics are most important for study success. These characteristics as such cannot be influenced by the institution, but the *study intake process* can play an important role in the self-selection of students and in their study choice (Simpson, 2012, Schlusmans et al., 2016b). An important part of the intake is clarifying the expectations for which the use of a voluntary assessment procedure before inscription can be useful (Delnoij, 2022).

The second factor is the *organization of the program*, which can lead to the reduction of non-commitment by setting deadlines and providing structure. In addition, the reduction of parallel programming of course modules, the even distribution of the study load over the academic year and the monitoring of student progress will contribute to more successful study behavior.

The third factor is *social and academic integration*. Regular contact with the lecturers and the sense of belonging to the academic community are crucial. Social integration is the extent to which students feel at ease among students and lecturers and feel connected. Any form of academic and social

bonding contributes to improved academic achievement and to an increase of the degree of goal orientation (Severiens et al., 2009). This in its turn influences the decision either to dropout or to continue (Tinto, 2009). The relationship between academic integration and study success has been demonstrated in a number of studies (Ulriksen, et al., 2013) that stress the importance of contact with lecturers about the subject matter, discussions with fellow students and participation in academic activities as factors related to study success.

The fourth factor is the **didactic approach**: the quality of the teaching materials and the testing are important for academic success. There is an optimal ratio between self-study and contact time (Schmidt et al., 2010). A limited contact with lecturers and other students will motivate students to study independently but too much contact will take up time, which could be used for self-study. Also the use of activating teaching methods (Zhou, 2012), formative types of tests and the use of partial exams (Bruijns, 2014), and collaborative learning (Herrera-Pavo, 2021; Janssen et al., 2020) will contribute to study success.

3. The new educational model in 2013: activating distance education

OUNL formulated an evidence-based educational model which would increase study success (Koper et al., 2013) by intake interviews to clarify expectations, reduction of non-commitment by introducing an academic year and a course schedule with fixed deadlines, increase of social and academic integration by organizing more virtual classrooms, more face-to-face-meetings, a pro-active lecturer and a study counselor, more activating teaching methods, more working in groups, regular formative tests and partial exams. In the table below all the measures are summed up (Schlusmans et al., 2016b).

Table 2 The new educational model of OUNL (2013)

Factors influencing study success	Actions/measures
Intake	Intake with a student counselor Strict entry requirements comparable to other universities Design of a study plan Information about the level of the study and the amount of study time necessary
Organization	Introduction of an academic year Courses with fixed schedules in the master's programs Courses with a combination of fixed and flexible schedules in the bachelor's programs Exams at pre-arranged times No automatic renewal of registration No additional exams Deadlines within the course Active monitoring of the students
Social and academic integration	More contact with lecturers Introductory and face-to-face-meetings Virtual classrooms More group work
Didactic Approach	Online learning Activating learning Assignments and feedback Study load more in accordance with EC

The new model was presented in May 2013 and projects were set up to transform all the degree programs, including training of staff and changing many administrative procedures. In September 2014, the first master's students started studying in the new model and in September 2016, the first bachelor's students began.

4. Evaluation of the new educational model: study pace, satisfaction and dropout

With the introduction of the new educational model, an evaluation program was set up to answer questions such as: how many students will enroll for the programs? Does the model lead to more study success on the course level and on the program level? Are students and staff satisfied with the model and what can be improved? The new administrative procedures were very different from the former ones, so it was difficult to compare the old and the new groups of students. Nevertheless, OUNL defined several reference groups of students for the old system (Schlusmans et al. 2016b). In this paper, we concentrate on the following effects: study pace (in terms of European Credits, EC, par. 4.1), satisfaction (par. 4.2) and dropout (study stop without degree diploma or course certificate, par. 4.3). We have selected from studies earlier presented in Dutch (Schlusmans et al. 2018 and Van den Munckhof et al., 2021a, 2021b, 2022) and both use qualitative measures from focus groups and the analysis of open questions and quantitative indicators.

4.1 Study pace improves

4.1.1 Master's students

The number of EC a student earns in a year measures study success on program level. In table 3a, the amount of EC the students earned on average was calculated for each cohort separately. We also looked at a comparable group of students studying in the former educational model (table 3b). Results are reported when a group consists of more than seven persons. Table 3 shows that compared to the reference group a considerable increase per year takes place in most of the master's programs. After two year study the mean amount of EC increases from 22 to 37. The programs Psychology and Humanities show figures with a smaller amount of EC after one, two and three years of study compared to the reference group 2013-2014, but this decrease is much smaller than the increase in the other seven master's programs.

Table 3a Study pace: mean number of EC per year in master's programs New Educational Model 2014-2021

	After 12 months*		After 24 months		After 36 months	
	Mean	*N*	Mean	*N*	Mean	*N*
Master Business Process Managem. & IT (MABPM)*	25	*1150*	43	*867*	46	*488*
Master Computer Science (MACS)	16	*31*	34	*21*	47	*16*
Master Environmental Sciences (MAES)	10	*144*	17	*98*	24	*60*
Master Humanities (MAKC)	10	*245*	23	*167*	30	*122*
Master Management (MAMAN)	22	*2466*	38	*1763*	40	*923*
Master Educational Sciences (MAOW)	25	*532*	38	*383*	45	*246*
Master Psychology (MAPSY)	16	*718*	29	*465*	36	*292*
Master Law (MAR)	21	*812*	37	*539*	43	*338*
Master Software Engineering (MASE)	19	*232*	32	*179*	39	*128*
Total	**21 EC**	*6330*	**37 EC**	*4482*	**41 EC**	*2613*

* Students who have been registered for at least 12 (24, 36) months
and whose registration rights have ended in the first 6 months.
** between brackets the labels of the several disciplinary master's programs.

Table 3b Study pace: mean number of EC per year in master's programs in the Former Educational Model (reference group) 2013-2014

	After 12 months		After 24 months		After 36 months	
	Mean	*N*	Mean	*N*	Mean	*N*
MABPM	11	*235*	22	*56*	29	*49*
MACS	12	*29*	24	*7*	37	*7*
MAES	12	*44*	12	*8*	21	*8*
MAKC	14	*155*	25	*40*	32	*32*
MAMAN	9	*562*	16	*260*	24	*207*
MAOW	9	*62*	19	*10*	23	*9*
MAPSY	17	*612*	30	*117*	41	*96*
MAR	19	*506*	28	*29*	33	*80*
MASE	16	*29*	26	*16*	36	*14*
Total	**14 EC**	*2298*	**22 EC**	*609*	**30 EC**	*502*

