Learner Characteristics, Learner Achievement and Time Investment in Online Courses for Dutch L2 in Adult Education

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ABSTRACT
For the growing group of adult migrants, flexible solutions for second language (L2) acquisition are increasingly important, while concerns about the efficacy of online language learning abound. This study on the L2 situation in Flanders has 4 key aims: analyzing adult learner profiles in fully online Dutch beginners' courses; comparing learner achievements in fully online and face-to-face (F2F) courses; reporting on differences in learner achievement considering learner profile variables and comparing time investment in F2F and online courses.
A quantitative design was adopted, including a survey among the online students; assessment scores and data on learner profiles of online and F2F learners. The survey dealt with biographical variables and variables related to online learning. Results show that i) the online Dutch L2 learner is typically highly educated and employed; ii) online learners spend less time on the course than F2F learners, but perform significantly better in reading, listening and speaking skills; iii) writing skills are better achieved in F2F learning and iv) prior educational level and the language spoken by the host community have no significant impact on learner achievement. The findings indicate that online L2 learning can be as effective as F2F learning, even for learners with a lower educational level, or lacking contact with native speakers.
Keywords: learner profiles; learner characteristics; online language learning; learner achievement

INTRODUCTION

Blake and Delforge (2007) and Sun (2014) call for more extensive research on fully online language courses. "Primary studies with original, empirical data in the area are still rare." (Sun, 2014, p3). Blake (2013) reports on a lack of studies focusing on the efficacy of fully online language learning. Coleman and Furnborough (2010) state that few comparative studies exist on the outcomes of F2F and online programs. Existing studies are often situated in the context of foreign language learning (eg. Chenoweth et al, 2006; Scida and Saury, 2006; Blake and Delforge, 2007; Blake, Wilson, Cetto and Pardo-Ballester, 2008) and not on L2 learning. Other researchers don't support comparative studies on learner achievement in F2F and online learning environments (eg. Soba, 2000) claiming the respective pedagogies are different (Coleman & Furnborough, 2010). Nevertheless, the final qualifications of online and F2F learning modes need to be the same.

In this context, this study sets out to compare learner profiles in online and F2F Dutch L2 courses. For providers of online language courses, it is essential to have insight in learner characteristics, as they underpin the pedagogy of the instructional design, task development, learner support and decisions regarding technology. This study evaluates whether different modes of learning (online and F2F) can lead to the same learner achievements and whether learner achievements are influenced by learner profile variables.

LITERATURE REVIEW
Learner profiles in online (L2) courses
"Many potential students in all sectors are not able to attend a campus/school regularly, because they are employed, carers, girls or women (in some cultures), have difficulties with access (e.g. some disabled students) or are otherwise unavailable for conventional term times (e.g. soldiers, prisoners)" (Gaskell & Mills, 2014,

p197). Fully online courses appeal particularly to people with a full-time (Blake, 2013; Kahu et al, 2013, Colorado & Eberle, 2010) or part-time job (Kim et al., 2011), and to people who wish to learn autonomously (Blake, 2013). Online and blended learning increase the access to education for adults combining a job with a family (Kormos & Csizér, 2014) or for those combining study, family, social and professional commitments (White, 2003). Dolan (2008) and Johnson (2015) found that the choice for online or F2F learning is not influenced by gender, whereas Coleman and Furnburough (2010) described a gender distribution with a predominance of women (two out of three learners) in a distance Spanish course. Chu and Tsai (2009) found that adult learners select online programs/courses because the constructivist approach of self-directed learning appeals to them. Coleman and Furnborough (2010) found that adult distance language learners in a Beginners Spanish course in Open University UK were mainly highly educated and showed great variety in terms of languages spoken: nearly sixty different languages (including the mother tongue) were mentioned. Most of them had no prior experience of autonomous or distance language learning.

Learner achievement in online and F2F learning modes
"Few empirical research studies have examined the overall effectiveness of online language learning or compared the progress of students participating in such courses with that of those enrolled in traditional classes." (Blake 2013, p137). Existing comparative studies include those carried out by Chenoweth, Jones and Tucker (2006) on Spanish online learning, and by Chenoweth and Murday (2003) on French, mostly online learning (1 hour F2F per week). Results show no significant differences as regards oral production, and minimal statistical differences for writing, reading, and listening. Coleman and Furnborough (2010) state that the mode of learning has no influence on pass rates. Spodark (2004) considers F2F modes the best option for learning languages at beginner levels and claims that only reading, writing, and listening skills can be acquired online, and then only at intermediate and advanced levels.

