



› FOR SOCIETY

Lectoraat Cross-Border Business Development

HYBRID LEARNING ENVIRONMENTS IN A CROSS-
BORDER CONTEXT

STEVE CLEMENS, RESEARCHER

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1. Introduction

A learning environment is the socio-cultural, physical, and social context in which people can learn (Goodyear, 2001). Learning itself cannot be designed, but elements of the situation in which learning takes place *can* be designed (Goodyear & Carvalho, 2014).

In hybrid learning environments a border is crossed, or at least breached, between the educational context of a school and a professional context of the workfield, i.e. school and work.

Moreover, within FIBS Venlo the educational strategy for the near future has seen a fundamental pivot, from the 'classic' instructional model towards a model called Talent-Based Education (Dutch: Talentgericht Onderwijs, TGO), showing all the characteristics of what are considered hybrid learning environments in the literature.

First cohorts at Marketing Management are planned to start with a first stage of this novel educational approach in February 2026, but other degree courses are set to follow soon thereafter.

The cross-border aspect is particularly salient for Fontys International Business School in Venlo, a Dutch educational institution located right at the German border, with more than half of the student population, and a large portion of staff consisting of Germans, as well as collaborations with external partners from an extensive border-ignorant network.

This project is embedded in the Cross-Border Business Development (CBBDD) research chair, involved in the development of Living Labs through the Euregional Sustainability Center (ESC). Living Labs stimulate learning and development from three dimensions:

- **Education.** Students learn from multidisciplinary collaboration, building networks. Involved educational programs acquire knowledge on innovative issues relevant to the curriculum and design education based on practical challenges.
- **Business (the field).** Professionals develop knowledge on innovative issues (e.g. circular economy), applying it as innovation in their organizations. Companies showcase themselves as potential employers for students, and utilize expertise from students, educators, and their networks broadly.
- **Research.** Living Labs offer participants opportunities to develop a research based approach to their challenges, nurture an inquisitive mindset and apply scientific knowledge to practical business/organizational settings.

In the Living Labs of the Euregional Sustainability Centre, which focus on Circular Manufacturing and Healthy Spaces, (future) professionals, businesses, and educational institutions from both sides of the border collaborate on issues related to circularity or sustainability in a broader context. The challenges in this domain are complex by nature, requiring cooperation among multitudes of stakeholders. These collaborations can be quite diverse in kind, from public vs private organisations, over operations of different sizes and/or industrial sectors, to the issue of geographical proximity and applicable legal system. The latter is of particular interest to this research as companies in a border region face extra challenges when desiring collaboration with their 'neighbours'. These can be situated across a national border, with a different legal infrastructure, run by people of a different culture, and so on.

Anticipating these changes and leveraging opportunities through cross-border collaboration provides an authentic context for multidisciplinary and research-oriented work on this kind of challenges.

The Living Lab thus offers unique opportunities for investigating cross-border cooperation from the perspective of a learning and innovative organization and learning and innovative ecosystems

Problem Analysis

The key premise of the Living Lab is that all participants (students, professionals, educators) collaborate and learn through research. This raises questions about the appropriate didactic setup of the learning environment, enabling cross-border and multidisciplinary collaboration. It also raises questions about the conditions needed to utilize the outcomes of a Living Lab in all partner organizations.

From the student's perspective, it is crucial that the learning outcomes have meaningful relevance within the framework of the educational program, allowing them to be valued in terms of academic credits. The challenges they work on should provide sufficient, yet not overly complex, content for developing at the university of applied sciences (UAS) level. Students need the necessary basic knowledge and professional skills to collaborate with professionals.

For educators, this involves the development of teaching skills such as coaching and interaction with professionals in multidisciplinary collaboration, which are also relevant within

the context of their professional development. Additionally, educators engage in utilizing their subject expertise in the Living Lab. Participation provides opportunities to develop their own expertise by collaborating on substantive issues in the Living Lab and conversely translating these experiences back into their study programs.

In the professional field, it is essential that the outcomes of collaborating on challenges in an educational setting are relevant and of sufficient quality, requiring the establishment of quality indicators. Moreover, it is important that the learning outcomes of professionals participating in the Living Lab can be shared within their own organizations, contributing to innovation and the development of their colleagues and the organization as a whole.

By focusing on a Living Lab as a learning organization (learning community), the chances are increased that learning occurs among all participants, and not just students, in a cross-border context.

Goal of this project.

In the phase of preparation and implementation of the cross-border Living Lab, choices must be made to support the ambition of creating an environment in which all participants in the cross-border context can learn. However, it is not clear what this requires from the design of the curriculum within the Living Lab. The models used for curriculum design (including Van den Akker's Spiders Web model, 2003) are insufficiently tailored to the specific requirements in a multidimensional and international learning environment such as the Living Lab as conceived by Fontys' Euregional Sustainability Centre (ESC).