Figure 2 shows the increase of study pace from another perspective. The time to pass the master's exam is on average much shorter for students in the new model (figure 2, red) than for those in the reference group (in blue). This also holds true for the master's programs Psychology and Humanities.
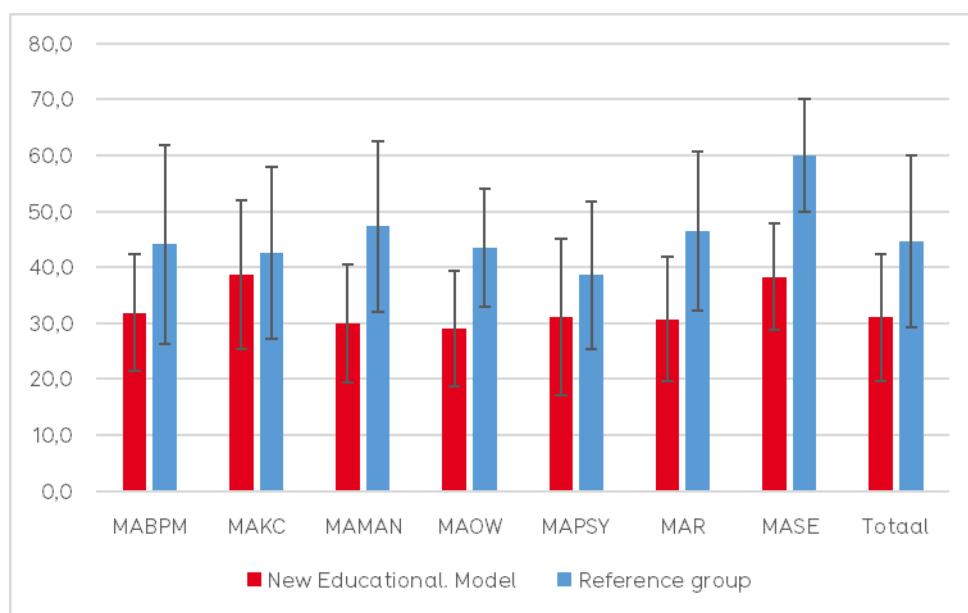
Van den Munckhof & Winkels, *Activating academic distance education,* Athens, 19-21 October 2022.

Figure 2 Time to pass the master's exam (in months)

After three years, almost half of the master's students have graduated. The gain in study pace from the first year decreases in the second year and when the master thesis is written.

In table 4, we see large differences between the various programs. More detailed analyses (not reported here) of the duration of the thesis, which is usually the final part of the degree program, show that the new educational model has had little or no effect on this part of the degree programs.

Table 4 Proportion of master's students that pass their master exam within three years of study

Cohort	MABPM		MAKC		MAMAN		MAOW		MAPSY		MAR		MASE	
	G*	R	G	R	G	R	G	R	G	R	G	R	G	R
2014	58%	0%	-	-	67%	0%	60%**	0%	67%	0%	71%	0%	75%	0%
2015	71%	3%	36%	18%	63%	6%	53%	7%	68%	2%	77%	2%	52%	7%
2016	68%	2%	31%	23%	52%	10%	73%	7%	63%	12%	58%	10%	42%	17%
2017	62%	15%	37%	13%	53%	14%	73%	12%	59%	15%	61%	14%	34%	22%

G = pass exam. R = did not pass, but still have subscription right to do exam.
*** Percentage in grey if less than 30 students.*

We have also looked at another indicator of study pace, not on the level of the degree program, but on course level: the proportion of students who get a course certificate within a year. As a reference group, we selected the students in all master courses in 2013. The average proportions of students who got a course certificate within a year are reported in figure 3.
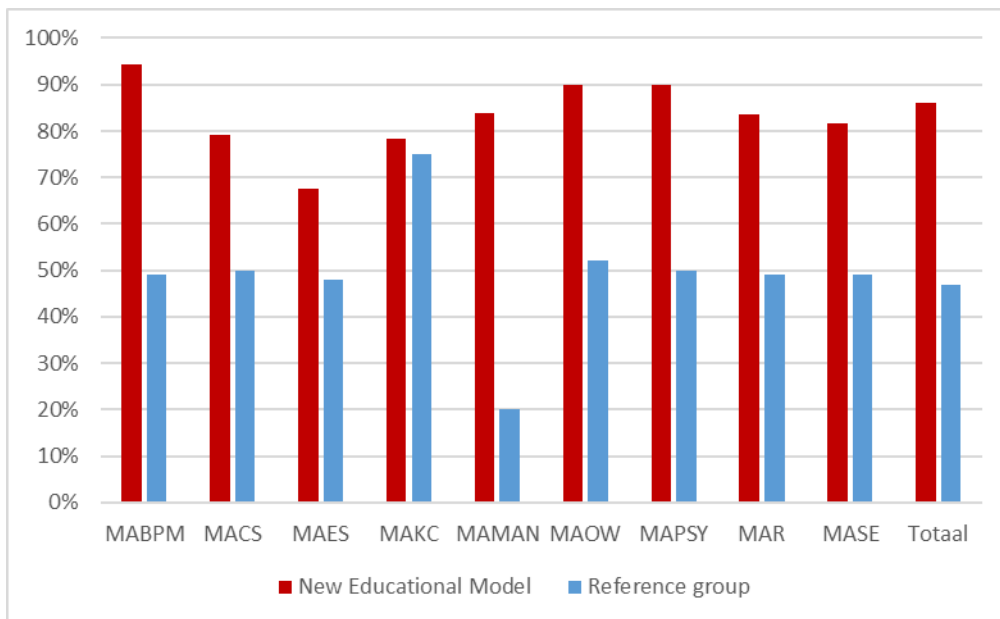
Van den Munckhof & Winkels, *Activating academic distance education,* Athens, 19-21 October 2022.

Figure 3 Proportion master's students passing their course exam

We conclude from figure 3 that the introduction of the new model has led to a substantial improvement in course results. The exception is humanities (MAKC in figure 3). Here we notice only a slight increase. This can be explained by the fact that humanities already offered a rather structured approach in 2013 for its master's courses and already scored a high percentage in 2013.

4.1.2 Bachelor's students

How about study success in the bachelor programs? Comparing the amount of EC students achieve in the first year for the reference group and the group studying in the new educational model, we notice a higher amount of EC achieved in the new model. Table 5 shows that in the former model students achieved 4,4 EC. In the new model the level of achievement significantly increases with more than 40% to 6,2 EC.

Table 5 Number of EC aimed and achieved in the first year, for students in the New Educational Model and the reference group.

	Reference group	New Educational Model		
		Total	Degree students	Non-degree students
	N=3387	N=12192	N=6381	N=5811
Number of EC aimed	11,4	15,8*	21,6**	9,6
Number of EC achieved	4,4	6,2*	9,0**	3,2

*) The difference between the reference-group and the NOM-group is significant.

**) The difference between degree- and non-degree students is significant.

We thereby observe a difference in both registration and achievement between students that have the ambition to follow a complete degree program and students that register for a course and do not have this 'degree ambition'. We did the same analysis, but now for the first two study years of OUNL-students. Results are presented in table 6.

Van den Munckhof & Winkels, *Activating academic distance education,* Athens, 19-21 October 2022.

Table 6 Number of EC aimed and achieved in the first two years, for students in the New Educational Model and the reference group.

	Reference group	New Educational Model		
		Total	Degree students	Non-degree students
	N=940	N=2542	N=1931	N=582
Number of EC aimed	29,5	42,5*	46,4**	30,0
Number of EC achieved	18,2	27,4*	30,0**	17,6

*) The difference between the reference-group and the NOM-group is significant.