Moneypenny & Aldrich (2016) state that "Concerning the assessment of oral proficiency in completely online classes, there is a noticeable dearth of research" (p109). Sánchez-Serrano (2008) asserts that the oral skills are difficult to handle in online learning; Dodigovic (2005) adds that especially the synchronous conversations are problematic. Moneypenny and Aldrich (2016) and Blake et al. (2008), however, found no significant differences in oral proficiency at the introductory level between online and F2F learners of Spanish. Moneypenny and Aldrich (2016) conclude that "online L2 instruction, even at introductory levels, is a valid form of L2 instruction for oral proficiency, which reaffirms Blake et al.'s 2008 study of oral proficiency in online and traditional classrooms." (p125). Yanguas (2010) explained the absence of learner achievement differences: F2F communication and synchronous video-based computer-mediated communication are very similar and generate similar achievements. Blake (2008) justified the similar results: weekly conversations "make a major contribution to the level of individual practice and the extent of instructor attention, which might even exceed what can be found in traditional classrooms given their burden of 25 to 30 students" (p123). Bava Harji and Gheitanchian (2017) found that oral production in a foreign language course was influenced positively by a multimedia task-based teaching and learning approach.

Learner achievement in online and F2F learning modes considering learner profile variables
Pass rates are similar for male and female learners (Coleman and Furnborough, 2010). White and Le Cornu (2011), however, assert that the digital divide is not based on age nor gender. In terms of educational level, Epley and Smith (2015) found that a student's previous level of success correlates negatively with the final grade performance. Coleman and Furnborough found that "the predictive value of prior educational level is small" (p19). DePryck, K., Zhu, C., Van Laer, H., Kupriyanova-Ashina, V. & Cools, W. (2013) found that low-literate adults in Basic Education (primary education for adults) in Flanders show interest in online and blended learning. Increased interaction with native speakers does not result in statistically significant higher scores for oral proficiency (Moneypenny and Aldrich, 2016). Coleman and Furnborough (2010) found that the students who failed, had the most personal contact, whereas the successful students had the most non-interactive contact with the target language through written and spoken media. Prior experience with independent or distance language learning does not predict the learning achievement (Coleman and Furnborough, 2010). The differences in learning achievements can rather be explained by socioeconomic status (Smith, 2012) and self-discipline (Rurato, 2015). The characteristics of a successful online learner can be analyzed by means of the SORT (Student Online Readiness Tool), based on research by Schrum and Hong (2002).

Online language learners' perceived time investment
Chenoweth and Murday (2003) recorded that online students in a foreign language course spent less time on the course than F2F students, but with comparable results, whereas Chenoweth, Jones and Tucker (2006) reported an equal amount of study time in both groups. Nonis and Hudson (2010) and Wikan and Bugge (2014) stated that

previous research on correlations between study time on the one hand and progress and performance on the other hand are inconclusive.

As there are insufficient studies examining student time investment in online and F2F learning modes, it is important to investigate this variable. Linking time investment to learner achievement can shed light on the efficiency of online learning. Bugge and Wikan (2016) state that "progress and performance might be influenced by how the programme is organized".

RESEARCH QUESTIONS
This research sets out to answer the following research questions:
- RQ1: What are the profiles of online and F2F Dutch L2 learners in the proficiency levels A1 and A2?
- RQ2: Are the learning achievements significantly different in online and F2F learning modes?
- RQ3: Are the learning achievements significantly different in online and F2F learning modes considering different learner profiles variables?
- RQ4: What is the perception of time investment of online Dutch L2 learners?

METHODS
Research context
The current study investigates the online learner profiles and compares the learner achievements of fully online and F2F students in Dutch L2 courses in adult education. The course levels are A1 and A2 in the Common European Framework of References of Languages (CEFR). These are the required outcomes of the Flemish integration program and the national language citizenship examinations in The Netherlands. The Dutch L2 courses are organized at a center for adult education in Flanders, Belgium. At the time when the research is carried out, it is the only adult education center offering fully online Dutch L2 courses in Flanders. The results of this research will provide new insights into learner profiles and efficiency of (online) Dutch L2 learning.

Participants
The participants are adult immigrants learning Dutch L2 either fully online or fully F2F. Data are collected among 136 learners: 67 F2F (47 at A1 level + 20 at A2) and 69 online learners (50 at A1 level + 19 at A2), mainly adult immigrants with different mother tongues (L1), but already familiar with the Roman alphabet. Prospective students of both groups are screened equally: requirements for registration include having finished secondary education and having learned a second language at school. They are asked about their ICT knowledge and about their motivation to study online.

Course and assessment
F2F and online courses both cover all the learning outcomes (or learning objectives) as well as the four domains of language use (personal, public, occupational and educational) and the four skills (reading, writing, listening and speaking), as described in the CEFR. Each course takes 1 semester. F2F students come to school for 120 hours; online students once, for the final exam.

