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Blended Learning in Higher Education: Faculty Perspective through the Lens of the Planned Behaviour Theory

Dominique Verpoorten, Johanne Huart, Pascal Detroz and Françoise Jérôme

Abstract

Before the COVID-19 pandemic, the Teaching and Learning Centre of the University of Liège (Belgium) administered a questionnaire to disclose the main predictors of faculty's intention to resort, within a timespan of two years, to blended learning in at least one of their courses. The instrument was constructed according to the Theory of Planned Behaviour, a sound conceptual framework for probing intentions and their antecedents. In the responses of 114 faculty members, multiple regression analyses detected that attitude towards blended learning, subjective norm and perceived control explained 73% of the intention to use blended designs for teaching purposes in a not too distant future. Data treatment also singled out beliefs working indirectly in favour of the intention to use hybrid approaches: the inclination to think of blended learning altogether in a student-centred, conformist and pragmatic way. Moreover, respondents who declared having already used blended learning in the past expressed stronger opinions congruent with the constructs of attitude, norm and perceived control. The results also establish that pre-lockdown e-learning practices remained rather basic. A better knowledge of what can facilitate or impair the diffusion of blended learning is of importance for higher education institutions and their staff training efforts.

Keywords: theory of planned behaviour, blended learning, higher education, predictors of intention, staff development

1. Introduction

1.1 The context of the study

The study reported here has been carried out by IFRES (Institute for Training and Research in Higher Education - http://www.ifres.ulg.ac.be), the Teaching and Learning Centre of the University of Liège, Belgium. In order to adapt and monitor the training sessions and the regular tutoring it offers to faculty members, IFRES periodically conducts surveys on emerging academic topics (use of competency frameworks, mentoring, peer tutoring, classroom of tomorrow, threshold concepts, etc.). In recent years, blended learning (BL) has become an obvious candidate

for inquiry among teachers. Investigating the level of use of this instructional practice and eliciting determinants that predict or prevent its implementation is of importance for orienting staff development strategies and reinforcing the overall Scholarship of Teaching and Learning in the university.

2. Blended learning

As a "thoughtful integration of conventional and digital methods of teaching and learning" [1], BL presents as the best breed of two historically separate models of instruction: traditional face-to-face and distributed learning systems [2–4]. In higher education, BL has been lately experiencing an upward trend [5–7], spurred even more by the COVID crisis [8]. Indeed, meta-analyses provide indications that BL has a higher impact on student performance than face-to-face or distance learning alone [9–11]. Benefits have also been reported with regard to engagement in learning [12], student satisfaction [13], drop-out prevention [14], meaningfulness of learning experience [15], seat time reduction [16], and an increased sense of community among learners [17]. Despite its potential, BL is not yet widely embraced on campuses [18–20] or, since the COVID crisis, it has taken impoverished forms of "emergency remote teaching" [21, 22]. Facing this situation, questions should be raised about the reasons that can explain this pattern of moderate adoption. The Theory of Planned Behaviour [23] can shed light on this issue at an individual level of analysis.

3. Theoretical framework: theory of planned behaviour

The Theory of Planned Behaviour (TPB, **Figure 1**) has been used to predict specific behaviours and/or to plan interventions designed to influence behaviour in various domains including education [24–30]. Its predictive reputation regarding behaviour is up to now unchallenged [31]. According to TPB, behaviour can be directly predicted by the intention to adopt it, and intention is itself determined by three essential factors (**Table 1**, column 1):

1. attitude towards the behaviour: it can be defined as the extent to which the target behaviour is regarded as desirable or undesirable. If measured directly, attitude can be expressed in two ways [32]: cognitively (is it good or bad?) and affectively (is it pleasant or not?). Indirect measuring results from multiplying "the beliefs about the consequences of the behaviour" by "the estimation of the value of those consequences".

2. subjective norm: it corresponds to the social judgement that is believed to be associated with the target behaviour. Direct measuring has to consider two types of normative beliefs. The first type is called descriptive norm. It corresponds to the assumed behaviour of one's entourage: are friends, relatives, colleagues, superiors... likely to adopt the behaviour? The second type is called injunctive norm. It consists in estimating the expectations of the entourage in relation to the behaviour to be adopted (or not). Indirect measuring is obtained by multiplying "the beliefs concerning the opinions of relevant persons" by "the motivation for taking those opinions into account".