**) The difference between degree- and non-degree students is significant.

Again, we see the effect of the new educational model on study pace. In the reference group of students, the mean amount of achieved credits after two years is 18 EC. This amount increases with 50% to 27 EC for students following courses in the new model. The amount of achieved EC in the new model is more than 40 EC after three years, where it was less than 30 in the former model, a remarkable positive difference. This can be seen in figure 4 in which also the proportion after one respectively two year study are presented.
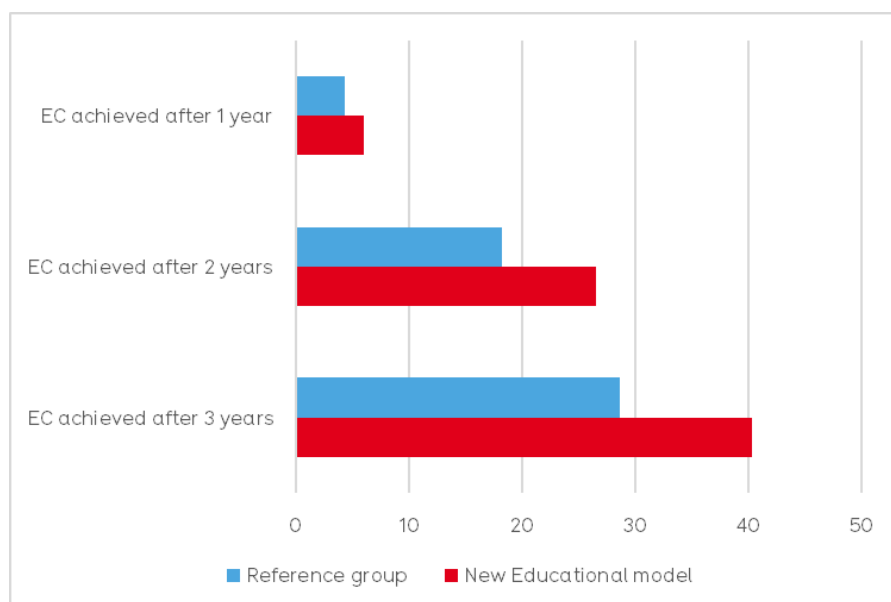

Figure 4 Number of EC achieved within 1, 2 and 3 years in the old and new model

Study pace is influenced by the format of the courses. OUNL uses a combination of so-called fixed and variable course formats within each degree program, but especially in the bachelor's programs. Courses with variable start dates are crucial to guarantee an important principle behind the educational model of OUNL, both the former and the new one: each new student should be offered the possibility to start studying as soon as possible (Open Universiteit, 2022a). However, if courses are fixed (with respect to start dates, dates of virtual meetings between students and lecturers, examination dates, etcetera) the proportion of students that pass their exam is higher than if courses are scheduled in a variable format. The only exception within OUNL are the courses by the Faculty of Law. This can be seen in table 7.

Table 7 Proportion of students that pass their exam for first and follow up achievements, broken down by course type.

	First achievement		Follow up achievement	
	Fixed course	Flexible course	Fixed course	Flexible course
Culture	49,3%	27,5%	72,5%	73,2%
Computer Science	41,6%	34,5%	55,5%	48,6%
Management	33,2%	27,0%	47,4%	40,4%
Sustainability and envrionment	46,4%	28,7%	64,9%	50,9%
Psychology	48,1%	35,3%	73,5%	66,8%
Law	34,1%	34,0%	58,3%	64,3%
Total	42,7%	32,5%	65,5%	62,9%

Figure 5 shows the 'overall' passing-grades of the first course separately for degree students and non-degree students, with a fixed and a variable format. The proportion of students who pass their first course exam is larger in case of a fixed course, for both degree and non-degree students. It is obvious that the effect size is bigger in case of degree students.
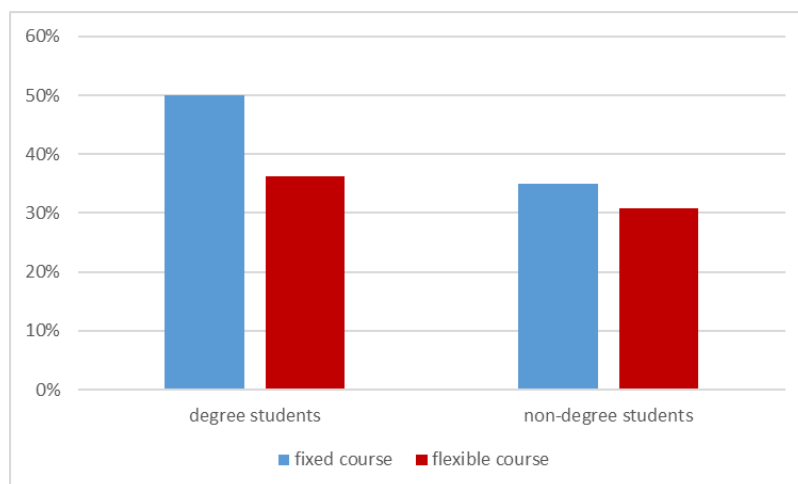

Figure 5 Proportion of students that pass the first course, broken down by fixed and flexible courses and by degree and non-degree students.
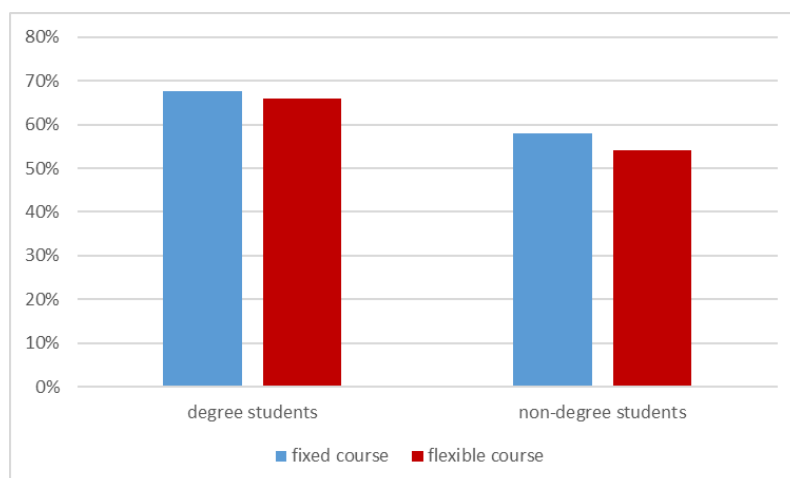

Figure 6 Proportion of students that pass a follow up course, broken down by course type and by degree and non-degree students.

Van den Munckhof & Winkels, *Activating academic distance education,* Athens, 19-21 October 2022.

From figure 6 it becomes clear that the effect of course type on passing grades is much smaller and almost disappears in case of follow up courses. This is both the case for degree and non-degree students.

4.2 Satisfaction stays high

4.2.1 Master's students

OUNL regularly asks her students to give an overall score for the program they are following. In our surveys, the same question was asked for the old and the new programs. Programs with less than seven respondents in the survey again are not included in table 8 that shows results of this analysis.