The online course comprises forty multimedia lessons with real-life situations, similar to those in the books used in F2F groups. Activities in the online groups are synchronous (weekly individual 15-minute skype sessions with the teacher to practice oral skills and to monitor the general follow-up) and asynchronous (oral production in Voicethread and Flipgrid; writing exercises in Google Drive; interaction in learning objects; communication with the teacher via e-mail).

For both learning modes, the assessment (with a total score of 200) is split into two parts: continuous assessment (120 points) and a final exam, identical for both learning modes (80 points). Some continuous assessment questions are different for online and F2F learners; however, the content, learning outcomes, level of difficulty, question types and proportion of different types of questions are similar. Because the distance education proportion is officially maximum 95% in Flanders, the final exam is held at school.

Data
Online students are asked to fill out a survey covering the variables gender, level of education, occupation, mother tongue, place of living, course level, prior experience with online learning and perceived time investment. The gradebooks are collected and oral exams are recorded, unless a student does not give the permission to do so. The gradebook contains the overall exam score, separate scores for the four skills (reading, listening, writing and speaking), and the continuous assessment score. For the F2F students, the necessary data are collected from the school's administrative system, with the learners' consent.

Statistical analysis

The data were analyzed in SPSS version 24. Learner profiles were compiled by means of descriptive statistics. Independent samples t-tests and Mann-Whitney u-tests were used to analyze the differences between the online and F2F students' scores and to test differences in achievement for the variables gender, educational level, place of living, occupation, and experience with online learning. The perceived time investment was obtained through descriptive statistics.

RESULTS

Learner profiles in online and F2F Dutch L2 courses (A1 and A2)

The profiles of 136 students in A1 and A2 level Dutch L2 courses were compared (A1: 97 students; A2: 39 students). There is an almost equal distribution between online and F2F students (A1: 50 online versus 47 F2F; A2: 19 online versus 20 F2F).

Table 1. Learner profiles in Dutch L2 courses (levels A1 & A2 – online & F2F)

	Online	F2F	online %	F2F %
Gender				
Male (*n*=68)	33	35	47.8%	52.2%
Female (*n*=68)	36	32	52.2%	47.8%
Educational level				
Secondary education or lower (*n*=48)	15	33	21.7%	51.6%
Bachelor diploma or higher (*n*=85)	54	31	78.3%	48.4%
Occupation				
Unemployed (*n*=44)	12	32	17.9%	51.6%
Employed (*n*=56)	44	12	65.7%	19.4%
Student (*n*=15)	4	11	6.0%	17.7%
Other (unidentified) (*n*=14)	7	7	10.4%	11.3%
Place of living				
Flanders / The Netherlands (*n*=127)	60	67	87%	100%
Not Belgium, nor The Netherlands (*n*=9)	9	0	13%	0%
Course level	50	47	72.5%	70.1%
A1 (*n*=97)				
A2 (*n*=39)	19	20	27.5%	29.9%
Experience with online learning (online group) (n=60)				
Yes	28		40.6%	
No	32		46.4%	
Missing	9		13%	

Table 1 displays the composition of the online and the F2F Dutch L2 groups. The results (shown in Table 1) indicate the general pattern of the online students being employed and highly educated, and the F2F students being unemployed and having a lower level of education, disregarding the fact that they were screened in the same way. Whereas 65.7% of the online students are employed, only 19.4% of the F2F students are working. Of the online students, 78.3% hold at least a bachelor degree (with a majority of online respondents holding a master or Ph.D. diploma (53.6% of the highly educated learners), versus 48.4% of the F2F students (only 28.4% holds a master or Ph.D. degree). Surprisingly, most learners with a student status (11.6% of the total population) chose the F2F course (11 students, versus 4 in the online group), while online learning is more flexible.

Results show an equal distribution of male (68) and female (68) participants. A difference was found in the place of living: all F2F participants live in Flanders, whereas 9 online students live in a region where Dutch is not spoken (the others are living in Flanders or The Netherlands, where the target language is commonly used).

Table 1 shows an almost equal distribution between students who have experience with online learning and those who don't. However, further analysis showed that most online A2 level students had taken the online A1 level course. Therefore, the difference between the 2 levels is not surprising: 73.2% of the A1 students had no prior experience with online learning versus 10,5% in A2.