Moreover, the FIBS Venlo pivot in educational, from the 'classic' instructional model towards a model called Talent-Based Education (Dutch: Talentgericht Onderwijs, TGO), showing all the characteristics of what are considered hybrid learning environments in the literature, enhances this project's relevance. At least in timing.

Specific design requirements for a curriculum in Living Labs and/or TGO, where multidimensionality in a cross-border setting is the starting point are desirable. Alignment within the professional development programs of participating organizations (Fontys University, Hochschule Niederrhein, and other partners), is likewise crucial to achieving the wanted learning outcomes for all participants.

Research question for this project:

- *According to students, educators, and professionals, having been exposed to a degree of a cross-border learning environments (Crosslabs at Fontys UAS Venlo), what are important design requirements leading to successful learning?*

2. Theoretical framework

This project aims to combine two realms of knowledge: one of hybrid learning environments and another on their potential cross-border ramifications, including cultural differences between Dutch and German students, teachers/coaches and professionals.

A short synopsis of Hybrid Learning Environments (HLEs):

A learning environment is the socio-cultural, physical, and social context in which people can learn (Goodyear, 2001). Learning itself cannot be designed, but elements of the situation in which learning takes place *can* be designed (Goodyear & Carvalho, 2014).

In hybrid learning environments a border is crossed, or at least breached, between the educational context of a school and a professional context of the workfield, i.e. school and work. In below figure 1. We see differing approaches to this particular type of boundary-crossing. Where the 'alignment' approach creates a simulacrum of a bridge between school and work, the 'incorporation' approach physically puts elements of one environment into the other, e.g. have a workshop with students inside the offices of a company instead of at school, or invite a professional from the workfield to lecture or run a workshop in school. In the 'hybridized' version a third space is created where both school and work area's are present.

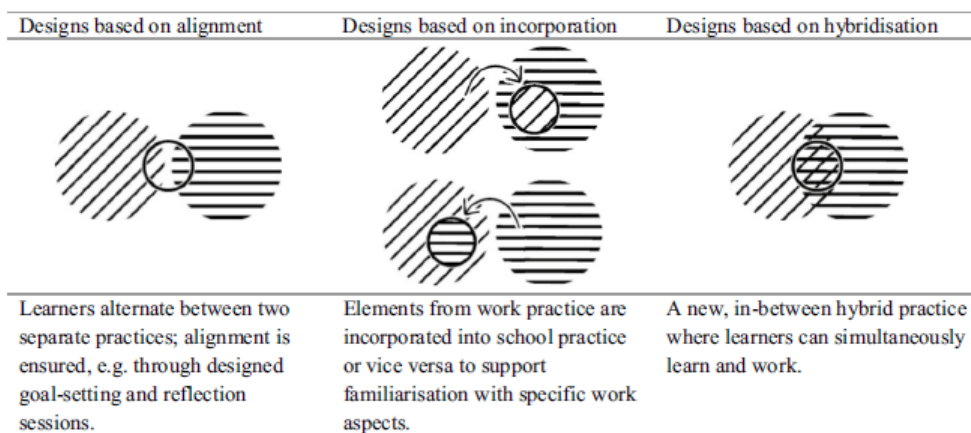


Figure 1: Three design rationales for the school–work connection (based on Bouw et al. 2019).

In order to identify specific design parameters for an HLE in a cross-border context, a theoretical framework needs to lean on a model that combines both theories on HLE's and the cultural differences between Germans and Dutch people. Perhaps not surprisingly, this was not encountered in the scientific literature on pedagogics, more specifically when it comes to cultural differences in an educational vs professional setting.

With regards to the main theories on HLE's, the current state of the literature rapidly shows saturation when it comes to the major authors. These authors seem to dominate the field, alphabetically:

Akker - Bovens - Bouw – Custers – Engeström – Goodyear – Hoeve – Kirschner – Moresi - Zitter