Table 8 Overall satisfaction scores for the new and old programs 2015 - 2021

	Old model	New Model		
Master	2015	2016	2019	2021
Management and IT	7,6	7,6	7,2	7,8
Computer Science	8,0	8,3	7,0	7,3
Environmental Sciences	7,6	8,0	8,5	8,3
Humanities	7,4	8,0	8,0	8,4
Management	7,5	7,7	7,6	7,9
Educational Sciences	7,6	7,7	7,7	7,9
Psychology	7,7	8,1	7,6	7,7
Law	7,5	7,8	7,5	8,2
Software Engineering	8,3	8,0	7,8	8,3
Total	7,6	7,8	7,6	7,9

The average grade for the new programs is as high as those for the old ones. There are some minor changes between the overall scores but they are not significant. In general, students are still very positive about the programs. Nevertheless, we have observed the existence of a substantial group of students (approx. 15% of the student population) who are unhappy with the new model. When asked (with open questions in surveys and in focus groups), 11% of master's students makes a comment about flexibility. This comment is often negative in tone: students indicate that they did not come to OUNL for this (Schlusmans et al., 2018). This mainly concerns students who started in the former model that was characterized with a lot of freedom. They had to switch to the new one. We also encounter these objections amongst bachelor's degree students and they persist for a little longer, because of the larger number of study years in the bachelor.

Students were also asked whether they would recommend the program to others. A large majority of students would do this. Trend scores vary from 87% in 2015 to 85% in 2021 with the lowest score

in 2017: 78%. However, satisfaction of master's students varies if we look in more detail: we also asked master's students to rate various aspects of the program on a five-point scale. These figures are shown in table 9.

Table 9 Satisfaction with different aspects of the master's programs 2015 and 2018
(in brackets the results for the old programs, scores based on sample sizes less than 10 in italics)

Aspect: (on a 1-5 scale)	Content	Coherence	Up to date	Guidance and support	Combination work/study	Sample (N)
Management and IT	4,0 *(4,2)*	4,0 *(4,0)*	3,9 *(4,0)*	3,5 *(3,8)*	3,6 *(3,0)*	57 (5)
Humanities	4,4 *(4,2)*	4,0 *(3,8)*	3,9 *(3,4)*	3,8 *(3,0)*	4,1 *(3,6)*	9 (5)
Management	4,1 (4,1)	4,1 (4,0)	3,9 (3,8)	3,5 (3,4)	3,4 (3,3)	114 (40)
Educational Sciences	4,2 (4,2)	3,9 (3,9)	4,1 (4,0)	3,7 (3,6)	3,5 (3,6)	75 (48)
Psychology	4,2 (4,1)	4,1 (3,9)	4,2 (3,2)	3,7 (3,6)	4,1 (3,9)	17 (18)
Law	4,0 (4,1)	3,8 (3,6)	3,8 (3,5)	3,2 (2,9)	3,4 (3,9)	23 (17)
Software Engineering	4,2 *(4,3)*	4,1 *(4,0)*	3,7 *(3,7)*	4,2 *(4,3)*	3,7 *(4,0)*	11 (3)
OUNL total	4,1 (4,1)	4,0 (3,9)	3,9 (3,7)	3,6 (3,5)	3,5 (3,6)	312 (141)

In general, students are very satisfied with the content, coherence and actuality of their programs. OUNL uses a score of 3,5 as a lower limit and nearly all scores are above this score. The students are least satisfied with the extent in which the study can be combined with other activities and with the guidance and support they get. With regard to the supervision in the new model, we see that students in 2018 are satisfied with the more intensive contact with lecturers. The (now sometimes mandatory) virtual meetings are received with mixed feelings. Students want to see benefit, and this is only the case when there is interaction, when it is substantive and when the meeting is well organized. The latter is not always the case, mainly due to technical problems with the virtual classroom. In activating education, students regularly make assignments and papers. They like this, but then they expect meaningful feedback from the lecturer.

Schlusmans et al. (2018a, 2018b) and Van den Munckhof et al. (2017) reported about the effects of the new model with its emphasis on tutoring and support, visibility of the lecturers, and increase of meetings on the satisfaction of students with the support they receive from lecturers and study counselors. In the former model, there existed a large group of students that did not use tutoring and/or student support at all. Thirty percent of the very experienced students in 2014 had never contacted a lecturer to ask a question and almost half of the students had ever participated in a meeting. In general, the students who did use the tutoring and support on offer were quite satisfied. The majority of students however reported that they prefer studying on their own.

In the new model, more students use the tutoring and support on offer. More sessions are in fact semi compulsory and there is more contact with the lecturers. The appreciation of the quality of the lecturers is much higher in the new model, but the meetings score lower. An analysis of the open answers showed that students are quite critical of the benefit of meetings, both face-to-face and virtual (Van den Munckhof et al., 2017). Students want quick replies to their questions and good

personal feedback and they really appreciate it when a lecturer knows them and knows about their progress.

The same varied picture emerged from the field tests of the new courses in 2016. Students are generally satisfied in 2016 with the courses in the new master's programs; in particular, the content, the lecturer support, the testing and the materials score high. Although 60% of the students at that time appears to appreciate the new structure with the tight schedule and say that, they need deadlines and a tight schedule to get ahead, 15% of the students regret the introduction of deadlines and the reduction of freedom. For them it is more difficult to combine the study with other activities and a week's holiday or peak periods at work lead to delays. Those students also indicate that the new system is too rigid for adult education.

Another issue that was mentioned very often are meetings. Students expect benefit from face-to-face and virtual meetings and that is not always the case. In quite a lot of the course evaluations more than 20% of students indicate that they are dissatisfied with the quality of the face-to-face-meetings. We have also seen course evaluations where a quarter of the students say that they are (also) dissatisfied with the quality and the added value of the virtual meetings. The open questions in our surveys also show that there regularly were technical problems with the virtual meetings.

In the survey and in the interviews in 2016 the following positive and negative points of the new programs came up. Positive points were ability to study independently, still enough flexibility, quality of the content, structure of the program with deadlines, quality of the courses, quality of the contact with lecturers, opportunity to study online. Quite a lot of students were still very positive about the fact that is possible to combine study and work. They felt that the new programs had enough flexibility and that the structure with deadlines was helpful to them. They were also very positive about the content of the program and the quality of the courses. They especially liked the fact that they had more contact with the staff. As negative points of the new model students mentioned in 2016: organization, too many online materials, loss of flexibility, quality and added value of meetings, and quality of the feedback.

Especially students who previously had a bachelor's degree in the old model did regret the organization with much more restrictions and a reduction of freedom. Although they admitted that deadlines helped them to progress, they found it is more difficult to cope with unexpected events such as deadlines at work or family matters. They also did regret that there were no activities in the summer holiday as for some students this is their preferred period for study. Students in general did not like parallel courses as often deadlines and peak periods coming together. Quite a lot of students complained about the fact that materials are only delivered online. They preferred to have printed copies of readers and longer reading texts. Negative comments about the virtual classroom in 2016 were mainly about technical problems. In general, students liked the fact that they did not have to travel for a virtual classroom. They liked face-to-face-meetings if they have added value. As students have to travel, they really want to get something out of these meetings. Some students also complained that the feedback they got on the assignments was sometimes very limited.

Now, a couple of years later, we can look at the changes in satisfaction for master's students. Results are presented in table 10. We conclude from the comparison between table 9 and 10 that the high satisfaction scores in earlier years remain at a high level in 2021. If there is already a trend (sample

sizes per discipline are sometimes too small for firm conclusions), it is an upward one. We don't observe scores below the 'OUNL lower limit' of 3,5 anymore.

