

## Mémoire de Maîtrise en médecine No

### **A mobility case uncovered: a mixed-method study using autoethnography on the power of context upon learning behaviour**

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## Original Research

### **A mobility case uncovered: a mixed-method study using autoethnography on the power of context upon learning behaviour**

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#### **Author contributions**

YST contributed to the original conception and design of the study, data collection, analysis and interpretation, performed the field experiment of the autoethnography and wrote the paper. This article is part of the thesis of his master of medicine.

LM, SV, DG contributed to the original conception and design of the study, data collection, analysis and interpretation, and the write-up of the paper

PC contributed to the data collection (field experiment, survey and in Galway, and commented on the paper.

RB conceived the original design, contributed to study, data collection, analysis and interpretation, and the write-up of the paper.

All authors contributed to the critical revision of the paper, approved the final manuscript for publication and are accountable for the integrity of the work.

**Ethical approval**

The College of Medicine, Nursing and Health Sciences (CMNHS) Research Ethics Committee from the National University of Galway, Ireland approved this study.

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**Conflict of interest**

None

## ABSTRACT

**OBJECTIVE** Learning behaviours (LBs) are the cornerstone of research in medical education, and are influenced by student characteristics and contextual factors. We wanted to know how students react to changes in the academic context. We explored if and how a student participating in a one-year exchange programme adapted his LBs to the new academic context and back again upon returning to his home-university.

**METHOD** Our study took place at the medical schools (MSs) of Lausanne University (Switzerland; home-university) and Galway University (Ireland; host-university). A mixed-method design with quantitative (survey) and qualitative components (analytic autoethnography (AA)) was employed. Review of official documents allowed characterisation of both academic contexts. Surveys permitted description of the learning practices of students at each site. A Swiss student doing an exchange year underwent AA. Analyses of his field notes allowed understanding evolution of LBs during and after the exchange.

**RESULTS** The two MSs offered contrasting curricula. Surveys showed divergent results in learning activities. Students at the home-university favoured lecture slides, whereas students at the host-university worked on a wider range of resources (books, online resources, lecture slides). AA showed how our student adapted his LBs to his new academic environments.

**CONCLUSION** Adaptation unfolded in three phases and re-adaptation in two phases. LB adjustments were driven by five contextual factors: schedule load, teaching methods, curriculum goals, assessment strategy, and communication with teachers and local students. The radical change in LBs of our student showed the powerful influence of clinical and academic contexts in comparison with the effects of student factors.

## INTRODUCTION

Some teachers declare that the current generation of students is less autonomous and less engaged in the way they study than their predecessors. Twenge<sup>1</sup> attributes this perception to generational differences in the personality traits of students linked to cultural shifts that reflect societal changes. Technological aspects are also considered important when explaining generational learning differences.<sup>2</sup>

Learning behaviours (LBs) displayed by students comprise several components in Curry's "onion model" (instructional preference, information processing, cognitive personality)<sup>3</sup> but contextual factors also influence LBs. In his model of learning outcomes, Kember<sup>4</sup> stated that two contextual factors, "curriculum design" and "teaching approaches", influence student learning directly, but how reactive are students to the teaching context and how do they adapt their LBs?

We took the opportunity offered by an ERASMUS student-exchange programme whereby students are exposed to two teaching contexts in a short time to explore the influence of teaching context on LBs. Teichler<sup>5</sup> stated that the value of the European exchange programme resides in "Contrasts in academic paradigms, modes of teaching and learning, communication styles, cultural environments, daily life of students — all contribute to a better understanding of the field of study, the culture and the people in the host country". Most studies on exchange programmes have concentrated on social and (inter)cultural experiences of student mobility,<sup>6,7</sup> acquisition of communication and language skills,<sup>8-11</sup> or the influence of exchanges on employability.<sup>12</sup> However, studies exploring student LBs in exchange-programme contexts are lacking. Exchange programmes are an excellent opportunity to study the influence of the "eco-system of the educational swamp"<sup>13</sup> on the LBs of students by "translocation" of a student from one eco-system into another and back again.