Table 2. Mother tongues of online and F2F Dutch L2 learners.

	online (*n*=69)			F2F (*n*=67)	
	number	%		number	%
Spanish	15	21.7%	Bulgarian	9	13.4%
Tamil	7	10.1%	Spanish	6	9%
French	6	8.7%	Turkish	5	7.5%

Polish	6	8.7%	Arabic	5	7.5%
English	5	7.2%	Chinese	4	6%
Greek	4	5.8%	Portuguese	4	6%
Russian	4	5.8%	Twi	3	4.5%
Italian	3	4.3%	Lingala	3	4.5%
Portuguese	3	4.3%	English	2	3%
Chinese	2	2.9%	French	2	3%
Arabic	2	2.9%	German	2	3%
Romanian	2	2.9%	Hindi	2	3%
Turkish	2	2.9%	Servo-Croatian	2	3%
Farsi Persian	1	1.4%	Greek	1	1.5%
German	1	1.4%	Albanian	1	1.5%
Thai	1	1.4%	Italian	1	1.5%
Punjabi	1	1.4%	Japanese	1	1.5%
Ukrainian	1	1.4%	Pashtu	1	1.5%
French & Arabic	1	1.4%	Polish	1	1.5%
			Romanian	1	1.5%
			Russian	1	1.5%
			Italian & Romanian	1	1.5%
No information	2	2.9%	No information	9	13.4%

Table 2 shows a large variation as regards mother tongues of Dutch L2 students. What is interesting about the data is that Bulgarian, the most frequently spoken mother tongue among F2F learners, is absent in the online group. Associations between mother tongue and educational level reveal that the Spanish students generally have a high educational level (on a total of 21 learners: one doctoral degree, 12 master degrees, 4 bachelors and 4 learners have completed secondary education or lower), whereas the Bulgarian students have a lower educational level (out of 7 learners: 1 bachelor and 6 secondary education or lower). This is in line with the results reported in Table 1, showing that F2F students have a lower educational level than online students.

Further descriptive analysis showed that 11 out of 12 unique online learners with Spanish mother tongue are highly educated (1 bachelor, 8 masters and 1 Ph.D.), whereas among the 9 unique F2F learners with Bulgarian mother tongue, only 1 learner has a bachelor degree, seven have a low level of education and for 1 learner, the information is missing.

Dutch L2 adult learner achievement in online and F2F learning modes

Table 3. Scores of online and F2F Dutch L2 learners.

	online (n=67)		F2F (n=67)		Online vs F2F	
	Mean %	SD	Mean %	SD	t	Sig.
Exam reading /15	12.97 86.47%	*(1.56)*	11.57 77.16%	*(2.15)*	-4.30	.000***
Exam listening /15	12.04 80.25%	*(1.78)*	11.19 74.58%	*(2.39)*	-2.34	.021*
Exam writing /20	13.07 65.34%	*(4.22)*	16.19 80.95%	*(6.03)*	3.47	.001**
Exam speaking /30	22.89 76.31%	*(4.49)*	17.90 59.66%	*(7.27)*	-4.78	.000***
Exam total /80	60.97 76.21%	*(10.28)*	56.98 71.11%	*(12.04)*	-2.11	.037*
Continuing assessment /120	97.07 80.89%	*(20.32)*	86.53 72.11%	*(17.30)*	-3.23	.002**
Total /200	158.03 79.02%	*(26.79)*	143.48 71.74%	*(28.20)*	-3.06	.003**

*$p<.05$, **$p<.01$, ***$p<.001$

Levene's test was used to measure if equal variances in the two groups can be assumed or not. Consequently, independent sample t-tests were conducted to compare the online and F2F students' ($n= 134$) scores.

An independent samples t-test was conducted to compare the *reading* scores for the online and F2F students. The maximum score was 15. There was a significant difference in the scores for reading between F2F (M=11,57;

SD=2,15) and online learners (M=12,97; SD=1,56); t(120,297)=-4,296; p<0,001. These results suggest that online learners perform better than F2F learners in reading skills.

For *listening*, the maximum score was also 15. There was a significant difference in the scores for listening between F2F (M=11,19; SD=2,39) and online learners (M=12,04; SD=1,78); t(121,940)=-2,341; p<0,05. These results suggest that online learners perform significantly better than F2F learners in listening skills.
For *writing*, the maximum score was 20. There was a significant difference in the scores between F2F (M=16,19; SD=6,03) and online students (M=13,07; SD=4,22); t(118,226)=3,474; p<0,001. These results suggest that F2F learners have better writing skills than online learners.

For *speaking*, the maximum score was 30. There was a significant difference in the scores between F2F (M=17,90; SD=7,27) and online students (M=22,89; SD=4,49); t(109,860)=-4,783; p<0,001. These results suggest that online learners have significantly better speaking skills than F2F learners.
The *entire exam* (reading, listening, writing and speaking skills) had a maximum score of 80. The Levene's test showed that equal variances can be assumed. There was a significant difference in the scores between F2F (M=56,89; SD=12,04) and online students (M=60,97; SD=10,28); t(1,132)=-2,110; p<0,05. These results suggest that online learners perform better in the exam than F2F learners.