Table 10 Satisfaction with different aspects of the master's programs 2022

Aspect: (on a 1-5 scale)	Content	Coherence	Up to date	Guidance and support	Combination work/study	Sample (N)
Management and IT	3,9	3,8	4,1	3,7	4,0	140
Computer Science	4,5	3,6	4,0	4,0	4,2	11
Environmental Sciences	4,0	3,5	3,7	4,1	3,8	24
Humanities	4,3	3,5	4,0	4,1	3,8	46
Management	4,1	3,9	3,8	3,7	3,8	289
Educational Sciences	4,1	3,7	4,0	3,7	3,9	92
Psychology	4,1	3,7	3,9	3,7	4,0	122
Law	4,3	3,8	4,2	3,8	3,9	72
Software Engineering	4,2	4,0	4,0	4,2	3,9	41
OUNL total	**4,2**	**3,8**	**3,8**	**3,8**	**3,9**	**847**

4.2.2 Bachelor's students

We also looked in more detail to satisfaction with the various aspects of the bachelor's programs. In general, we observe (see table 11) the same positive effects as among master's programs (see table 10). This time with the exception of the aspect 'coherence' of the program. Scores on this aspect are somewhat lower, although still high among students in the new programs compared to the students in the reference group 2013-2014.

Table 11 Satisfaction with different aspects of the bachelor's programs 2022
(in brackets the results for the old programs 2016)

Aspect: (on a 1-5 scale)	Content	Coherence	Up to date	Guidance and support	Combination work/study	Sample size N
Management	4,0 (4,2)	3,8 (4,1)	3,8 (3,7)	3,5 (3,7)	4,1 (3,9)	155 (63)
Informatics	4,2 (4,2)	3,9 (4,0)	3,7 (3,3)	3,9 (3,8)	4,1 (3,7)	195 (89)
Information science	4,3 (4,0)	4,0 (3,8)	3,9 (3,6)	4,0 (3,6)	4,0 (3,2)	41 (16)
Humanities	4,3 (4,4)	3,9 (4,0)	3,7 (3,6)	3,8 (3,5)	3,9 (3,8)	636 (333)
Environmental Science	4,3 (4,1)	4,0 (3,9)	4,1 (3,6)	4,0 (3,7)	4,0 (3,7)	118 (53)
Psychology	4,2 (4,2)	3,8 (4,0)	3,8 (3,7)	3,3 (3,4)	3,7 (3,8)	900 (358)
Law	4,1 (4,1)	3,7 (3,8)	4,0 (3,6)	3,7 (3,2)	3,8 (3,6)	500 (263)
OUNL total	**4,2 (4,2)**	**3,8 (4,0)**	**3,8 (3,6)**	**3,6 (3,4)**	**3,9 (3,7)**	**1370 (1175)**

With regard to student satisfaction, we observe that students are reasonably satisfied at course level. Only 10 percent of the students are dissatisfied with the timetable at course level. With regard to supervision, we see that students are slightly less satisfied with the quality of the meetings than with the quality of the course material and the learning management system (LMS). A frequently heard comment from students is that in a number of cases they do not understand why a course is fixed, if there are no supervision meetings.

We also see a clear decline in student satisfaction with the combination of learning with other activities. In particular, the number of students who would unreservedly recommend an OUNL course to others has fallen in recent years. Analysis of the open answers shows that this is mainly due to the loss of flexibility. A dilemma thus emerges here. Students want more flexibility and that is why they are generally less satisfied. We also see that more OUNL alumni choose to follow a master's degree program elsewhere after they have achieved their bachelor's degree at OUNL. Although some may say that this is a pity, we interpret this phenomenon as positive: more than before a bachelor's degree from OUNL seems to function as a preparation for a master's degree program elsewhere.

The overall satisfaction of bachelor's students remains at a high level, as can be seen in table 12. The scores are more or less the same as those of the master's students (see table 8).

Table 12 Overall satisfaction scores for the new and old bachelor's programs 2015 - 2021

Bachelor's programme	Former educational model		New educational model	
	2015	2016	2019	2022
Management	7,7	7,9	7,8	7,9
Informatics	8	7,7	7,8	8
Information science	8,1	7,6	8,2	8,6
Humanities	7,9	7,9	8	8
Environmental Science	8	7,7	8,2	8,2
Psychology	7,8	7,7	7,8	7,7
Law	7,7	7,5	7,5	7,8
OUNL total	**7,8**	**7,7**	**7,8**	**7,9**

The blended model of the bachelor's degree programs was designed with the idea of providing this flexibility through variable courses. However, many students do not see this. In terms of numbers of students that pass their exam the variable courses in the new model, perform worse than these

courses in the former model. A reason for this could be that in the case of parallel programming, students give priority to the fixed courses that are organized at the same time.

4.2.3 Lecturers and student counselors

After initial skepticism, in 2018 the lecturers and student counselors are positive about the new model. For the majority of lecturers, the new teaching model is an improvement over the former one. Master's lecturers are more positive than their bachelor's colleagues are. In the bachelor's degree programs, the number of convinced positive lecturers is somewhat lower: more than 15 percent consider the new model a clear improvement, almost 40 percent reports slight improvement. Nearly a quarter of the bachelor's lecturers believes that the new model is a deterioration. For the master's degree, this share is somewhat lower and amounts to 17 percent. Lecturers seem to be particularly satisfied with the higher proportion of students that pass their exams. In addition, an important role is also attributed to the well-functioning LMS at that time.
An urgent need for student counselors in 2018 is the availability of a student tracking system to follow the progress of their students. Lecturers, like students, are most concerned about the reduced flexibility of education and the associated problems for students. The high work pressure among lecturers is also mentioned as often in 2018 as in 2013. According to them, the introduction of the new model did not bring them more time for research or for more student support.

In 2021, based on similar surveys among lecturers and a meeting with student counselors, we see partly the same and partly different results. An efficient/effective system to monitor study progress is still an important wish for both student counselors and lecturers. The student counselors in particular need such a student tracking system in which all facets of contact with the student can be properly recorded, in which insight could be obtained quickly based on certain criteria, and in which students can be proactively offered study advice at any time. A rough estimate by the student counselors indicates that in 2022 approximately one fifth of master's students makes use of the option (offered by personal email) to conduct an individual study advice interview. This share is probably slightly higher for bachelor's students. In addition, online and face-to-face group discussions are organized in which student counselors answer questions from students.

Again, work pressure among lecturers did not change substantially. It remained at a rather high level between 2018 and 2021. Especially the dissatisfaction with the amount of time available for supervising students is mentioned. Little seems to have changed here with the introduction of the new model. Other factors seem to be more relevant and maybe the following one plays a role: lack of staff. Between 2018 and 2021 both, the number of OUNL students and the number of EC obtained by them showed an increase of 20%, while the number of staff members increased by 13% (Open Universiteit, 2022b). Both the lack of enough time among lecturers to give feedback on student work and work pressure can be influenced by this discrepancy.
The disadvantages of less freedom of choice for students are mentioned much less (both by lecturers and students) in 2021 than in the years immediately after the introduction of the new educational model, indicating that a crucial element of the new model, more steering by introducing more structure within both the courses and the bachelor's and master's curricula, is appreciated by most students now.