## METHODS

To explore the influence of the teaching context on the LBs of a student exposed to two contexts, we planned a convergent, parallel, mixed-methods design<sup>14</sup> in which a quantitative study and qualitative study are done concurrently (Figure 1). Results from both studies were integrated for overall analyses and interpretation.

The quantitative study comprised two surveys. The qualitative study comprised analytic autoethnography (AA). We explored the influence of two eco-systems on LBs, so we documented both academic contexts through documentation review. This third strand of our study was also integrated in the final convergent analyses (Figure 1).

The two contrasting academic contexts were the Medical School of the University of Lausanne in Switzerland (“home-university”) and the Medical School of the University of Galway in Ireland (“host-university”).

### Quantitative study

A survey was administered online to ascertain the working habits of students in each medical school. At the home-university, we used the data of a previously unpublished study (an extensive survey on an identical subject administered to all study years). Students were asked about their activities in a typical week and use of learning resources. At the host-university, the survey was conducted in 2014 specifically for this study, with local administrative support. To match host-university specificities, we adapted the wording and content of the survey of the home-university. The survey was submitted to forward-translation (French to English) with testing.<sup>15</sup> Students of all study years at the host-university were invited (*via* email) to participate with exception of the “foundation year” because

there was no equivalent at the home-university. Descriptive statistics were undertaken to compare both populations stratified along preclinical (year (Y)1 and Y2) and clinical (Y3 and above) years.

### **Qualitative study**

Autoethnography combines “autobiographical narrative details with a cultural analysis and interpretation” and “allows the researcher to go beyond a mere autobiography of teaching and learning”.<sup>16</sup> The aim was to obtain: (i) an in-depth, first-hand account and personal insight into the student’s academic life; (ii) description of the learning experience in a completely new teaching context and return to the “home” context. We adopted Anderson’s approach of AA in which “complete member researcher status” and “narrative visibility of the researcher’s self” is required.<sup>17</sup>

The first author (YST) was an exchange student who immersed himself into a new environment. (Hereafter, when we name YST we refer to his experience as a student, not as an author.) YST studied his first three years (autumn 2009 to summer 2013) at his home-university. From autumn 2013 to summer 2014 he spent his fourth year at his host-university as a regular student, exposed to the same curriculum as local students and passed all assessments. Then, he returned to his home-university, where he completed his fifth and sixth years of study (Figure 1).

YST kept a journal as his main method to record fieldwork data during his stay at the host-university (and for a short time when he was back at his home-university). He recorded self-observational data (“record of behaviours, thoughts and emotions as they occur in their natural contexts”) and self-reflective data (“result from introspection, self-analyses and self-evaluation of who you are and what you are”).<sup>18</sup> YST also recorded his involvement and interaction with his environment. Authors held regular Skype™ meetings and one face-to-face meeting during the exchange year. Narrative and thematic analyses of field notes were undertaken before meetings. During meetings, authors

compared and discussed field notes and analyses. Preliminary results of concurrent research (curriculum description, surveys) were discussed. Additional face-to-face meetings were held after the exchange year. Based on initial descriptive and thematic analyses of field notes, conjunctures on possible understandings were made and concepts explored. Authors elicited direct recall of YST, revisited and reanalysed field notes, and undertook member-checking until consensus was reached. This process transformed into the final integrative analyses.

### **Documentation review**

We collected (i) official descriptions of curriculum structure and detailed study programmes<sup>19–21</sup> from websites; (ii) publicly accessible accreditation reports<sup>22,23</sup> and progress reports on medical education.<sup>24</sup> Demographical data were retrieved from university<sup>25</sup> or local higher-education authorities.<sup>26</sup> Comparative analyses allowed mapping the main differences and similarities of curricular between medical schools.