HLE theory							
Fontys' H. Heldens' HLO WEB (2023)	P. Swennenhuis, S. Moresi, et al. (2021). professionele werkplaatsen	M. Custers, M. Thunissen. (2018). Social labs. First part	M. Custers, M. Thunissen. (2018). Social labs. Second part.	Carvalho & Goodyear, 2017; Zitter & Hoeve, 2012	E. Bouw, I. Zitter, E. de Bruijn. (2019)	Zitter, I., De Bruijn, E., Simons, P.R.J. and Ten Cate, T.J. (2012)	
vision	Leiderschap en Autonomie (LeA). Grensoverstijgende en ontwikkelingsgerichte cultuur (GOC)						
composition	Vrijmaken mensen en middelen (VMM). Vormgeven en onderhouden van relaties (VDR).	Door en met wie (actoren en rollen), de rollen uitwisselbaar	1. Geen hybriditeit. Onderwijs en praktijk zijn twee verschillende systemen. 2. Gedeeltelijke integratie: Op aspecten van beide systemen wordt gezocht naar grensoverstijgende oplossingen. 3. Volledige hybriditeit. Vanuit co-creatie worden geheel nieuwe activiteiten opgestart op de grenzen van beide systemen.	agency-perspectief (actoren en rollen)	based on alignment between two separate practices, based on incorporation of elements from one practice into the other practice and based on (partial) hybridisation between the two practices.	two dimensions: acquisition-participation and constructed-realistic. These give four quadrants in defining hybrid learning environments: 1. constructed-acquisition, 2. constructed-participation, 3. realistic-acquisition, 4. realistic-participation.	
challengeproblem		Waarom wordt gewerkt? (de vraagstukken).					
learning results	lerend en onderzoekend samenwerken (LOS)	Hoe wordt geleerd? (het leerwerkrepertoire).					
evaluation		Hoe wordt geëvalueerd?					
work process knowledge & skills	Samen richten en (her)inrichten (SRI)	Waarmee? (middelen en tools)					instrumentele perspectief (middelen)
space		Waar? (fysieke en digitale ruimte). gelegenheid tot samenwerking en interactie, als een veilige omgeving					ruimtelijk perspectief (fysieke en digitale ruimte)
time		Wanneer? (tijd).					temporele perspectief (tijd).

Table 1: the major components of several theories on HLE's, aligned on the Heldens (2023) model.

Fontys UAS has a HLE program team which developed (2021) a framework on HLE's. Based on the aforementioned authors Akker, Bouw, Custers, Zitter, it posits a horizontal axis on the 5 grades of intensity of hybridisation (Custers, 2018) and a vertical axis with 17 elements for curriculum design, split over 3 levels, from strategic (2 elements), over tactical (7 elements) to operational (8 elements). Together this results in 85 fields, with each their amount of information bearing on the design requirements for a HLE.

More recently, Fontys researcher Henderijn Heldens (2023) developed a 9-dimensions web-like model. It includes 51 design requirements, 33 parameters with differing degrees of measurability, as well as 64 pitfalls to avoid.

When it comes to mapping cultural differences the most ubiquitous theoretical models are from Hofstede (2001) and Trompenaars-Hampden-Turner (1997). Focussing on Hofstede's model, it declares there are six key cultural dimensions, suitable for comparing national cultures:

- Power Distance Index (PDI), i.e. authority,
- Individualism vs. Collectivism (IDV), i.e. social relationships,
- Masculinity vs. Femininity (MAS), i.e. achievement focus,
- Uncertainty Avoidance Index (UAI), i.e. tolerance for uncertainty,
- Long-Term vs. Short-Term Orientation (LTO), i.e. time orientation,
- and Indulgence vs. Restraint (IVR). i.e. self-control.

Furthermore, the Geert Hofstede website allows for easy comparison of any two or more countries' cultural characteristics, based on their extensive international datasets. The underlying assumption is that nations and cultures show overlapping border lines, i.e. Spain is one culture even though it consists of Castilian, Catalan and Basque peoples. Belgium is also considered 'a culture' while it entertains the strikingly different Flemish and Walloon cultures, with their own languages, government and constitutional separation.

The result of the Hofstede comparison tool is a bar chart with on the vertical axis a percentage number for each of the Hofstede dimensions for the compared countries. When inputting the Dutch and German cultures, no surprise, the numbers do not differ significantly in most of the Hofstede dimensions other than Masculinity (52%) and Indulgence (28%).

Combining the Fontys/Heldens web-model on HLE's with e.g. Hofstede's aforementioned simplest and most popular theoretical model on cultural characteristics comprising of 6 dimensions, could technically produce 300+ expressions of design requirements, combined with 180+ metrics.

Moreover, it is conceivable that non-cultural factors come into play when running a HLE in a border region. Content in popular media list non-Hofstede cultural differences between the Germans and the Dutch. From the culinary obligatory consumption of bitterballen while 'borrelen', to tipping behavior (Becky, 2020), relevance to the edu-profi context is very light.

For this project the Bouw-Zitter (2019) model was chosen, both for its simplicity with regards to number of dimensions, and it's self-explanatory nomenclature which proves handy when discussing with respondents.

To unpack the complexity of hybrid learning environment designs a descriptive framework

was used, distinguishing 5 designable elements (Bouw et al, 2019):

- Epistemic elements
 - Regarding the task characteristics and arrangements relating to ways of knowing, and how this knowing should be presented and structured. (Carvalho and Goodyear 2018)
- Spatial
 - Apropos location (school, work or third location), spaces (analogue or digital) and how these spaces are furnished. (Zitter and Hoeve 2012)
- Instrumental elements
 - Comprise of all tools and artefacts needed to perform relevant tasks.
- Social elements
 - Concerning all actors present in a learning environment, the roles that they fulfil, how they are grouped and how tasks are appointed to and divided between different actors (i.e. the division of labour, e.g. coach, learner, assessor).
- Temporal elements
 - Considering timespan and intensity of the programme, nature of the time schedule, work pace (including amount of time pressure), and work interruptions to slow down, accelerate or pause the work process.