Van den Munckhof & Winkels, *Activating academic distance education,* Athens, 19-21 October 2022.

4.3 Dropout stays more or less the same
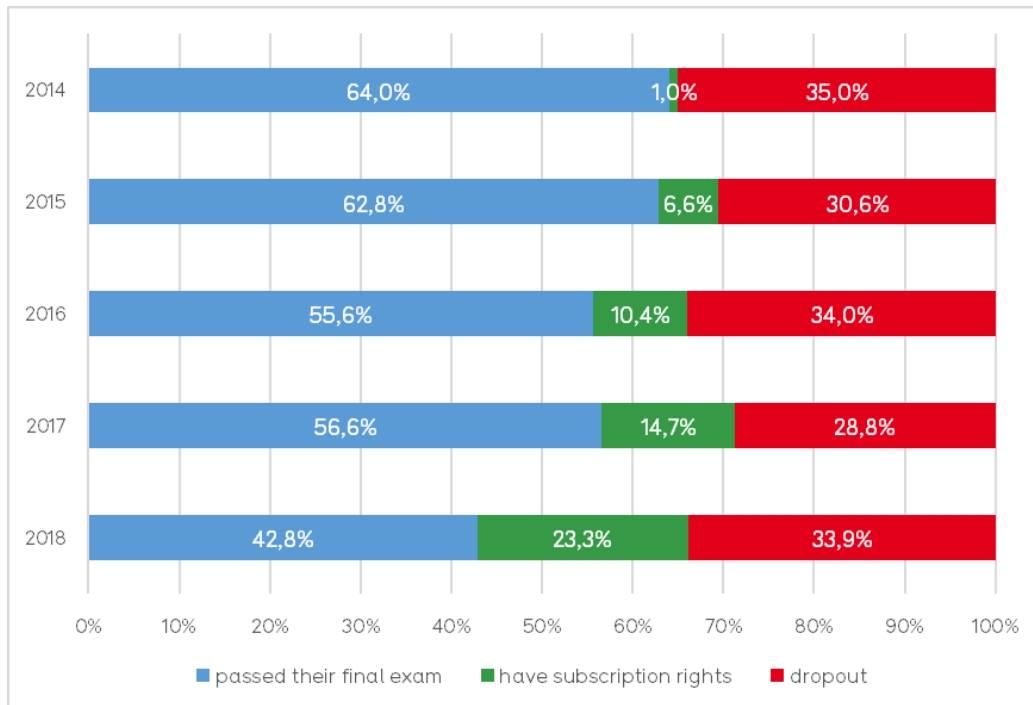
4.3.1 Master's students

Figure 7 Proportion of students that passed their final degree exam, still have subscription or dropped out.

Figure 7 illustrates (in blue) the proportion of students that pass their final degree exam. In red, the dropout rate is given and in green, the percentage of students is shown which still have subscription rights and may pass their degree exam in the near future. We can observe that (more or less one third) of each cohort of new students stop without a Diploma.

For the reference group, we analyzed how many students have dropped out, how many still have registration rights and how many have already obtained a bachelor's or master's degree. We did the same with the students who have studied or are studying in the new model. For the reference group, the proportion of students who obtained a diploma is 56%. Among the students in the new model who started in 2014 or 2015 the proportion is somewhat higher: 62% and 61% respectively. In later years, we see of course many students with registration rights, of which we will have to wait and see whether they will still receive their diploma.

Somewhat more detail about master degree students is given in figure 9. We conclude that dropout already takes place in the first 12 months (8%) and increases to 18% after 24 months, being the 'normal' period to pass a master's exam with a study pace of 30EC per year.
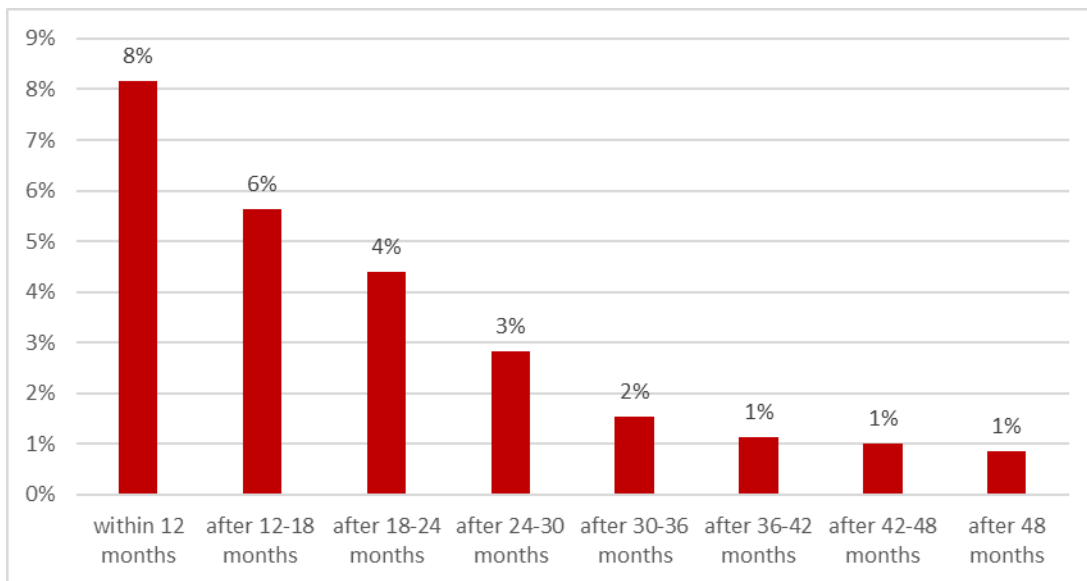
Figure 8 Proportion of dropouts of master degree students

From more detailed analyses (not reported in this paper), we conclude that a considerable proportion of those who dropout are already well advanced in their study. In some master's programs (Management Sciences, Business Process Management and IT, Psychology) about 40% of these dropouts are in the thesis phase. These students have registered for the preparation course of the thesis or for the thesis course itself, and still fail with the finish line in sight (Van den Munckhof et al., 2021). This phenomenon can also be seen in figure 9.
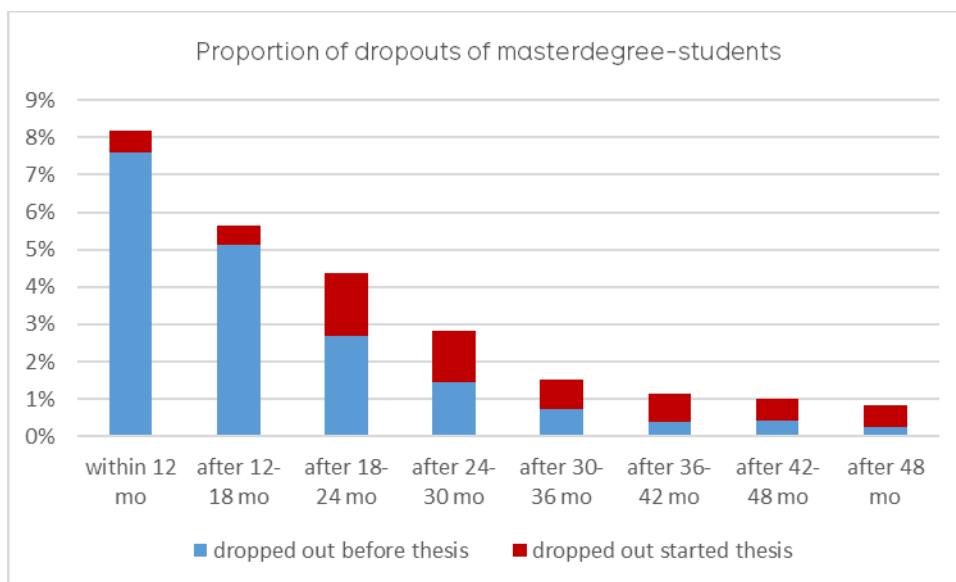
Figure 9 Dropout of students who started their master's program at least 3 years ago, having no subscription rights anymore