### **Integrative analyses and interpretation**

Integrative analyses combined the results of document analyses (student surveys and AA). We used a qualitative-dominant approach<sup>27</sup> to combine “one or more sets of qualitative analyses with descriptive analyses (quantitative analysis)”. During consecutive meetings, progressive conceptualisation with confrontation of different sources led to categories explaining personal and social adaptations to changing teaching contexts.



## RESULTS

### Documentation review

Curriculum duration was 6 years at the home-university *versus* 5 years (with an optional foundation year) at the host-university. The home-university had an open-admissions policy (i.e., all students who had completed secondary-level education are accepted into medical school (MS) followed by a major selection at the end of the first year). For the host-university, minimal levels of achievement in the Leaving Certificate and Health Professions Admissions Test decide admission to MS. For preclinical years (Y1, Y2), both MSs offered comparable lecture-based, organ-system modules. From Y3, both MSs diverged in teaching methods. The home-university continued with predominantly lecture-based organ-system modules and one day a week of clinical teaching (bedside teaching, skills training). The host-university transitioned in the third year to a mostly small-group approach, with students attached to each medical department for clinical rotations. The two MSs offered different assessment approaches. Home-university used mainly multiple-choice questions (MCQs) and objective structured clinical examinations (OSCEs), whereas the host-university offered a wider range of assessment methods across the years (MCQ, long/ short case reports, written exams, OSCEs) to evaluate performance.

### LB surveys

At the home-university, 502/1169 (43%) students answered the survey. At the host-university, 96/867 (11%) students responded. For Y4, the response was 33/136 (24%).

### **In-class LBs**

Clinical-year students (Y3 onwards) at the home-university reported spending more time on in-class teaching than their colleagues at the host-university (20.4 vs. 12.0 h per week).

### **Resource use**

Figure 2 shows the percentage of time students spent on a particular type of study resource. Home-university students did not change resource use over the years: they kept course slides as their main resource (even during clinical years). This strategy contrasts with how students at the host-university changed when transitioning from pre-clinical to clinical study: they increased use of books (23% to 40%) and decreased use of lecture handouts (63% to 37%).

### **AA**

#### *Home-university*

YST adapted to the highly competitive environment of the first years and was successful. However, over the years he lost his motivation to study medicine, and was reluctant to put as much energy/effort into study. He was fed-up with lectures and recurring exams. He applied for the ERASMUS exchange programme in the hope of discovering a new approach to, and why he started, studying medicine.

#### *Host-university*

YST entered a completely new environment. He often compared the new context to what he had experienced (exams, lecture slides). Absence of clear objectives and guidance added to his disorientation. He had difficulties finding out on how the day was organised, on where he needed to be, and what was expected of him. The rules were unclear to him. The usual learning strategies felt awkward, inappropriate and unproductive. Lecture slides could not be used as the unique learning resource. If present, lecture slides were basic and insufficient as the unique learning resource. Therefore, he had to search for his own resources, organise his own learning at a realistic pace, and depend on the advice of tutors and colleagues for studying. He perceived the attitude of local students towards exams as “laid back”, which was surprising for him. During the first semester, he questioned his chances of completing the exchange year.

However, YST adopted the local rhythm progressively. We noticed a difference midway through the exchange experience (between semesters). He followed the schedule, gradually discovering which learning activities were helping him and which were not. End-of-year assessments were a preoccupation. YST was unsure on how to prepare for exams and mistrusted the advice that patients would “show him” what was important to learn. Understanding the learning strategies of local students (i.e., balance of clinical activities, in-class teaching and personal activities) were incompletely understood, but were accepted and valued. He explored different learning strategies. He experimented with different books, sometimes creating summaries to use as a primary resource for examinations (something he did not do previously). He relied on having seen illnesses in multiple situations (classes, books, on the wards) to understand and memorise different aspects of cases. Immediately before the first examination, he discovered books that summarised illnesses, so abandoned creating summaries. YST got drawn-in and absorbed into clinical activities. Signs of intrinsic motivation surfaced, and pushed YST to learn during clinical encounters and not for exams.