Below illustration depicts the 5 elements of an HLE as design choices, inputs to an emergent activity, leading to an outcome, hopefully learning. This picture was also used as graphical aid to the interviews with respondents, see Methodology below.

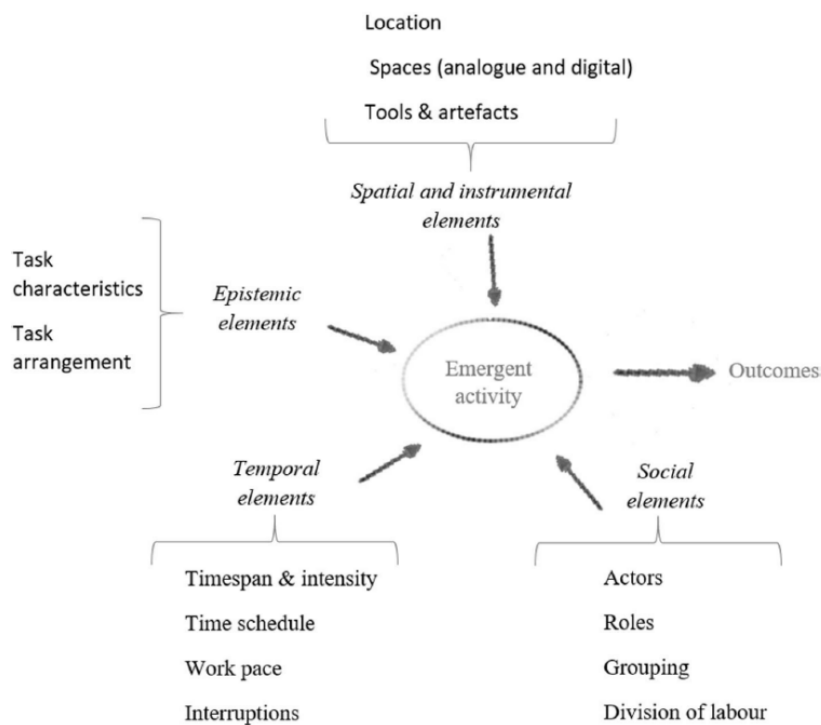


Figure 2. designable elements of learning environments (Bouw et al, 2019)

For practical purposes, also during interviews, we have called this model 'the model', sometimes the 'ESTIS model'. (Epistemic, Spatial, etc.)

3. Methods

3.1. Sample, respondents

Behind every quantity there must lie a quality.

Philip Selznick, 1948 (Krygier, 2012).

As literature on HLEs specifically in a cross-border context seems non-existent, it is clear we are dealing with a phenomenon with high levels of uncertainty.

For this research project, an exploratory qualitative research method was adopted. *"This method can be valuable in providing rich descriptions of complex phenomena; tracking unique or unexpected events; illuminating the experience and interpretation of events by actors with widely differing stakes and roles; giving voice to those whose views are rarely heard; conducting initial explorations to develop theories and to generate and even test hypotheses; and moving toward explanations."* (Sofaer, 1999)

Sample

A series of interviews took place among a population at Fontus UAS Venlo with some experience with a learning environment resembling an HLE: the Crosslabs course.

Bachelor students at FIBS get a course called Start Up Factory (SUF) in both semesters of their second year (out of 4), where they are put in groups of 4-5 students, preferably from the three degree programs at FIBS, Marketing Management (MM), Controlling & Finance (C&F) and International Business (IB). This is seen as the multi-disciplinary aspect. A mix on nationalities is also aimed for, with Dutch students, Germans and others (e.g. Polish, Russian, Roumanian, etc)

The groups are asked to develop a business case for a new product or service. The assignment is purely simulated, i.e. no prototyping is required. However, a small number of students are allowed to participate in an exceptional part of SUF: the Crosslabs, where they face a real business challenge, provided by a real 'customer' from the workfield (the pro), guided by a member of Fontys faculty (the coach).

The participants – students, coaches and pro's – in a Crosslab are interesting to this research as the format comes quite close to a textbook hybrid learning environment, at least the closest we could find within the FIBS realm. However, as close as the Crosslab course comes, it still differs from :

- Crosslabs take only 2 semesters out of students' 8.

- The professional has limited access to, or collaboration with the student. He/she is mostly just the provider of the business challenge.
- At FIBS there are more German than Dutch students. This results in some groups containing no Dutch students at all. The student groups selected for interviews in this project comprised at least one Dutch student, sometimes supplemented by a student from still another nationality, like Romania or Ukraine.
- The intensity of the collaboration with the coach is equally limited. The coach is '*always available*' but student groups 'sit with' him/her mostly once every week for about an hour.