Figure 9 shows in red the proportion of students without subscription rights although these students have already started with their master's thesis. Some of them may come back, we know from

Van den Munckhof & Winkels, *Activating academic distance education,* Athens, 19-21 October 2022.

experience, but a lot of them will not pass their degree exam. In blue the proportion of students that have stopped without starting their thesis course is given. The red part of figure 9 was the main argument for OUNL to look in more detail to the thesis courses. When students have already invested such a lot (both time and budget), OUNL sees it as an obligation to see how she can prevent those who have the 'finish line' in plain sight from dropping out.

4.3.2 Bachelor's students

For the bachelor's programs, we cannot present the dropout on program-level yet. The time since the introduction of the new model in the bachelor's programs is still too short. Therefore, for the bachelor's students we have analyzed how many students register again for a course in the second and in the third year of their study (figure 10). Students who do not register again after two years can, according to this indicator be seen as dropouts, at least for a long period of 24 months.
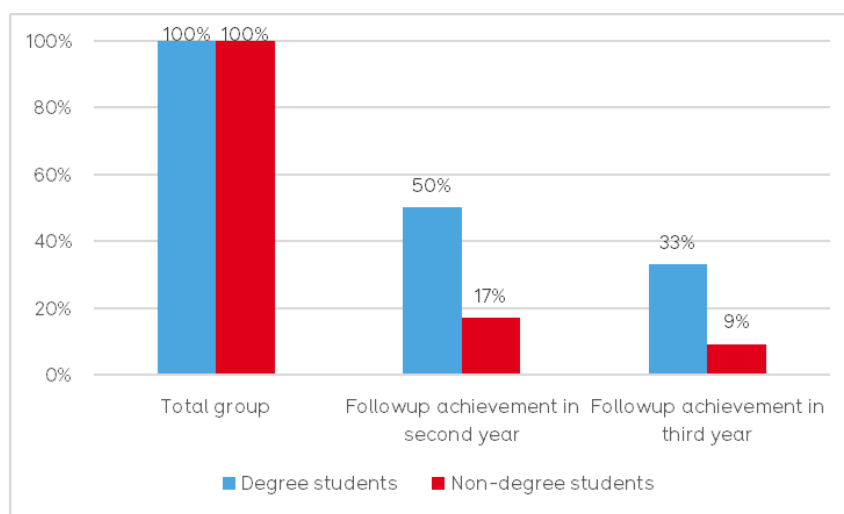

Figure 10 Proportion of students that registers for a follow up course in the second and third year

We again observe a difference between degree and non-degree students. Two thirds of the degree students and nine out of ten non-degree students do not show a follow up achievement in the third year. Although degree students of course can 'restart' in the fourth year and many non-degree students maybe had the intention to follow only one course, these dropout rates are high. It is obvious that, compared to the master programs, these dropout rates are much higher in the bachelor's programs.

In figure 11 we present these data from another point of view to answer the question 'Did dropout rate change after the introduction of the new model?'
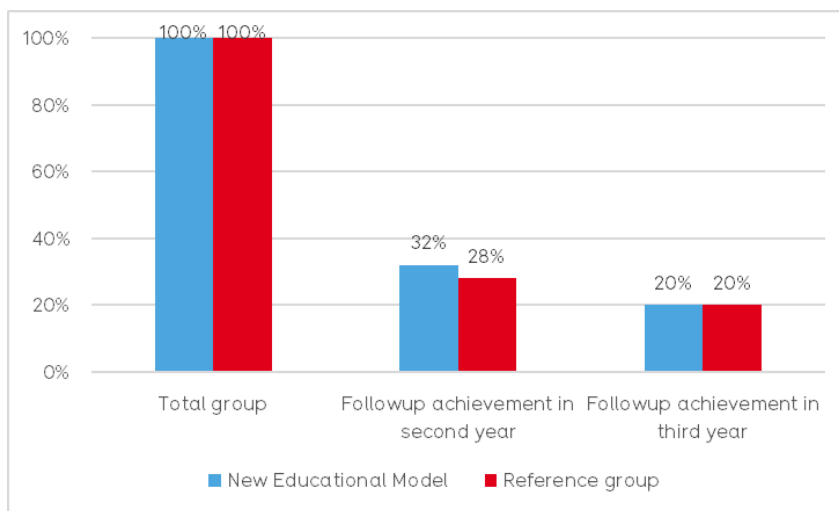

Figure 11 Proportion of students that registers again for a course in the second and third year

Only 20% of the cohort of new students register after three years for another course and we do not see an effect of the new educational model with respect to this indicator of drop out, at least not in the third year after the start to study.

5. Conclusion

OUNL changed her educational model in 2013 and implemented it into her bachelor's and master's degree programs between 2014 and 2018. OUNL-wide programs were formulated to implement these changes and to look for further refinements. Several evaluation studies were set up to see what worked well and what did not. Our findings suggest that dropout rates are more or less the same as before, but students study faster, especially master's students. They achieve more EC per year than in the former educational model. Student satisfaction was already high at OUNL before 2015 (amongst the highest compared to the other Dutch universities) and remained high since. We conclude that more emphasis on degree programs and the introduction of more structure and social integration helped to improve study pace. The introduction of more activating elements in courses also led to more satisfaction amongst students. The students (especially those who already passed more than 10 EC) like the content of the programs and favor the possibilities to have more contact with their lecturers.

There is still room for improvement, especially with respect to the quality of the feedback from lecturers to students and the level of engagement of students with lecturers and other students. Writing a thesis, for most students the last step before they pass their bachelor's or master's exam, also needs more attention within several study programs. In 2021, based on several evaluations, it

was decided by the board of OUNL to implement the following refinements (Open Universiteit, 2022a):

- more contact with students in many courses
- more time for lecturers to adapt curricula (including the revision of exam schedules) to allow studying at tempos higher than 30 EC
- more guidance in courses with a variable start date
- more activities for the alumni of the various study programs
- more stimulation of mutual student meetings, for example in the form of testing grounds to see what works well
- More attention for short learning programs (15 EC-programs).

The last refinement has not much to do with the educational model as such, but follows from OUNL research on target groups and their demands with respect to continuous education (Melai et al., 2020; Open Universiteit, 2022b). For an increasing number of working professionals a complete academic program takes too much time, but individual courses do not satisfy. Therefore each of the faculties of OUNL has started (from academic year 2021-2022 onwards) with short learning programs (SLP's). These SLP's are linked by a common thread, preferably with focus on a societal issue, and feature a separate assessment.

