

University of Groningen

Implementing assessment innovations in higher education

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Appendices



Chapter 2

Table A2(a). The approach to taking computer-based exams and paper-based exams in general in cohort 2013/2014

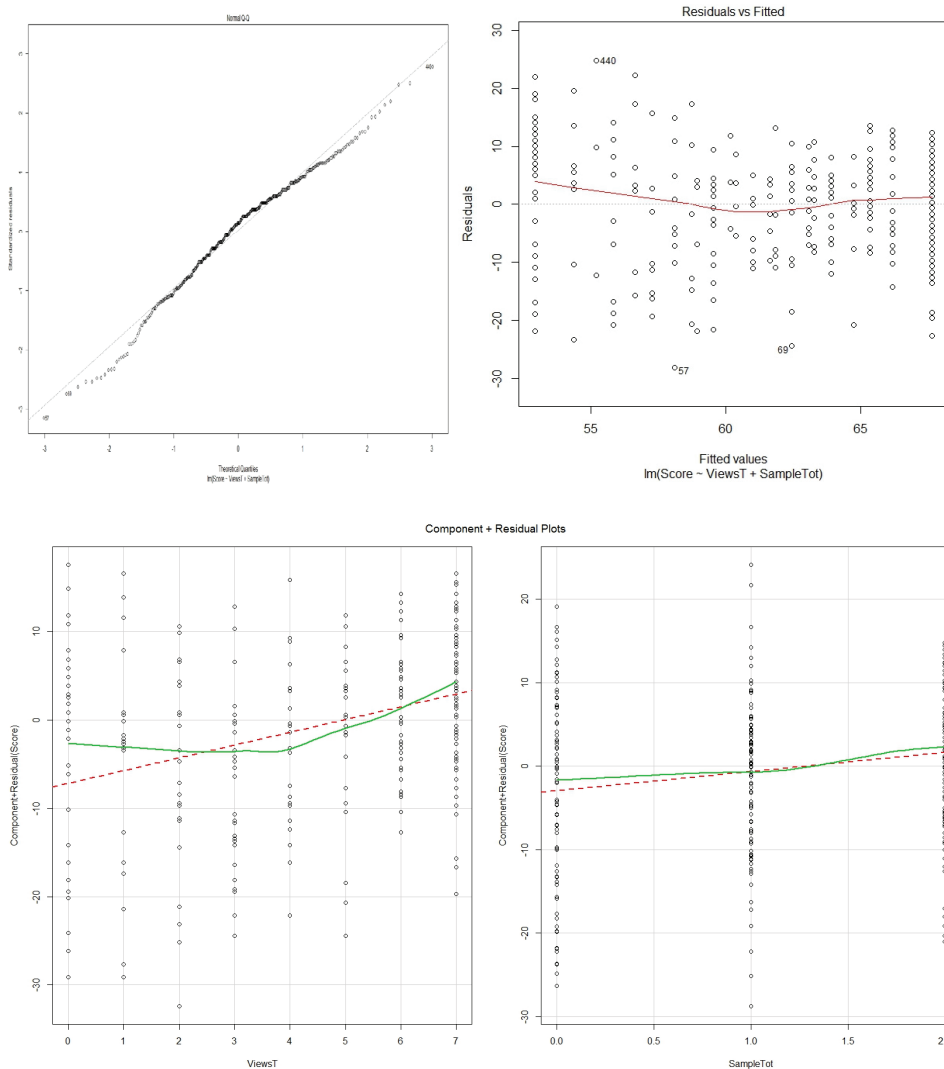
2013/2014	Midterm exam M(SD)	Final exam M(SD)	$F(1, 265)$	p -value	Partial η^2
In this computer-based exam I was able to:					
a. Work in a structured manner	3.38 (1.16)	3.21 (1.13)	0.71	.40	.003
b. Monitor my progress	3.44 (1.20)	3.70 (1.15)	4.52	.03	.017
c. Concentrate well	2.98 (1.32)	3.52 (1.15)	14.94	<.001	.054
In paper-based exams in general I am able to:					
a. Work in a structured manner	4.19 (0.74)	4.25 (0.67)	0.59	.44	.002
b. Monitor my progress	4.08 (0.75)	4.17 (0.78)	1.36	.35	.005
c. Concentrate well	4.07 (0.74)	3.99 (0.79)	0.34	.56	.001