A total of 14 interviews were conducted with Crosslabs participants, consisting of

- 4 coaches
- 6 professionals
- 4 student groups, each 4-5 respondents

Interview protocol

Interviews consisted of 3 steps

- Intro
- General question
- Into the elements of an HLE

An approach was chosen of first asking a general question, followed by the focus onto a specific model. This could be seen as a hybrid, a first inductive, then deductive interview protocol. This funnel type tactic should provide a more holistic understanding by first exploring freely and then focusing on specific areas. It balances the exploratory nature of generating new ideas (inductive) with the more rigorous, confirmatory nature of testing existing theories (deductive).

As the respondents were not anticipated to be familiar with theories neither on HLEs or culture studies, an intro was required on HLE's. Similarities were drawn between their Crosslabs course and an HLE as seen in the literature.

This was followed by the general question on the differences between a 'regular' mono-culture HLE and their experienced 'cross-border' situation. This was the sentence used:

"How does a hybrid learning environment need to be different when it is situated in a cross-border context, i.e. with Dutch and German participants, as opposed to a group of one and the same nationality?"

Once the data flow weakened, i.e. they stopped talking, an illustration was shown depicting the 5 design elements according to the Bouw-Zitter model, aka the 'ESTIS model', see figure 5 above. Each design element is briefly explained using the keywords in the illustration, after which we went over each element one-by-one with a question formed thus:

“When it come to the [choice of element] element, how do you think a hybrid learning environment has to be different when in a cross-birder context, i.e. with Dutch... ?”

3.2. Data analysis

The interviews were recorder, either with a voice recorder or in a Microsoft Teams meeting, and transcribed first by Microsoft Word and then corrected-adapted by the author. The latter was necessary as the transcription service struggled with the sound quality of the recordings and the language jumping between Dutch, English and German.

Transcription were manually coded using Atlas.TI where 14 documents lead to 88 codes over 194 quotations. 9 code groups emerged, along model-consistent or model-non-consistent lines.

- The ESTIS model consistent code groups
 - Epistemic
 - Spatial & Instrumental
 - Temporal
 - Social
- The non-model code groups
 - Culture
 - Fix-it
 - Language
 - Methodology
 - Not D vs NL

Atlas.TI allows for network representations and facilitates interpretation of the data. There is also an AI function in Atlas.TI but this was not used as we are hesitant about sharing the data with the outside world.

4. Results

The interviews provided a lot of unexpected data. Perhaps not that most respondents reverted straight to culture instead of nationality when asked about the differences between a Dutch- or German-only HLE vs the mixed variety. In fact, many statements posited that is not nationality but culture that counts, and age, and the generational differences, etc.

4.1. Main findings

In this section of the report we're going to be lead by the occurrence and interpretation of the codes separately, followed by a few meaningful combinations.

4.1.1. All codes vs the respondent groups, i.e. who said what?

When we want to acknowledge which of the respondent groups was most vocal, had most opinions to share, was most outspoken, we can tally up code incidence.

Below table 2 shows horizontally the types of remarks made, model-consistent and model-non-consistent scrambled.

Of course, in qualitative research one has to guard against quantifying data or getting quantitative understanding from the qualitative data. Especially when extensively coding, the temptation can exist to say something like "half of the respondents agreed with the statement that ..." We can however look at the volume of answers from the diverse respondent types, if there seem to be significant differences. Or when one type of answer, grouped under one code seems to occur significantly more often.

		coaches 4 75	professionals 6 58	students 3 51	Totals
culture	45	24	3	16	43
epistemic	19	9	5	4	18
language	26	8	9	8	25
methodo	33	9	12	10	31
not D vs G	36	14	12	9	35
Social	21	8	8	4	20
Spatial	18	4	7	4	15
Temporal	16	3	6	6	15
Totals		79	62	61	202

Table 2: which type of respondent focuses on which CB-HLE design element most?

The first group of answers was named Culture, an experience which does not appear in the ESTIS model. E.g. *"The Dutch students show signs of the zesjercultuur"*. This refers to a phenomenon where students are satisfied with a mere passing grade, achieved at minimal effort, and actually frown upon the achievement of a higher grade as being wasteful, not necessary, a sign of hubris. (van der Veer et al, 2015) (van Eijl et al, 2013)

The second answer group named Epistemic, from the ESTIS model, on the way instructions, knowledge is structured. E.g. *"The Germans require quite clear, no, very clear instructions."*

Language forms another non-model-consistent set of answers. E.g. *"Sometimes it's just about language and understanding each other"*

Methodo is the group name for answers that question the methodology of this research approach, i.e. are we asking the right questions to the right people? E.g. *"In my opinion it all comes down to personality."*

Not D vs G is the name for the cluster of answers that specifically call out that the culture differences between the Dutch and German students do not play a part in the functioning of a HLE. E.g. *"Our Dutch students are often a bit younger than the German students."*

The Social group name refers to the similarly named ESTIS model element. E.g. *"I think the Dutch student is generally a little more able to switch roles and task demands than the German student."*

The ESTIS model element Spatial also resulted in a number of answers, like *"When you're working in one of those large, fancy meeting rooms, it does generate some awe."*

The Temporal element from the ESTIS model, e.g. *"As a German I do like fixed meeting times so I can structure my week accordingly."*

When it comes to pointing out a few salient phenomena in a 'who said what' context, we can perceive the coaches expressing the most answers. They showed particular interest in cultural aspects as inputs to the dynamics in CB HLE, which the professionals almost entirely ignored.