The maximum score for the *continuing assessment* is 120. There was a significant difference in the scores between F2F (M=86,53; SD=17,30) and online students (M=97,07; SD=20,32); t(1,132)=-3,232; p<0,005. These results suggest that online learners perform significantly better in the continuing assessment than F2F learners.
The *overall maximum score* for the exam and the continuing assessment is 200. There was a significant difference in the scores between F2F (M=143,48; SD=28,20) and online students (M=158,03; SD=26,79); t(1,132)=-3,063; p<0,01. These results suggest that online learners perform overall significantly better in Dutch than F2F learners.

Learner achievement in online and F2F learning modes considering learner profile variables
Gender
First, independent samples t-tests were carried out to compare the online and F2F students' scores considering gender. The results, presented in Table 4, show that gender doesn't influence learner achievement in F2F groups. In online groups, male students perform significantly better in listening than female students (p<.05).

Table 4. Scores in online and F2F groups considering gender.

	ONLINE (n= 66)				F2F (n=68)			
	Male (n=)	Female (n=)			Male (n=)	Female (n=)		
	Mean SD		*t*	*Sig.*	Mean SD		*t*	*Sig.*
Exam reading /15	13.15 *1.56*	12.81 *1.56*	.890	.377	11.49 *2.06*	11.67 *2.28*	-.351	.727
Exam listening /15	12.58 *1.45*	11.57 *1.91*	2.456	.017*	11.37 *2.14*	10.98 *2.65*	.660	.511
Exam writing /20	13.13 *4.01*	13.01 *4.45*	.110	.912	14.87 *6.37*	17.63 *5.36*	-1.911	.060
Exam speaking /30	22.91 *4.72*	22.88 *4.34*	.033	.974	18.47 *6.32*	17.27 *8.25*	.671	.505
Exam total /80	61.78 *9.81*	60.27 *10.75*	.594	.554	56.23 *10.91*	57.60 *13.30*	-.462	.646
Continuous assessment/120	96.83 *20.70*	97.27 *20.28*	-.087	.931	84.67 *16.52*	88.56 *18.16*	-.918	.362
TOTAL /200	158.61 *26.34*	157.53 *27.54*	.163	.871	140.97 *26.39*	146.22 *30.23*	-.758	.451

*p<.05, **p<.01, ***p<.001

Secondly, it is examined which learning mode leads to the best scores for male and female students. A summary of the significant differences between the two groups is presented in table 5. The results indicate that male students perform significantly better online than F2F in reading (p<.001), listening (p<.01) and speaking skills (p<.01), and continuous assessment (p<.01). Consequently, the male students' overall score is significantly higher (p<.01) in the online groups than in the F2F groups. The only skill in which male students perform better

F2F is writing. This difference is statistically not significant. Likewise, women in the online group perform significantly better in reading (p<.05) and speaking skills (p<.001).

The results show that both male and female students perform better in writing skills in the F2F groups, and in the case of female participants, the difference is significant (p<.001). The overall score of men and women is almost the same with no significant differences (p>.05).

Table 5. Scores in online and F2F groups considering gender.

	Male (n= 66)				Female (n=68)			
	Online (n=31)	F2F (n=35)			Online (n=)	F2F (n=)		
	Mean SD		t	Sig.	Mean SD		t	Sig.
Exam reading /15	13.15 *1.56*	11.49 *2.06*	-3.73	.000***	12.81 *1.56*	11,67 *2,28*	-2.43	.018* p<.05
Exam listening /15	12.58 *1.45*	11.37 *2.14*	-2.72	.009**	11.57 *1.91*	10,98 *2,65*	-1.05	.297
Exam writing /20	13.13 *4.01*	14.87 *6.37*	1.35	.184	13.01 *4.45*	17,63 *5,36*	3.88	.000***
Exam speaking /30	22.91 *4.72*	18.47 *6.32*	-3.20	.002**	22.88 *4.34*	17,27 *8,25*	-3.44	.001**
Exam total /80	61.78 *9.81*	56.23 *10.91*	-2.16	.035*	60.27 *10.75*	57,60 *13,30*	-.91	.346
Continuous assessment/120	96.83 *20.70*	84.67 *16.52*	-2.65	.010**	97.27 *20.28*	88,56 *18,16*	-1.86	.068
TOTAL /200	158.61 *26.34*	140.97 *26.39*	-2.71	.009**	157.53 *27.54*	146,22 *30,23*	-1.62	.111

*p<.05, **p<.01, ***p<.001

Prior education level

The score differences in online and F2F delivery modes for the variable education level are summarized in table 6. The current study shows that students with a low educational level (secondary education or lower) perform significantly better online than F2F in reading (p<.01), speaking (p<.01) and continuous assessment (p<.05). The results show that overall, the lower-educated learners perform better in the online learning mode (p<.05). For the learners with a high educational level (bachelor degree or higher), the differences are smaller. The results also indicate that learners with a high educational level perform significantly better in the F2F learning mode in writing skills (p<.01). Another finding is that the overall scores are almost the same, irrespective of learners' educational level.