3. perceived behavioural control: it corresponds to the perception of the control one has over the target behaviour when it comes to adopt it. Does it rely entirely on oneself? Perceived control requires two types of information
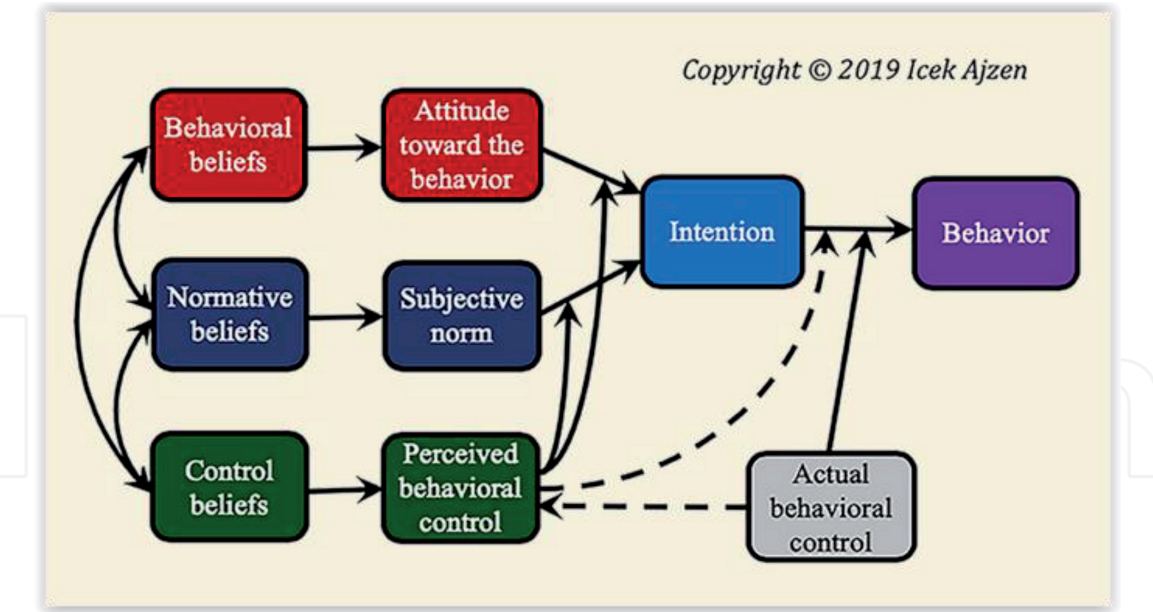
Figure 1.
Synoptic representation of the theory of planned behaviour framework (with permission: https://people.umass. edu/aizen/tpb.diag.html).

Behavioural beliefs in terms of outcomes	Positive outcomes: resorting to BL in my course(s) would make it possible to:
	• teach the subject at a distance so as to have more in-class time to be devoted to examples, exercises and discussion;
	• have students work more regularly and be more active throughout the year;
	• increase student motivation;
	• enhance student reflection and deep-thinking.
	Negative outcomes: Resorting to BL would:
	• cause misunderstanding of the subject without the teacher's noticing and correcting it;
	• risk losing contact with students.
Normative beliefs	Injunctive: Who would want me to resort to BL in my course(s)?
	• My students;
	• Academic authorities;
	• Colleagues of equal status.
	Descriptive: Who do I think is likely to resort to BL in their course(s)?
	• Teachers interested in new technologies;
	• Teachers for whom research is very important;
	• Teachers of the young generation.
Control beliefs	Which factors would facilitate or impede my using BL in my course(s)?
	• The amount of time to be dedicated to modifying my course(s) and to maintaining it (them);
	• The (lack of) user-friendliness and efficiency of the institutional e-learning platform;
	• The (lack of) reliable technological infrastructure at the university (computers, WIFI, classroom equipment...);
	• The focus on research activities rather than on teaching activities for promotion purposes;
	• Possessing (or not) technical know-how;
	• The necessity to rethink the pedagogical design of my course(s).