Another significant finding at this level is that overall, the ESTIS model part of the codes did not evoke the most salient ideas or opinions.

4.1.2. Opinions on the Epistemic design element of a CB-HLE.

This code group refers to a component of the ESTIS model regarding the task characteristics and arrangements, i.e. *how should the task set, the problem, the assignment given to a German-Dutch (G-D) mixed group of learners in a CB-HLE be different to one given to a homogeneous Dutch or German group?*

Respondents essentially conveyed that this component does not really matter. This was not expressed in the absence of meaningful opinions, respondents spontaneously stated this

design element does not matter. There seems to be no need to pay much attention to the cross-border element when it comes designing an HLE, except for this factor: German students need more and clear rules.

Quote:

Germans they're always so strict, and they always have to follow one certain order, and if they don't do this they will be completely out of their mind, and if no one really tells them what to do, it can also be difficult for them.

4.1.3. Opinions on the Spatial & Instrumental design element of a CB-HLE.

This code group refers to a component of the ESTIS model, regarding the spaces, locations where learning takes place, as well as the tools and artefacts employed, i.e. *how should the space, the location where learning happens in a CB context differ for a German-Dutch (G-D) mixed group of learners from one with a homogeneous Dutch or German group? And which tools and artefacts do you estimate to be applied in such case ?*

Again, respondents were unimpressed with this factor. Only one set of contradictory mentions catch some interest: more face-to-face is desirable because of better communication, but at the same time more online meetings save on arduous travel times. Finally, an overwhelming voice from the respondents denies the spatial and instrumental element within a CB-HLE.

4.1.4. Opinions on the Temporal design element of a CB-HLE.

The temporal element refers to a component of the ESTIS model, regarding the use and view of time, i.e. *does a German-Dutch (G-D) mixed group of learners in a CB-HLE context use time differently to a homogeneous Dutch or German group, for example in scheduling meetings, the work pace, how to handle interruptions?*

Once again, the most popular opinion is that there is no difference, although some mention was made of the Germans liking more structure, the Dutch lingering on non-task subjects – see also Culture opinions below.

Quote:

As a German I don't know if it has to do with that exactly, but I definitely want like fixed times for the meetings so that I can better structure my week accordingly.

4.1.5. Opinions on the Social design element of a CB-HLE.

Here we are referring to a component of the ESTIS model regarding the observance of social elements, i.e. *does a German-Dutch (G-D) mixed group of learners in a CB-HLE context show different social behaviour to a homogeneous Dutch or German group, for example in the roles taken, actors involved, division of labour?*

Some respondents denied the role of this element in the dynamics of a CB-HLE, but it's not as adamant as in the other elements of the model. However, a significantly more diverse set of opinions were aired, from 'everybody learns' – including the coaches and pro's – to 'the diversity offered in a mixed group is more fun'.

Moreover, the Dutch students' easier switching between various roles also came up, which together with their perceived higher performance on English language skills, seemed to explain the Dutch students' repeated customer-facing position in the group.

Nonetheless, yet again we find references to other code groups such as language – '*whoever speaks English best should be customer facing*' – and culture, e.g. '*Germans would exclude non-German students for performance reasons*'.

Quote:

Ik denk dat de Nederlandse student over het algemeen wat makkelijker in die taak en rolverdeling switcht.

4.1.6. Opinions on Culture as a factor in a CB-HLE.

Students and coaches articulated cultural phenomena such as '*the Dutch are more direct*' and '*Germans need more and clear rules*'. In fact, about one quarter of all recorded codes were about cultural differences, especially during the unaided, inductive part of the interviews. This supports the argument that cultural differences between the Dutch and German students in a CB-HLE appears to be of great importance.

Below Sankey diagram shows the respondents most responsible for the codes relating to culture.



In short, the Dutch and Germans are said to be different

The Dutch...	The Germans...
Are more direct, are better at English, more used to group work, are satisfied with a passing grade.	Require more and clear rules, are more aware of status differences, go straight to work, show more accurate communication, are more ambitious with regards to study results (grades).

Most salient is perhaps the differing attitude of Dutch and German students towards results, grades. This topic can be summarized in what the Dutch call “de zesjescultuur”, a phenomenon where students are satisfied with a mere passing grade, achieved at minimal effort, and actually frown upon the achievement of a higher grade as being wasteful, not necessary, a sign of hubris. (van der Veer et al, 2015) (van Eijl et al, 2013)

A quote from a respondent:

The Germans in my class are not satisfied below like 8 or 8.5 and they will go to the retakes if they're not satisfied with the grade.