Table 6. Scores in online and F2F groups considering educational level.

	Low education level (n=48)				High education level (n=83)			
	Online (N=15)	F2F (N=33)			Online (n=52)	F2F (n=31)		
	Mean SD		t	Sig.	Mean SD		t	Sig.
Exam reading /15	12.55 *1.52*	10.77 *2.26*	-2.76	.008**	13.09 *1.56*	12.40 *1.80*	-1.83	.07
Exam listening /15	12.03 *1.96*	10.55 *2.69*	-1.92	.062	12.04 *1.74*	11.89 *1.87*	-.373	.71
Exam writing /20	11.55 *5.07*	15.39 *6.81*	1.95	.057	13.50 *3.89*	17.02 *5.16*	3.52	.001**
Exam speaking /30	21.95 *5.24*	14.90 *7.47*	-3.30	.002**	23.16 *4.26*	20.52 *5.85*	-2.19	.03*
Exam total /80	58.09 *12.15*	51.62 *12.65*	-1.66	.103	61.80 *9.64*	61.91 *8.69*	.462	.96
Continuous assessment/120	94.37 *22.60*	79.35 *18.16*	-2.46	.018*	97.84 *19.78*	93.71 *13.55*	-1.03	.31

TOTAL	152.47	130.98	-2.33	.025*	159.64	155.73	-.71	.48
/200	*30.80*	*29.17*			*25.63*	*21.38*		

*p<.05, **p<.01, ***p<.001

Language spoken in the host community
Only nine of the registered online learners were living in a host community where Dutch was not the colloquial language. Contrary to expectations, a Mann-Whitney u-test indicated that these learners achieved the same language proficiency levels for the four skills as the learners living in Flanders or The Netherlands, and they even performed significantly better in continuous assessment (U=144.0, p<.05). The results are displayed in Table 7.

Table 7. Scores in online groups considering the language spoken in the host community.

	Dutch(n=58)	Other language (n=9)	Dutch vs other language	
	Mean *SD*		U	Sig.
Exam reading /15	12.91 *1.61*	13.33 *1.17*	230.5	.572
Exam listening /15	11.97 *1.82*	12.50 *1.50*	221.5	.466
Exam writing /20	12.72 *4.33*	15.33 *2.60*	174.5	.111
Exam speaking /30	22.72 *4.58*	24.00 *3.85*	215.5	.402
Exam total /80	60.32 *10.53*	65.17 *7.62*	196.0	.232
Continuous assessment /120	95.35 *21.09*	108.11 *8.85*	144.0	.031*
Total /200	155.67 *27.50*	173.28 *15.22*	153.0	.047*

*p<.05, **p<.01, ***p<.001

Prior experience with online language learning
It is apparent from Table 8 that learner achievement cannot be predicted by the learners' prior experience with online language learning. On the contrary, learners who had no prior experience of online learning, performed significantly better in reading (p<.05), listening (p<.05) and speaking (p<.01). Their overall score was significantly higher (p<.05) than that of learners who had taken online courses before.

Table 8. Scores in online groups considering experience with online learning.

	Experience (n=27)	No experience (n=31)		
	Mean SD		t	Sig.
Exam reading /15	12.54 1.59	13.41 1.37	-2.254	.028*
Exam listening /15	11.53 1.95	12.56 1.56	-2.232	.030*
Exam writing /20	12.69 4.17	14.21 3.84	-1.449	.153
Exam speaking /30	21.49 4.94	24.68 3.07	-2.898	.006**
Exam total /80	58.24 10.80	64.86 7.95	-2.678	.010**
Continuous assessment /120	97.89 13.36	103.80 12.01	-1.774	.082
Total /200	156.13 19.59	168.67 17.88	-2.548	.014*

*p<.05, **p<.01, ***p<.001

Occupation

As can be seen from Table 9, a Mann-Whitney u-test indicated that employment does not predict the success rate in the online groups. Only for listening skills, employed learners perform significantly better ($U=107.5$, $p<.01$) than the unemployed.

Table 9. Scores of online learners considering occupation.