Table 1.
Beliefs related to the use of BL for teaching purposes.

in order to be measured directly: perceived self-efficacy in relation to the behaviour to be adopted (internal factor) and self-attributed behavioural control (external factor). Indirect measuring is obtained by multiplying "the beliefs regarding factors likely to facilitate or to impede the adoption of the behaviour" by "the estimation of the effect intensity of those factors".

The TPB postulates that these three direct predictors of intention are strongly influenced by at least two factors. One factor is context. Because salient beliefs are conditional upon context, Ajzen and Fishbein [33] suggest that researchers identify beliefs for behaviour from a specific population and context (here: restricted to professors of one university). The other factor is experience. If one has already adopted the behaviour in the past, one will be more inclined to adopt it in the future [34]. Taking this factor into account is particularly relevant here because several continuums of technology adoption [35–38] suggest a cumulative effect of experience on intensity and quality of technology-enhanced learning. Gender and age have also been included in this study as possible influential factors of BL adoption.

Ajzen [39] proposes a methodology aiming at constructing the adequate questionnaire in which each construct of the TPB model (attitude, subjective norm, perceived control and intention) should be represented by five or six items. He also recommends to use a seven-point bipolar scale for each item.

4. Theory of planned behaviour and blended learning

Although examples of instructional designs of BL can be found in the relevant literature [40, 41], hardly any systematic and empirical inquiries about the factors working as incentives to use blended approaches to teaching and learning have been carried out up to now. Current literature provides a few adoption and concerns frameworks in relation to BL. Stacey and Gerbic [13] developed a set of recommendations for adopting BL divided them into four categories. Besides recommendations related to students, pedagogy and institutional constraints, one category conveys an explicit concern for teacher-related aspects but without much elaboration. With their "Institutional Blended Learning Adoption Checklist", Graham, Woodfield and Harrison [42] continue in a similar vein, exploring the degree to which institutional strategic, structural, and supporting measures may facilitate or restrain the adoption of BL among higher education teachers, at various levels of familiarity with technology. The contributions of those studies are located at an institutional decision making level.

However, because teachers are at the heart of any educational change process, addressing directly the practitioner level is important. In that regard, a few pieces of work showing interest in the determinants likely to predict the adoption of BL in concrete courses can be found. Through six semi-structured interviews, Mozelius and Rydell [43] spotted four problems and barriers (extra time needed to learn new technology tools, lack of support for acquaintance with critical functions of LMS, and discomfort with understanding and implementing effective online pedagogy) hindering a successful implementation of BL at university, in Sweden. Antwi-Boampong [44] used a grounded theory approach and interviewed 22 teachers to gain an in-depth understanding of the processes influencing the implementation of BL in Ghanaian institutions. In Zimbabwe, Dube [45] interviewed 14 faculty members in order to uncover the challenges they associated with a successful implementation of BL. Apandi and Raman [46] investigated teacher perceptions as an important element in shifting to BL in Malaysian post-secondary institutions. Labelling their work as a "concept paper", the authors primarily intended to complement a technology acceptance model [47] with what they consider as a missing

factor of adoption or avoidance: teachers' "techno-pedagogical content knowledge", a notion that has been strongly highlighted by the teacher professional development model TPACK [48]. Ibrahim and Nat [49] tried to identify the factors responsible for motivating instructors to integrate BL into their courses. Based on two categories of motivational factors to be found in the literature on BL, namely extrinsic factors (instructor interactions with technology and with students, academic workload, institutional environment) and intrinsic factors (instructor attitude and beliefs regarding technology and vocational training), the authors designed a synoptic model and tested it on 362 faculty members in Turkey.

Although the above review enumerates valuable contributions, it contains no genuine application of the canonical TPB to BL issues in higher education.

The present study adopts the TPB in order to determine which representations about BL and which intention influencing factors are likely to work as an incentive for higher education teachers to resort to BL in at least one of their courses in a not too distant future.

The following hypotheses guide the study:

1. The TPB constructs "attitude towards the behaviour", "subjective norm" and "perceived behavioural control" significantly predict teachers' behavioural intention regarding BL.

2. Teachers' age and gender influence their behavioural intention regarding BL.

3. Teachers' beliefs indirectly predict their behavioural intention regarding BL.

4. Teachers' past experience influences their beliefs about BL.

5. Methodology

5.1 Instrument

The design of the questionnaire strictly follows Ajzen's methodological guidelines [23, 32, 39] and examples, as described in various papers and on his website (http://people.umass.edu/aizen).