4.1.7. Opinions on Language skills as a factor in a CB-HLE.

An intense indication of a language advantage was claimed for Dutch students over the German students when it comes to working and communicating in English.

German students can experience the use of English as an imposition, bothersome, and will revert to German in some situations, like when there is only one or no Dutch students present. Appropriately, language issues are seen as very important, in equal amount by coaches, professionals and students, whether German or Dutch.

Quote from respondent:

So from time to time we switched to German, and then we had project members on the side of the students who weren't that familiar with the German language.

4.1.8. It's Not about being Dutch or Germans.

This code collects all instances where respondents presented an opinion that the distinction between Dutch and German is irrelevant. In other words, the cross-border context is irrelevant for the workings of a cross-border hybrid learning environment.

This opinion was quite strong, it's prevalence coming right after the code of culture.

According to the respondents there are many characteristics that matter more:

- The age of the students, as 17-18 year old Dutch students vs 20+ yo Germans.
- their educational background, e.g. Dutch students from an mbo high school vs Germans from gymnasium.
- the degree they're studying (in a multi-disciplinary context), e.g. marketing vs finance students.
- coming from rural vs urban environment,
- living by themselves vs with their parents.

Generally, there was concern for too much focus on the Dutch vs German criterium, mostly by the coaches.

Quote:

Je merkt dat de Nederlandse student vaak wat jonger is dan de Duitse student.

4.1.9. Opinions that question the methodology of this research.

This cluster represents all expressions of doubt on the way this research project is conducted, in such a way as to question the validity of the findings, and thus recommendations.

This type of code was more prevailing than any from the actual ESTIS model.

As stated under Methodology, the respondents were chosen for their experience with Crosslabs, a FIBS format that comes quite close to a hybrid learning environment, but still differs from it.

The professionals state they had quite limited exposure to the students, making it difficult to answer questions regarding the group dynamics, roles, artefacts used, schedules set, etc.

Coaches and professionals noted that 'their' student groups included mostly German students.

Overall, there was a strong presence of fear of overgeneralisation: the students are individuals.

Quote:

Personality plays a bigger role than cultural background or nationality.

4.1.10. This is how to fix this ideas

At times respondents would not only comment on their experiences but offer a fix, as in "you know what we should do?". As these ideas and suggestions are literally findings, they find themselves in this – findings – chapter rather than recommendations.

Still, it is remarkable that we simultaneously collected a lot of data stating there is no need to design a cross-border HLE differently from a non-CB one, and then a series of fixes. The non-problem can be fixed thus...

Below table contains all the expressed suggestion, ordered by link to another code such as epistemic, culture, etc.

Most suggestions came from the coaches, leaning on years of educational experience. And the professionals seem to see the need for ample face-to-face time, as a matter of spatial issues rather merely an aspect of time, to facilitate working on complex issues and facing language issues.

A few more noteworthy fixes:

- Allow for incidental learning.
- Challenges must be truly multidisciplinary.
- Don't let students form groups themselves.
- Grade the process more than the product.
- Allow for individual grading next to group results.
- Coach the meetings with the customer/pro.
- Prepare the customers for limited expectations.

4.1.11. No Such Things as a Border, the cross-border context is irrelevant.

In this class of combined opinions we complement the 'no' opinions within the ESTIS model by the Not D vs G codes.

A persona in this category would state: "The difference between mixed D + G groups vs homogenous D or G student groups is irrelevant when considered within the elements of the ESTIS model, or even in general. It just does not apply."

This combined category comprises more than one third of all codes.

Quote from respondent:

What matters even more than the cultural backgrounds or nationality is the study programme they are in, and the way that students are used to learning.

4.1.12. It's not all bad, some positive takeaways.

The respondents were generous with positive sounding opinions too.

Cultural differences between Dutch and German students can be seen as opportunities too. If the Dutch are (stated as) better at English, perhaps they can help their German colleagues upgrade this particular skillset? If German students are (...) more ambitious with regards to learning and grades, could some of that rub off on their Dutch counterparts?

The language differences, the diversity in skills and educational backgrounds, the work environment being less school-like, the collaboration with coaches and pro's, they're seen as motivating – even fun – factors in the experience of any HLE.

Quote from respondent:

Students ask me (the pro) 10 questions, 8 of which I have ready answers for, but the remaining 2 questions ...

5. Discussion

During the deductive part of the interviews with respondents with at least some experience with a HLE, the ESTIS model was shown (figure 6 above), with very little background explanation. Even though this might be the simplest model on HLE's available, this did not come across as self-explanatory. More on this problem under Limitations below.

A first observation is that a CB-HLE crosses multiple boundary simultaneously, the political border, a cultural boundary and the educational boundaries of location (workplace vs school campus), disciplines (e.g. finance and marketing students) and roles (coaches and teachers learn too).