Table A2(b). The approach to taking computer-based exams and paper-based exams in general in cohort 2014/2015

2014/2015	Midterm exam M(SD)	Final exam M(SD)	$F(1, 325)$	p -value	Partial η^2
In this computer-based exam I was able to:					
a. Work in a structured manner	3.62 (1.06)	3.33 (1.17)	7.77	0.006	0.017
b. Monitor my progress	3.84 (1.10)	3.43 (1.17)	11.78	0.001	0.031
c. Concentrate well	3.79 (0.99)	3.42 (1.11)	11.39	0.001	0.031
In paper-based exams in general I am able to:					
a. Work in a structured manner	4.11 (0.79)	4.27 (0.66)	3.03	0.08	0.012
b. Monitor my progress	3.89 (0.89)	4.18 (0.77)	8.70	0.003	0.026
c. Concentrate well	3.95 (0.84)	4.09 (0.74)	2.61	0.11	0.008

Chapter 4

Figure A4(a). Checking of model assumptions for Biopsychology



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Figure A4(b). Checking of model assumptions for Statistics 1a

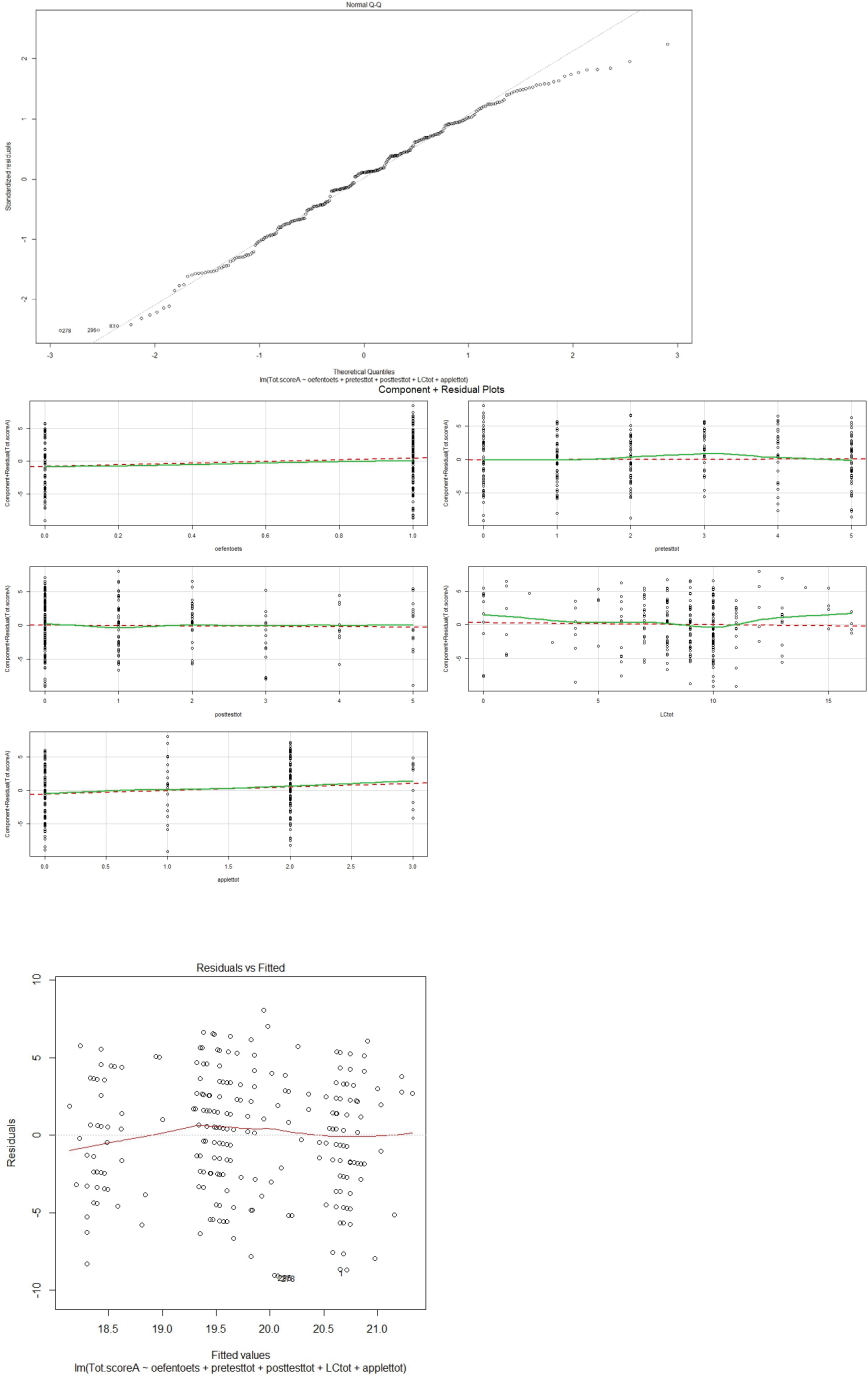
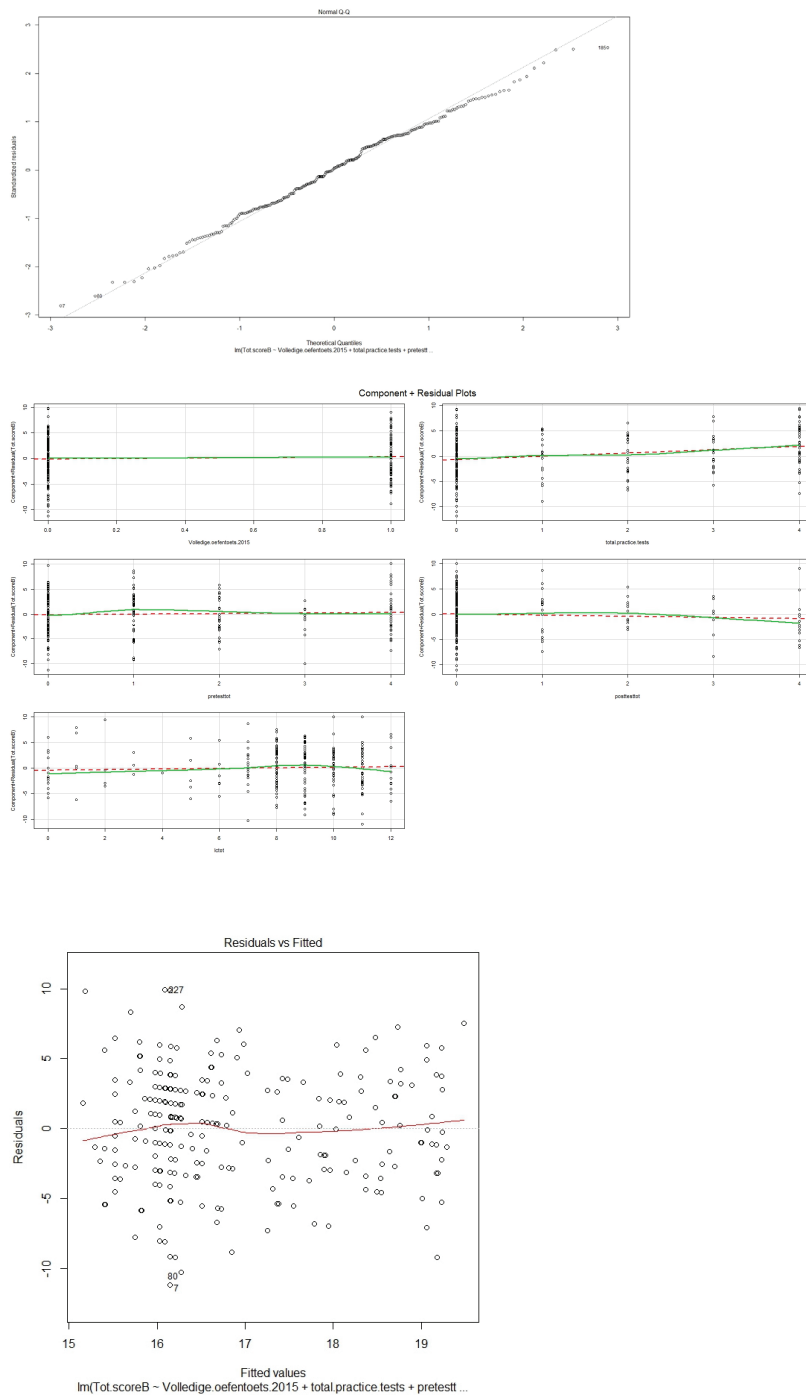