5.1.1 Definition of target behaviour

The first step to create the questionnaire was to delineate the behaviour to be predicted by means of the TPB. According to Ajzen [32], "the behaviour of interest must be clearly defined in terms of its target, action, context, and time elements" (p.2). Consequently, the target behaviour regarding BL was formulated as follows: "to resort to BL in at least one of my courses next year or the year after".

5.1.2 Construction of indirect measures

Indirect measures are displayed in **Table 1**. They are called "indirect" because they are antecedents of the three major predictors of intention, visible in **Table 1**, column 1. In order to get indirect measures, semi-structured interviews took place with members of the target audience [39]. The interviews aimed at determining salient beliefs in relation to each TPB construct.

Salient beliefs are those that interviewees connect most frequently with the target behaviour. Fifteen interviews allowed to reach threshold saturation [50].

An analysis of occurrences identified the most frequently mentioned items in relation to attitude, subjective norm and perceived control. Those items gave rise to the formulation of corresponding items in the questionnaire.

5.1.2.1 Questionnaire items centred on attitude towards the behaviour

Each behavioural belief has to materialise in two items [39]. The first one refers to the strength of the belief (i.e. the degree of agreement with the belief). Considering the topic "more in-class time to be devoted to examples, exercises and discussion", the corresponding item can be formulated as follows: "Resorting to BL in at least one of my courses next year or the year after would make it possible to teach the subject at a distance so as to have more in-class time to be devoted to examples, exercises and discussion" with a seven-point bipolar scale ranging from "not at all probable" to "extremely probable". The second item refers to the desirability of the belief. Drawing on the same example, the corresponding item can be formulated as follows: "More in-class time to be devoted to examples, exercises and discussion is…" with a seven-point bipolar scale ranging from "entirely negative" to "entirely positive". The multiplication of both scores ("strength" multiplied by "desirability") constitutes the behavioural belief.

5.1.2.2 Questionnaire items centred on subjective norm

The same method applies: two items are created for each normative belief. The first item refers to the attitude a reference group is believed to adopt towards the target behaviour whereas the second one reflects the value attributed to such a belief. In other words, the second item deals with respondents' motivation to conform to the postulated attitude of the reference group. For instance, if students constitute the reference group, the first corresponding item can be formulated as follows: "Students think that… resort to BL in at least one of my courses next year or the year after" with a seven-point bipolar scale ranging from "I ought to" to "I ought not to". The second item centred on students as a reference group is: "How do you value your students' opinion about your teaching?" with a seven-point bipolar scale ranging from "not at all" to "enormously". The indicator of the corresponding normative belief is obtained by multiplying "strength" by "motivation to conform".

5.1.2.3 Questionnaire items centred on perceived behavioural control

The method for obtaining control indicators remains unchanged. This time it consists in multiplying the strength of the belief by the perception of control. Considering for instance the time factor, the strength of the belief can be formulated as follows: "Resorting to BL in at least one of my courses next year or the year after will force me to spend … time modifying my course(s) and maintaining it (them)" with a seven-point bipolar scale ranging from "little" to "a huge amount of". The item related to control perception is: "If I had enough time to modify my course(s) and to maintain it (them) or if I had an assistant to do the job, I would resort to BL in at least one of my courses next year or the year after" with a seven-point bipolar scale ranging from "completely disagree" to "completely agree".

5.1.3 Construction of direct measures

Direct measures are easier to construct. One needs to have at least three items for each construct, and, for each construct, items that cover the two aspects proposed by Ajzen [39]. This construction is summarised in **Table 2**.