The high diversity present in an optimal HLE is additionally boosted by the CB aspect of culture and nationality. However, the respondents of this research project mainly dispute this: there seems to be no need for specific cross-border-adapted HLE design rules.

Not because the cultural dimension is entirely absent, cq. zesjescultuur and language above, but hypothetically because any HLE is already loaded with diversity. An HLE is apt to cope with the extra diversity encountered in a cross-border environment. There is no need for specifically adapted design requirements.

Also, in a Dutch educational landscape of common presence of many students and teachers of non-Dutch nationalities, especially in international campuses, the salience of a particular Dutch-German issue in an HLE can undoubtedly be absorbed by the high level of diversity already present.

Limitations.

It might have been interesting to not only offer the ESTIS model to respondents during interviews, but also some information on the actual 6 dimensions of cultures according to Hofstede. On the one hand this model is quite well known, on the other hand there's the lack of striking differences between the German and Dutch cultures

This option of was not chosen for these reasons:

- the main differences between the two cultures seems to lie primarily and solely on two of the six Hofstede dimensions, the masculinity-femininity and indulgence vs restraint axis. This specific profile of 'similarity' between the cultures might have drawn all the attention to masculinity and indulgence from the total picture.

- Establishing a relationship between the characteristics in the ESTIS model and Hofstede's dimensions is no easy feat. Such effort, though desirable would have to be followed up by validation research rather than immediate application.
- There is the suspicion that the specific Dutch and Germans we have targeted for this topic of cross-border learning live within limited distance from the border, i. e. they are more than average exposed to each other's culture, i.e. the cultural similarity might very well be even more prominent than expressed in Hofstede's data.

No answers or topics were kept track of specifically for German or Dutch providence. Information was collected in group sessions, indiscriminate towards nationalities. Is it primarily the German respondents who expressed the Germans' need for more rules, or was it the Dutch respondents' experience of such phenomenon? This research project provides no answers in this regard.

No 'real' HLE experience was present among the respondents. The educational format of Fontys' Crosslabs comes close to a 'full' HLE but is limited to 2 semesters out of the 8 in the bachelor program, and the integration level of the professional is quite low: they provide a company challenge to work on, are open for questions and receive the students' final report with recommendations at the end of the cycle. In a more pure-play HLE the pro would be in close contact with the students at regular intervals, coaching them too, hands-on involved in the learning process, him/herself participating in the learning process. The Crosslabs model adheres more to an Incorporation situation rather than Hybridisation seen from Bouw's design rationale (figure 1 above).

6. Conclusion and recommendations

In terms of design rules or guidelines for a cross-border hybrid learning environment it unfortunately seems there are few takeaways found. There seem to be more than a few '*ignore this*'-recommendations, which are conventionally unpopular in practical research. It's like having extensive medical testing done only to find out there's very little wrong with you.

Within the parameters of the common ESTIS model, from an epistemic point of view we can take note of the need of the Germans for more and clear rules. They also benefit from more structure in the temporal element.

Recommendation unclear: should an HLE therefore accommodate for a lot of rule setting and structure, or should it expose students to the amount of rule-uncertainty as occurs in an international business context?

More important seem the non-model expressions: what matters are language problems and cultural differences. English as the operational language is harder on the Germans than the Dutch. Whereas the Germans show more eagerness to perform better, aim for higher grades than the Dutch with their 'zesjescultuur'.

Recommendations:

- include in curriculum cultural awareness raising interventions
- as well as ambition-boosting interventions.

Another cluster of expressions from the respondents shows that the cultural differences, even nationalities, are irrelevant. CB-HLE designers can forget about those C-B aspects, they should focus on characteristics that matter more: age, educational background, the degree they're studying.

Recommendations: have a gen-z appropriate approach to tasks, communication, etc.

Language however is seen as a significant barrier to full participation by the Germans.

Recommendations: extra English language support interventions.

Let us furthermore not disregard the few direct recommendations voiced by the respondents.

- Allow for incidental learning.
- Challenges must be truly multidisciplinary.
- Don't let students form groups themselves.

- Grade the process more than the product.
- Allow for individual grading next to group results.
- Coach the meetings with the customer/pro.
- Prepare the customers for limited expectations.

The *ignore it* recommendations

Further aspects to ignore when adapting a HLE to this particular Dutch-German cross-border context:

- Spatial and instrumental design rules. There were no noticeable datapoints supporting the need for specific requirements on this aspect of an HLE.
- The same applies to the attributes of temporal design rules and social design rules.
- As well as for the cultural differences, other than aforementioned rules issue and zesjescultuur.

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Lectoraat Cross-Border Business Development

Tegelseweg 255

Building W1, room 0.21

5912 BG Venlo

T: + 31 (0) 8850 72408

E: fibs-crossingborders@fontys.nl

www.fontys.nl/cbbd



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