Figure A4(c). Checking of model assumptions for Statistics 1b



Chapter 5

Example of a study behaviour diary used for students in the flipped course. The original language used was Dutch. An English translation is given in *{italics}*. The software used for the online behaviour diaries was Qualtrics (www.qualtrics.com), and the option “export to word” was used to make the following document.

Deze vragenlijst gaat over je studietijdsbesteding voor statistiek 2 van afgelopen maandag tot donderdag. Zie nestor - cursusdocumenten voor meer informatie over dit onderzoek.

{This survey is about how you spent your time studying for statistics 2 from last Monday through Thursday. See course documents in Nestor for more information about this study}

Wanneer je van 10 maart tot 10 april minimaal 80% van de vragenlijsten invult maak je kans op één van de 20 kadobonnen ter waarde van 10 euro! 14 april worden de winnaars bekend gemaakt. *{If you fill out 80% or more of the surveys from 10th of March through 10th of April, you will be eligible to win one of the 20 gift vouchers each worth 10 euros. The winners will be informed on April 10}*

Voor vragen en opmerkingen over dit onderzoek kun je altijd bij mij terecht (zie onderstaande contact gegevens. *{For questions and comments about this study you can always contact: (contact details).}*

Meedoen aan dit onderzoek heeft geen enkele invloed op je resultaat voor dit vak. Deelname is geheel vrijwillig, dus je kunt op ieder moment stoppen. Wanneer je doorgaat naar de vragenlijst, geeft je automatisch toestemming voor deelname aan het onderzoek. Je kunt op ieder moment de gegevens die verkregen zijn uit dit onderzoek terugkrijgen, laten verwijderen uit de database, of laten vernietigen. *{Participating in this study has no influence on your final grade for the course. Participation is completely voluntary, and you may stop participating at any point in time. If you continue with the survey by pressing next, you consent to participating in this study. You may at any point in time contact the researcher and ask for your record to be destroyed or removed from the database.}*

Heel erg bedankt voor je medewerking! *{Thank you for your participation!}*

Q1

Wat is je s-nummer? *{What is your student number?}*

Dit is bedoeld om je antwoorden te kunnen koppelen aan je antwoorden op andere vragenlijsten in dit onderzoek. Je antwoorden worden echter wel anoniem en vertrouwelijk opgeslagen. *{This is necessary to be able to link your answers to the questions in this survey to the other surveys in this study. Your answers will be kept confidential and stored anonymously.}*

Q2

Heb je afgelopen maandag tijd besteed aan statistiek 2?