Construct	Aspects	Number of items	Examples of items
Attitude towards behaviour	Instrumental aspect	4	"To resort to BL in at least one of my courses next year or the year after would be..." (seven-point bipolar scale ranging from "a bad thing" to "a good thing")
	Experiential aspect	3	"To resort to BL in at least one of my courses next year or the year after would be..." (seven-point bipolar scale ranging from "disagreeable" to "agreeable")
Subjective norm	Descriptive aspect	2	"Most of my colleagues resort to BL in at least one of their courses" (seven-point bipolar agreement scale)
	Injunctive aspect	3	"Most people I approve of would like me to resort to BL in at least one of my courses next year or the year after" (seven-point bipolar agreement scale)
Perceived behavioural control	Capacity aspect	3	"If I wanted to resort to BL in at least one of my courses next year or the year after, I would be able to do it" (seven-point bipolar agreement scale)
	Autonomy aspect	2	"Resorting to BL in at least one of my courses next year or the year after only depends on me" (seven-point bipolar agreement scale)
Intention	No aspect recommended by Ajzen	3	"I intend to resort to BL in at least one of my courses next year or the year after" (seven-point bipolar agreement scale)
Past behaviour	No aspect recommended by Ajzen	1	"Did you happen to use BL in the past?" (yes – no)

Table 2.
Items aiming at direct measurement of the three major TPB constructs.

5.1.4 Supplementary questions

In addition to the focused TPB approach, participants were asked to answer the following questions about their actual e-learning practices:

- Do you publish course contents online? (never-systematically)

- Do you publish supplementary contents (in addition to those dealt with in class) online? (never-systematically)

- Do you communicate with students via the Web (using other technological facilities than email)? (never-systematically)

- Do you propose online-tests to your students? (never-very often)

- Do you propose learning activities (preparations, homework, additional exercises...) online to your students? (never-very often)

- Do you inform yourself during the year about student online activity? (never-very often)

- Do you propose online discussion boards in order to promote debate among students? (never-very often)

- Do you propose to your students group work to be carried out online? (never-very often)

- Do you interact (chat) online with your students? (never-very often)

5.2 Procedure

The regular four-step process was applied:

1. Semi-structured interviews with 15 faculty members in order to identify salient beliefs regarding the use of BL (**Table 1**).

2. Construction of the TPB questionnaire (**Table 2**).

3. Encoding of the questionnaire using the Qualtrics survey tool and submission to the faculty members of the University of Liège by means of a Web-link sent by email.

4. Data collection and analysis.

5.3 Methods of analysis

Responses to the questionnaire on BL were processed by applying the following statistical analyses:

- Descriptive statistics about respondents' gender, age and actual e-learning practices;

- Computation of Cronbach's alphas and of means in order to create the TPB-related constructs based on respondents' evaluation of their constitutive aspects;

- Stepwise multiple regression analyses in order to examine the relationships between: 1) attitude towards the behaviour, subjective norm, perceived behavioural control and intention; 2) attitude towards the behaviour, subjective norm, perceived behavioural control and indirect predictors;

- Multivariate analyses of variance (Student's t-test) in order to find out 1) if previous use of BL is influenced by age, and 2) if respondents' beliefs are impacted by previous use of BL.

5.4 Participants

Faculty in charge of teaching activities constituted the population of interest for our study. Therefore, the questionnaire was addressed by email to the faculty members of the University of Liège (Belgium).

6. Results

6.1 Response rate

Out of 600 faculty members, 114 returned a fully workable questionnaire. Genders are distributed in 57% male and 43% female. Ages range from 23 to 69 years, with a mean age of 43.84 years ($SD = 10,52$).

6.2 Intention variable and its direct predictors: Reliability and consistence

Considering a total of 114 respondents, Cronbach's alphas for the items directly related to attitude (7 items), to subjective norm (5 items), to perceived control (5 items), and to intention (3 items) amount respectively to .97, .96, .75, and .79. The constructs can be regarded as reliable provided that their corresponding alphas are superior to .70.

6.3 Regression analyses on the direct predictors of intention

Stepwise multiple regression checked the significance of direct predictors (**Table 1**) in relation to the dependent variable 'intention' (**Table 3**). The portion of intention variance that can be explained by all three direct predictors amounts to 73% ($R2$ adjusted = .72, p = .02). (Two additional variables – age and gender of respondents – were added to the best-fitted model but turned out to be non-significantly influential. Therefore, the corresponding models are not displayed).

The break-down for the three direct predictors reveals that each of them separately predicts intention at the significance level of .05: 49,9% of intention variance can be attributed to attitude (ß = .65, p < .001), 15,5% to perceived control (ß = .19, p = .002) and 10,9% to subjective norm (ß = 0.12, p = .029).