	Employed (n=42)	Unemployed (n=12)		
	Mean SD		U	Sig.
Exam reading /15	12.99 1.61	12.44 1.24	175.5	.114
Exam listening /15	12.39 1.70	10.60 1.39	107.5	.003**
Exam writing /20	12.96 4.37	11.38 4.69	207.0	.349
Exam speaking /30	23.03 4.82	21.33 4.45	196.5	.248
Exam total /80	61.37 10.75	55.75 10.08	168.0	.080
Continuous assessment /120	97.27 19.66	92.07 27.67	237.5	.763
Total /200	158.64 26.77	147.81 33.63	203.5	.313

*$p<.05$, **$p<.01$, ***$p<.001$

Online Dutch L2 learners' perception of time investment

Table 10 shows the online students' perceived time investment on the language course. The most obvious finding is that a vast majority of online learners state to have spent less time on the language course than is expected in F2F learning mode. The F2F learners have six hours of Dutch lessons per week, and the course has the same duration (1 semester). Among the online learners, 25% states to have studied less than three hours a week and 48% between three and four hours a week.

Table 10. Perception of time invested in the online course.

Perception of time investment	valid %
< 3 hours	25,00%
3-4 hours	48.21%
5-6 hours	14.29%
> 6 hours	12.50%
TOTAL: N=56 (missing: 13)	100%

DISCUSSION AND CONCLUSIONS

Profiles of online and F2F Dutch L2 learners in A1 and A2 proficiency level

Consistent with previous research (Dolan, 2008; Johnson, 2015), the results of the present study demonstrate that gender does not influence the choice of a particular learning mode. Our finding that most online students are employed, is consistent with other studies (Blake, 2013; Kahu et al, 2013; Colorado & Eberle, 2010; Kim et al., 2011). Students with a lower educational level and dealing with unemployment, mainly opt for F2F learning, which might stem from a need for social contact, the lack of a home computer or the lack of necessary skills to learn online. An important finding is that online language learners mainly have a higher level of education, reflecting findings of Coleman and Furnborough (2010). However, previous research (DePryck, Zhu, Van Laer, Kupriyanova-Ashina and Cools, 2013) has shown that low-literate adults also show interest in online learning of Dutch L2, assuming the availability of appropriate support. Since 2014, an online Dutch L2 course for lower educated L2 learners is available in The Netherlands (CINOP), indicating market demands in this area. Online learning also increases the access to education for adult learners combining different demands; whereas Kormos & Csizér (2014) refer to adults combining a job with a family, one of the learners in this study reported: "I am absolutely satisfied with this online course. It was the only way to work, finish my final thesis at the University and learn Dutch.". The majority of the adult learners of Spanish in Coleman and Furborough's study (2010) had no prior experience of autonomous or distance language learning. In this study, the difference was small: 40,6% had experience with online learning, 46,4% did not. The small difference is probably due to most A2-level learners having previously taken the A1-level course online. Most A1-level students lacked prior experience with

online learning as well. The great variety regarding languages spoken as referred to by Coleman and Furnborough (2010) is reflected in the present results. The most obvious finding to emerge from the analysis is that the most common mother tongue of the F2F learners is Bulgarian, and Spanish in the online group. It is generally assumed that eastern European students of Dutch L2 often have a low educational level and do manual work. (The proportion of employees from the new Eastern European member states employed in Flemish agricultural and horticultural companies, increases: from 13 % in 2010 to 19 % in 2013. They mainly come from Poland (7%), Romania (7%) and Bulgaria (2%)).

Dutch L2 adult learner achievement in online and F2F learning modes

Our findings show that online students in the current study perform significantly better than F2F students in all parts of the assessment, except for writing. This contradicts Coleman and Furnborough's (2010) findings, stating that the learning mode does not influence the success rates. Although several researchers stated that online L2 learning hinders the acquisition of oral skills (Dodigovic, 2005; Sánchez-Serrano, 2008; Spodark, 2004), and others found no significant differences between online and F2F acquisition of oral skills (Blake, 2008; Moneypenney & Aldrich, 2016), the learners of Dutch L2 performed significantly better online than F2F in oral skills. This is probably due to the weekly 15-minute one-on-one Skype sessions with the teacher (about 5 hours per semester), which could be comparable to the five to seven hours of synchronous small group conversations and a single one-on-one session with the tutor in Monneypenny and Aldrich's (2016) research.

Perhaps the most unexpected finding is that the F2F learners perform the lowest in speaking skills, while it is generally assumed that the classroom setting is ideal for acquiring speaking skills (Sánchez-Serrano, 2008). The cause might be the group sizes of about 25 to 30 students in elementary levels, which limits the possibilities for oral exercises and personal feedback from the teacher. This is in line with the research of Blake (2008).