{Did you spend time on Statistics 2 last Monday?}

- Ja *{yes}*
- Nee *{no}*

If nee *{no}* Is Selected, Then Skip To **Q5**

Answer If **Q2** ja *{yes}* Is Selected:

Q3

Wat heb je maandag gedaan voor statistiek 2?

{What did you do for statistics 2 last Monday?}

- Flits college bekeken *{watched the video lecture}*
- studiestof gelezen *{read course material}*
- college sheets bekeken *{studied lecture slides}*
- Huiswerk voor deze week *{completed this week's homework}*
- samenvatting studiestof gemaakt *{summarized course material}*
- oefenvragen gemaakt *{completed practice questions}*
- bijles gevolgd *{received tutoring}*
- anders *{other}* _____

If **Q3** Is Equal to 0, Then Skip To **Q5**

Options checked in **Q3** are carried forward to **Q4**

Q4 Hoeveel tijd heb je hier maandag aan besteed?

{How much time did you spend on this last Monday?}

For each option checked in **Q3** there is a drop down list with the following amounts available to select: 15 minutes, 30 minutes, 45 minutes, 1 hour, 1 hour 15 minutes, ..., 5 hours

Q5 Heb je afgelopen dinsdag tijd besteed aan statistiek 2? (practicum aanwezigheid niet meegeteld)

{Did you spend time on Statistics 2 last Tuesday? (do not count practical attendance)}

- ja *{yes}*
- nee *{no}*

If nee *{no}* Is Selected, Then Skip To **Q8**

Answer If **Q5** ja *{yes}* Is Selected

Q6

Wat heb je dinsdag gedaan voor statistiek 2? (practicum aanwezigheid niet meegeteld)

{What did you do for statistics 2 on Tuesday? (not including practical attendance)}

- Flits college bekeken *{watched the video lecture}*
- studiestof gelezen *{read course material}*
- college sheets bekeken *{studied lecture slides}*
- Huiswerk voor deze week *{completed this week's homework}*
- samenvatting studiestof gemaakt *{summarized course material}*
- oefenvragen gemaak *{completed practice questions}*
- bijles gevolgd *{received tutoring}*
- anders *{other}* _____

If **Q6** Is Equal to 0, Then Skip To **Q8**

Options checked in **Q6** are carried forward to **Q7**

Q7

Hoeveel tijd heb je hier dinsdag aan besteed? *{How much time did you spend on these activities Tuesday?}*

For each option checked in **Q6** there is a drop down list with the following amounts available to select: 15 minutes, 30 minutes, 45 minutes, 1 hour, 1 hour 15 minutes, ..., 5 hours

Q8

Heb je afgelopen woensdag tijd besteed aan statistiek 2? (practicum aanwezigheid niet meegeteld)

{Did you spend time on statistics 2 last Wednesday? (practical attendance not included)}

- ja *{yes}*
- nee *{no}*

If nee *{no}* Is Selected, Then Skip **Q11**

Answer If **Q8** ja {yes} Is Selected

Q9

Wat heb je woensdag gedaan voor statistiek 2? {What did you do for statistics 2 last Wednesday?}

- Flits college bekeken {watched the video lecture}
- studiestof gelezen {read course material}
- college sheets bekeken {studied lecture slides}
- Huiswerk voor deze week {completed this week's homework}
- samenvatting studiestof gemaakt {summarized course material}
- oefenvragen gemaak {completed practice questions}
- bijles gevolgd {received tutoring}
- anders {other} _____

If **Q9** Is Equal to 0, Then Skip To **Q11**

Options checked in **Q9** are carried forward to **Q10**

Q10 Hoeveel tijd heb je hier woensdag aan besteed? {How much time did you spend on these activities Wednesday?}

For each option checked in **Q9** there is a drop down list with the following amounts available to select: 15 minutes, 30 minutes, 45 minutes, 1 hour, 1 hour 15 minutes, ..., 5 hours

Q11

Heb je afgelopen donderdag tijd besteed aan statistiek 2? (practicum aanwezigheid niet meegeteld)
{Did you spend time on statistics 2 last Thursday? (practical attendance not included)}