6.4 Regression analyses on the indirect measures of intention predictors

Stepwise multiple regressions were conducted in order to find out about the impact of respondents' beliefs on the direct predictors of intention. The first stepwise regression aims at explaining attitude by means of behavioural beliefs (**Table 1**, line 1). The portion of attitude variance that can be explained by the model amounts to 56% ($R2$ adjusted = .55, p = .007). Two variables out of 6 explain this portion of variance (**Table 4**). The other four variables have been excluded because they brought no incremental change to the model. The two influent behavioural beliefs predicting attitude at the significance level of 0,05 are "Teach the subject at a distance so as to have more in-class time to be devoted to examples, exercises and discussion" (ß = .22, p = .007) and "Increase student motivation" (ß = .59, p < .001).

The second stepwise regression aims at explaining subjective norm by means of normative beliefs (**Table 1**, line 2). The portion of norm variance that can be explained by the model amounts to 36% (R2 adjusted = .35, p = .008). Two variables have been retained by the model (**Table 5**). The other four variables have been excluded because they brought no incremental change to the model. The retained behavioural beliefs predicting subjective norm at the significance level of .05 are the injunctive norm "Colleagues of equal status" (ß = .48, p < .001) and the belief corresponding to the descriptive norm "Teachers of the young generation" (ß = .22, p = .008).

The third stepwise regression aims at explaining perceived control by means of control beliefs (**Table 1**, line 3). The portion of control variance that can be explained by the model amounts to 7% ($R2$ adjusted = .06, p = .004). One variable has been retained by the model (**Table 6**). The other five variables have been excluded because they brought no incremental change to the model. The single behavioural belief which predicts perceived control at the significance level of .05 is "The user-friendliness and efficiency of the institutional e-learning platform" (ß = .27, p = .004).

Model	R	R-Squared	Adjusted R-Squared	Standard Error of Estimate	Modification of statistics				
					Variation of R-Squared	Variation of Function	DOF1	DOF2	Significant Variation of Function
1	.832[a]	.692	.689	113,953	.692	251,853	1	112	.000
2	.849[b]	.722	.717	108,858	.029	11,728	1	111	.001
3	.856[c]	**.733**	.726	107,009	.012	4870	1	110	**.029**

Dependent variable: intention.
[a]*Predictors: (Constant), attitude.*
[b]*Predictors: (Constant), attitude, perceived control.*
[c]*Predictors: (Constant), attitude, perceived control, norm.*

Table 3.
The three traditional predictors of intention are active in BL intention – Summary of models.

Model	R	R-Squared	Adjusted R-Squared	Standard Error of Estimate	Modification of statistics				
					Variation of R-Squared	Variation of Function	DOF1	DOF2	Significant Variation of Function
1	.729[a]	.531	.527	.89090	.531	121,160	1	107	.000
2	.750[b]	**.562**	.554	.86517	.031	7458	1	106	**.007**

[a]*Predictors: (Constant), item belief-attitude3 (motivation).*
[b]*Predictors: (Constant), item belief-attitude3 (motivation), item belief-attitude1 (exercises).*

Table 4.
Two behavioural beliefs influence the predictor "attitude towards BL" – Summary of models.

Model	R	R-Squared	Adjusted R-Squared	Standard Error of Estimate	Modification of statistics				
					Variation of R-Squared	Variation of Function	DOF1	DOF2	Significant Variation of Function
1	.568[a]	.323	.316	103,930	,323	50,533	1	106	.000
2	.606[b]	**.367**	.355	100,943	.044	7365	1	105	**.008**

[a]*Predictors: (Constant), item belief-norm3 (colleagues).*
[b]*Predictors: (Constant), item belief-norm3 (colleagues), item belief-norm6 (young-teacher).*

Table 5.
Two normative beliefs influence the predictor "subjective norm" – Summary of models.

Model	R	R-Squared	Adjusted R-Squared	Standard Error of Estimate	Modification of statistics				
					Variation of R-Squared	Variation of Function	DOF1	DOF2	Significant Variation of Function
1	.278[a]	**.077**	.069	139,247	.077	8893	1	106	**.004**

[a]*Predictors: (Constant), item belief-control (platform).*

Table 6.
One control belief influences the predictor "perceived behavioural control" – Summary of models.