Two important conditions for the other refinements to bring students more success in terms of higher study pace, more satisfaction and reduction of dropout, will be the decrease of work pressure of lecturers respectively the availability of a modern student tracking system. These two factors did not change between 2014 and 2021. In 2022, however OUNL showed progress with respect to the acquisition and implementation of a new student tracking system, a new LMS and a new system for online examination. It is expected that these technological developments will support finding a good balance between the amount of flexibility from the perspective of OUNL students (freedom of time, pace and space to study) and the amount of student support that can be given by both lecturers and student counselors.

References

Bruijns, V. (2014). Het effect van tussentijds toetsen op studierendement: een literatuurstudie. *Onderzoek van Onderwijs*, 15-20.

Broek, A. van den, Termorshuizen, T., Cuppen, J., & Warps, J. (2021). *Monitor beleidsmaatregelen hoger onderwijs 2020-2021*. Nijmegen: ResearchNed.

Delnoij, L. (2022) *Self-assessment for informed study decisions in higher education. A design-based validation approach*. Phd Thesis Open Universiteit.

Hausman, L., Ye, F., Schofield, J. & Woods, R. (2007). *Sense of belonging as a predictor of intentions to persist among White and African first-year college students.* Research in Higher Education 48 (7), 734–753.

Herrera-Pavo, M.A. (2021). *Collaborative learning for virtual higher education*. Learning, Culture and Social Interaction. 29 (March 2021). https://doi.org/10.1016/j.lcsi.2020.100437.

Janssen, J., Wopereis, I., Swennenhuis, P., Ebus, P., Severeyns-Wijenbergh, H. & Van Wijnen, J. (2020). Online active learning: A comparison of three virtual classroom collaborative learning scenarios. In L. Gómez Chova, A. López Martínez, & I. Candel Torres (Eds.), *ICERI2020 Proceedings: 13th International Conference of Education, Research and Innovation* (pp. 8518-8521). IATED. https://doi.org/10.21125/iceri.2020.1896.

Jansen, A., van den Munckhof, R. & Meertens, J. (2022). *Drop-out onderzoek. Focusgesprekken met studenten.* Heerlen: Expertisecentrum onderwijs Open Universiteit.

Koper, R., Brand-Gruwel, S, Camps, G., Jacobs, N., Joosten-ten Brinke, D., Kluijfhout, E., Kusters, R., Schlusmans, K., Specker, M. & van den Munckhof, R. (2013). *Activerend online onderwijs, Het nieuwe onderwijsmodel van de Open Universiteit.* Heerlen: Open Universiteit.

Leest, B., Van Langen, A & Smeets, E. (2022). *De eerste honderd dagen in het hoger onderwijs. Een overzichtsstudie.* Nijmegen: KBA Nijmegen.

Melai, T., van der Westen, S., Winkels J., Antonaci, A., Henderikx, P., & Ubachs, G. (2020). *Concept and role of Short Learning Programmes in European higher education*. Maastricht: EADTU.

Open Universiteit (2012). *Instellingsplan 2012-2016. Leren in tijden van verandering*. Heerlen: Open Universiteit.

Open Universiteit (2022a). *The OUNL Educational Model: Activating Academic Distance Learning*. Heerlen: Open Universiteit.

Open Universiteit (2022b). *Instellingsplan 2023 - 2027. Met open mind.* Heerlen: Open Universiteit.

Powell, R. (2009). *Openness and Dropout: A Study of Four Distance Education Universities*. Paper presented at 2009 ICDE-conference.

Schlusmans, K., van den Munckhof, R. & Nielissen, G. (2016a). *Anderhalf jaar Master begeleid*. Heerlen: Open Universiteit.

Schlusmans, K., van den Munckhof, R. & Nielissen, G. (2016b). Active online education: a new educational approach at the Open Universiteit of The Netherlands. Milton Keynes: OOFHEC 2016.

Schlusmans, K. & Winkels, J. (2018a). *De kwaliteit van het onderwijs 2015-2018. Resultaten en aanbevelingen.* Heerlen: Open Universiteit.

Schlusmans, K. & Winkels, J. (2018b). Hoe organiseer je hoger onderwijs op afstand? De ervaringen van de Open Universiteit. *Thema Hoger Onderwijs*, 78-82.

Schmidt, H. G., Cohen-Schotanus, J., van der Molen, H. T., Splinter, T. A. W., Bulte, J. A., Holdrinet, R. S. G. & Rossum, H. J. M. (2010). Learning more by being taught less: A 'time-for-self-study' theory explaining curricular effects on graduation rate and study duration. *Higher Education, 60*, 287-300.

Severiens, S.E. & Schmidt, H.G. (2009). Academic and social integration and study progress in problem based learning. *Higher Education, 58(1)*, 59-69.

Simpson, O. (2012). *Supporting Students for Success in Online and Distance Education*. New York and London: Routledge.

Tinto, V. (2009). How to Help Students Stay and Succeed. *Chronicle of Higher Education, 55*(22), A33-A33

Ulriksen, L., Madsen, L. M., & Holmegaard, H. T. (2013). What do we know about explanations for dropout/opt out among young people from STM higher education programmes? *Studies in Science Education 46*, 209-244.

Van den Boom, G. & Schlusmans, K. (1989). *The didactics of open education.* Heerlen: Open Universiteit.

Van den Munckhof, R. & Puls, J. (2012). *Studentinzicht 10.* Heerlen: Open Universiteit.

Van den Munckhof, R. & Puls, J. (2013). *Studentinzicht 11*. Heerlen: Open Universiteit.

Van den Munckhof, R., Schlusmans, K. & Winkels, J. (2017) Waarom zijn studenten van de OU meer of minder tevreden met hun studie (en is daar wat aan te doen)? Heerlen: Open Universiteit.

Van den Munckhof, R. & Schlusmans, K. (2020). Evaluatiegegevens nieuw onderwijsmodel. Heerlen: Expertisecentrum onderwijs Open Universiteit.

Van den Munckhof, R. & Jansen, A. (2021a). Evaluatie studiesucces en studenttevredenheid onderwijsmodel masteropleidingen. Heerlen: Open Universiteit.

Van den Munckhof, R. & Jansen, A. (2021b). Evaluatie studiesucces en studenttevredenheid onderwijsmodel bacheloropleidingen. Heerlen: Open Universiteit

Van den Munckhof, R. & Jansen, A. (2022). Evaluatie studiesucces en studenttevredenheid onderwijsmodel bacheloropleidingen. Heerlen: Open Universiteit.

Vossensteyn, J.J., Kottmann, A., Jongbloed, B.W.A., Kaiser, F., Cremonini, L., Stensaker, B., Hovdhaugen, E., Wollscheid S. (2015). *Dropout and completion in higher education in Europe: main report. Center for Higher Education Policy Studies*. Faculty of Behavioural, Management and Social Sciences. University Twente.

Wartenbergh, F. en Van den Broek, A. (2008) *Studieuitval in het hoger onderwijs. Onderzoek in opdracht van het ministerie van OCW*. Nijmegen: ResearchNed.

Zhou, J. (2012). *The impact of engagement on the academic performance and persistence of first-year college students at a four-year public institution*. Tallahassee, Florida: ProQuest Information & Learning.