- ja {yes}
- nee {no}

If nee {no} Is Selected, Then Skip To **Q14**

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Q12

Wat heb je donderdag gedaan voor statistiek 2? *{What did you do for statistics 2 last Thursday?}*

- Flits college bekeken *{watched the video lecture}*
- studiestof gelezen *{read course material}*
- college sheets bekeken *{studied lecture slides}*
- Huiswerk voor deze week *{completed this week's homework}*
- samenvatting studiestof gemaakt *{summarized course material}*
- oefenvragen gemaak *{completed practice questions}*
- bijles gevolgd *{received tutoring}*
- anders *{other}* _____

If **Q12** Is Equal to 0, Then Skip To **Q14**

Options checked in **Q12** are carried forward to **Q13**

Q13 Hoeveel tijd heb je hier donderdag aan besteed? *{How much time did you spend on this last Thursday?}*

For each option checked in **Q12** there is a drop down list with the following amounts available to select: 15 minutes, 30 minutes, 45 minutes, 1 hour, 1 hour 15 minutes, ..., 5 hours

Q14 Bedankt voor het invullen van de vragen! *{Thank you for completing this survey!}*

Tip: gebruik je agenda om bij te houden wat je elke dag voor statistiek 2 doet, zodat je minder moeite hoeft te doen om voor dagen die langer geleden zijn te onthouden wat je hebt gedaan en hoe lang je daar mee bezig bent geweest. *{Tip: use your diary to keep track of when and how long you study for statistics 2 so that it is less effort to remember when you studied as you fill out the survey.}*

Hieronder kun je opmerkingen of suggesties kwijt over deze vragenlijst. *{Below you can leave comments or suggestions about the survey}*

Chapter 6

Table A6(a). Number of assessment observations per faculty in each year

Faculty	2010	2011	2012	2013	2014	2015	Total
Theology	394	371	469	358	305	359	2,256
Law	7,683	7,391	7,281	4,703	5,051	4,844	36,953
Medicine	4,993	4,588	4,445	4,831	3,976	3,552	26,385
Science	10,377	10,735	10,991	12,053	11,818	12,235	68,209
Arts	11,923	11,021	10,686	11,325	10,477	10,366	65,798
Economy	15,514	14,461	13,495	14,392	13,954	12,136	83,952
Social	13,758	13,552	13,312	12,808	11,132	9,001	73,563
Philosophy	1,173	1,261	1,311	956	755	845	6,301
Spatial	2,337	2,108	1,935	1,890	2,034	1,372	11,676
Total	68,152	65,488	63,925	63,316	59,502	54,710	375,093

Table A6(b). Number of courses per faculty in each year

	2010	2011	2012	2013	2014	2015	Total
Theology	17	20	22	22	23	22	126
Law	28	28	28	26	20	17	147
Medicine	32	36	36	40	40	37	221
Science	101	104	106	101	106	104	622
Arts	208	206	171	168	174	167	1094
Economy	66	70	67	51	50	50	354
Social	69	73	74	75	69	67	427
Philosophy	21	20	19	24	13	13	110
Spatial	18	18	19	18	18	13	104
Total	560	575	542	525	513	490	3205

Table A6(c). Number of unique courses per faculty, and distribution of courses by number of cohorts included in the data

Faculty	1 cohort	2 cohorts	3 cohorts	4 cohorts	5 cohorts	6 cohorts	Total
Theology	7	4	3	3	6	10	33
Law	1	0	31	5	3	3	43
Medicine	22	20	7	5	2	18	74
Science	10	24	11	13	7	74	139
Arts	67	105	62	47	19	58	358
Economy	9	39	16	42	3	6	115
Social	8	32	6	25	9	32	112
Philosophy	8	6	8	9	0	5	36
Spatial	8	4	1	3	11	3	30
Total	140	234	145	152	60	209	940