6.5 Statistics related to previous use of blended learning

When asked if they had already used BL in the past, 61% of participants answered positively, while the remaining 39% answered 'no'. Interestingly, age was not a predictor of participants' previous use of BL ($ß = .003$, $p = .954$). A T-test comparison of the groups "previous use of BL" versus "no experience of BL" delivers significant differences for all indirect predictors of intention identified above (**Table 7**).

BL-related beliefs to be rated on a seven-point bipolar scale	Previous use of BL (no/yes)	N	Mean	Standard deviation	t	p	d
Outcome evaluation "Teach the subject at a distance so as to have more in-class time to be devoted to examples, exercises and discussion"	No	43	4,21	1612	−3.46	<.001	.67
	Yes	70	**5,31**	1673			
Outcome evaluation "Increase student motivation"	No	43	3,86	1612	−3.88	<.001	.75
	Yes	70	**4,87**	1154			
Injunctive norm "Colleagues of equal status"	No	42	3,83	,853	−2.43	.017	.47
	Yes	67	**4,33**	,991			
Descriptive norm "Teachers of the young generation"	No	42	4,10	1185	−2.67	.009	.52
	Yes	69	**4,75**	1253			
Facilitating factor "The user-friendliness and efficiency of the institutional eLearning platform"	No	43	3,58	1577	−2.74	.007	.53
	Yes	70	**4,29**	1446			

Table 7.
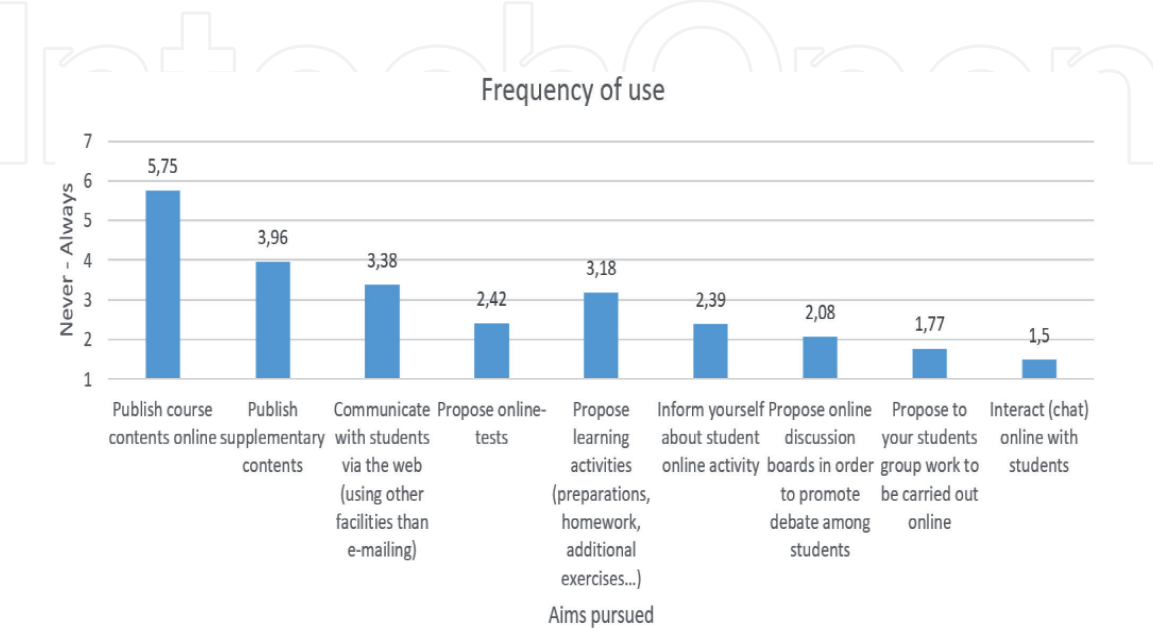*BL-related beliefs are reinforced by previous use of BL.*

Figure 2.
Self-expressed technology-enhanced practice is basic in the sample.

6.6 Statistics related to current e-learning practices

The supplementary questions about actual technology-enhanced learning practice disclose teachers' current practice, mostly associated with transmission of contents and communication with students, and less with student-centred activities (**Figure 2**).

7. Discussion

The study confirms that the intention to resort to BL for teaching and learning purposes in a not too distant future is massively predicted by the three canonical perceptions highlighted by the TCP: attitude towards the behaviour, subjective norm and perceived behavioural control. On the other hand, respondents' age and gender do not influence their intention to use BL in their courses. Therefore, if faculty were to be persuaded to adopt BL, no special attention would have to be paid to those attributes.