The present study reveals that the real challenge for online L2 learning is in writing skills. While writing is the strongest skill for the F2F learners, it is the weakest skill for the online learners. Materiality might be one of the reasons. F2F learners are used to a pen-and-paper modality: they copy notes from the blackboard and use a handbook in which they need to write. Online students, however, use online learning materials which can be re-accessed anytime, anywhere, which makes their role as writers more passive. Instructional designers should be aware of this challenge and ensure that writing skills are stimulated throughout the online L2 course.

Learner achievement in online and F2F learning modes considering learner profile variables

This study is consistent with that of Coleman and Furnborough (2010), who stated that gender doesn't influence the success in distance language courses. Both males and females perform better online than F2F in reading, listening and speaking, and higher F2F than online in terms of writing skills. These consistent results might indicate that the learning mode, and not gender, was the influencing factor for learning success.

On the question of prior educational level, the results of the present study are in agreement with Coleman and Furnborough's (2010) findings, which showed that prior educational level is not significantly linked to success in learning: in the online groups, lower and higher educated learners' scores are almost the same. One unanticipated finding was that learners with a lower educational level performed better online than F2F in speaking, reading and listening skills. It may be that these participants benefitted from the personal attention from the online tutor, the possibility to retake the lessons, or the advantage of studying at their own pace. As research by Depryck et al. (2013) had shown, low-literate adults show interest in online learning. These findings challenge the notion that online learning is not suitable for low-skilled learners.

L2 learners living in a region where the target language is not used, obtained better scores for all four skills and the continuous assessment than those learners living in Flanders or The Netherlands (though the differences are only significant for the continuous assessment). An explanation for the higher scores might be that successful online language learners use more written and spoken media in the target language (Coleman and Furnborough, 2010). There are, however, other possible explanations for the different learner achievements. Learners living abroad might be highly motivated to learn Dutch in view of migration, a job in Flanders, or a partner already living in Flanders. F2F students, on the other hand, often complain that the chances for practicing speaking skills are overrated: whenever they try to speak Dutch, Flemish people tend to answer in English, French, German or even Spanish. Also, many dialects are spoken in Flanders, limiting the chances to practice standard Dutch. Likewise, Moneypenny and Aldrich (2016) found that increased interaction with native speakers did not result in better scores.

Another finding is that the learners who have no prior experience with online learning, perform better in all parts of the assessment than those who do. This is in line with Coleman and Furnborough's (2010) findings that prior experience with independent or distance language learning does not necessarily increase learner achievement.

Possible explanations might be that learning online for the first time generates more enthusiasm, or that the A2 level is generally found to be more difficult than A1.

In terms of occupation, employed learners generally perform better than F2F learners, but only significantly better in listening skills. This might be due to the fact that they hear more Dutch among colleagues at work.

Dutch L2 online language learners' perception of time investment
Consistent with Chenoweth and Murday (2003), this research found that online learners spend less time studying online than F2F. F2F learners often lose time waiting for classmates to find the right page, to fill out exercises or to ask questions. Considering RQ2 as well, it becomes obvious that online learners study fewer hours and perform better, which shows that online language learning can be more efficient than F2F learning.

LIMITATIONS AND SIGNIFICANCE OF THE STUDY
In this study, in order to better understand the learner achievements of online Dutch L2 adult learners, a control group of F2F learners is included, with the key variables controlled: the teacher is the same in the online and F2F groups at the A2 level; the screening of all the online and F2F students is the same and the final exam is the same (reading, writing, listening, speaking).

A possible limitation of this study is the relatively small sample size (n=134). The reason is that – at the time the research is carried out - online Dutch L2 learning had been introduced recently, and all online students in Dutch L2 courses in the context of this research were included.

Notwithstanding this limitation, this study makes several contributions to the existing literature. First, it has confirmed the findings of Coleman and Furnborough (2010) which found that adult online language learners are typically highly educated and employed; they show a great variety regarding mother tongues and generally have no prior experience with online learning. Secondly, this study provides evidence that online language learning can be as effective as F2F learning for adults regarding reading, listening and speaking skills, even in the case of learners with a lower educational level and of those living abroad (lacking practice with natives). This finding highlights the potential of online learning for different target groups. Thirdly, this research indicates that writing skills can be achieved best through F2F learning, and suggests a role for instructional designers and online tutors in promoting writing in online language courses.

As Moneypenny and Aldrich (2016) stated, three other main affordances of comparative research on online and F2F language learning include a potential growth of service area for schools, inclusion of nontraditional and employed students, and higher student numbers in less commonly taught language (LCTL) courses, ensuring continuation of tuition in those languages. This is especially important for the LCTL Dutch: in Flanders, centers for adult education mainly serve learners regionally, and adult participation in lifelong learning is still significantly below the European Union target for 2020.

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