The study also uncovers several specific beliefs acting as indirect predictors of intention: BL motivates students, BL makes room for exercises to take place during the course, using BL is an expectation of colleagues, using BL is a feature of young colleagues, the LMS can be a barrier to BL. However, the direct predictors are not fully predicted by those second-line beliefs. This means that other beliefs play an active role in predictability of the three constructs related to intention. Nevertheless, the coefficient of partial determination computed for each significant belief makes it possible to list and to hierarchize those beliefs and thus, with a view to pragmatism, to set priorities among the arguments most likely to work in favour of the intention to use BL.

As for behavioural beliefs, the most salient one is related to the idea that BL enhances student motivation. The second student-centred attitudinal belief significantly promoted by respondents touches upon the gain of in-class time to be dedicated to more examples, exercises and discussion. In this regard, respondents' opinions coincide very much with one of the most frequently reported pedagogical strengths of BL [51] and the germane notion of flipped classroom [52]. Should a Teaching and Learning Centre promote the use of BL among the faculty members of its university, it could especially emphasise this pedagogical aspect. Interestingly, the respondents who declared having used BL in the past believe still more strongly in the motivation enhancing power of BL and in the opportunity to devote more in-time class to active learning than traditional teaching methods usually allow for. Experience sharing of concrete instantiations of those beliefs could be considered with a view to stimulating reflection around BL.

As for normative beliefs, respondents value uppermost the opinion of colleagues of equal status. Pressure exerted by colleagues to adopt BL seems to be perceived more strongly than any kind of demand formulated either by institutional authorities or by students. Such sensitiveness in relation to colleagues can be interpreted as a wish to conform to peers' expectations regarding teaching and learning practices based on hybrid environments. In that regard, inviting teachers versed in BL to communicate about their experience with BL to colleagues with no experience of it would probably have some convincing power. The belief according to which young teachers are more attracted to BL than teachers with other profiles does not converge with the lack of correlation between the age of respondents and their experience of BL or their intention to use BL. However, the respondents with BL experience have manifested a slightly stronger opinion in favour of that belief. Such a lack of consistence is hard to explain and no satisfying explanation could be put forward.

As for control beliefs, the user-friendliness of the institutional e-learning platform is the only aspect influencing significantly the perception of behavioural control towards BL. Consequently, the e-learning platform can be seen as a major technical facilitator of BL. Such a pragmatic approach to BL could be entertained by offering faculty effective training and service in relation to the platform. However, encouraging teachers to make a more sophisticated use of it than it seems to be currently the case would also be advisable. Presently, e-learning practices mainly consist in giving students access to course contents online and in the communication around those contents.

The obtained results should not be generalised as they chiefly concern one Belgian institution. However, literature on BL indicates to some extent that the beliefs put forward by this study could be shared by a larger community. Moreover, as already mentioned, if the salient beliefs identified by the study can be regarded as levers in favour of BL, acting on such levers is worth a trial. On the whole, rooting faculty development actions in evidence-based approaches like the TPB and its emphasis on obstacles and incentives to adopt a specific behaviour can help policy makers, academic authorities or teaching and learning centres to guide, structure, and promote more effectively innovative approaches to teaching and learning.

The study presented here also points towards an obvious further piece of research: relaunching a TPB-based inquiry on BL after the pandemic and check whether the predictors of intention and their underlying beliefs have been affected by this constrained "emergency remote teaching" [21–22]. In this perspective, the current study, taking place just before the lockdown, could somehow serve as a useful yardstick to calibrate possible evolutions of faculty readiness to practise BL. For Teaching & Learning Centres, it would be very interesting – and conceivably somewhat depressing – to establish whether a nasty virus has done more in several months for the promotion of BL in teachers' minds than years of patient argumentative work in favour of thoughtful hybrid instructional design. Of course, recent circumstances have given rise to a series of articles regarding technological adaptation and BL efforts due to the COVID-19 pandemic across the globe [8, 53–56]. However, contrasting empirical pre- and post-lockdown data obtained through a comparable and well-documented research methodology would have a value of its own.

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