YST started to integrate fully into the host-university between the beginning and middle of the second semester because he felt at ease with the “rhythm” at the host-university. He selected where he invested his time (clinical encounters), what he excluded (lectures, clinical activities) and when to enjoy leisure time. Assessment was less at the forefront of his preoccupations. He developed confidence on how to pass exams. Clinical encounters and small-group teaching activities drove learning. He opted for case-based books and clinical handbooks as his main references. YST achieved an average passing mark, similar to his grades at the home-university. However, he felt he had gained a better grasp of basic knowledge and clinical management, a feeling he had not experienced.

#### *Return to the home-university*

Upon returning to the home-university, YST tried to apply his newly acquired learning strategies (multiple resources, clinical experiences). Quickly, the exam-driven ethos overran him, which he never would have imagined when ending his stay at the host-university. Lecture slides were central in his learning and he struggled to find sufficient time to do additional, multiple readings (which he managed for only a few selected subjects). Central role of lecture slides was motivated by the perceived necessity to master them to pass exams.

## **Integrative analyses**

All three research strands were integrated to analyse changes in LBs of a student doing a one-year study exchange. The two academic contexts he was exposed to showed profound differences. Surveys showed differences in the reported LBs of students at each MS.

YST's description of the home-university context could be summed up by Sfard's acquisition metaphor<sup>28</sup> (learning is knowledge acquisition; the student is a recipient; teachers are knowledge providers). The host-university was perceived to be a participative metaphor<sup>28</sup> (learning is participating; the student is an apprentice; teachers are expert participants). YST adapted progressively to different teaching contexts to adopt local prevailing LBs

### **Adaptation to a new academic context**

YST adapted progressively to the new environment. Coulon<sup>29</sup> describes three phases for adaptation of secondary students transitioning to higher education ("time of strangeness", "time of learning", "time of affiliation") that correlates with students' familiarisation and mastery of the "rules" of the higher-education environment. These three phases have also been used to explain adaptation for exchange students.<sup>30</sup>

YST's "time of strangeness" describes his separation with the home environment and discovery of the host setting. He displayed anxiety, frustration, and feelings of inappropriateness with his old studying habits. The "time of learning" corresponds to a "phase of adaptation where conformity occurs".<sup>29</sup> YST explored new LBs and accommodated gradually to his new environment. During his "time of affiliation", YST showed regained his self-confidence in making the most of the learning experience and understanding the rules of the learning environment. Upon returning home, YST

readjusted to the local teaching context. This new transition was much faster and seemed to unfold in two phases: (i) “time of re-adaptation” with an attempt to translate his new experiences to the home setting; (ii) “time of re-affiliation” with readjustment to the (previously acquired) rules of the home environment. However, the “time of strangeness” was absent. Thus, we could identify five phases in the context of a study exchange from an academic perspective (Figure 3).

The literature offered no indication of the time needed for those phases of adaptation. In YST’s experience, almost two semesters were needed to allow for full affiliation to the academic context of the host-university.

### **Contextual factors influencing LBs**

We identified five factors in the academic context conducive in shaping YST’s LBs. The first was the amount of scheduled teaching. The two contexts offered a contrasting weekly load of planned activities and time for self-study with the corresponding perception of workload by YST. YST had to stop searching for lecture slides to optimise the little self-study time he had for a new approach in which he needed to organise his schedule and resources (books). Upon return to the home-university, he reverted to lecture slide-focused behaviour. This observation is congruent with theories on study loads.<sup>31,32</sup> The second factor was the diversity of teaching methods. At the home-university, where lectures (and their prevailing lecture slides) represented the bulk of teaching, lecture slides were the primary resource. At the host-university, the diversity of activities forced YST to explore different learning resources and to rethink his vision of why he was learning. The third factor was the focus/goal (“spirit”) of teaching. The home-university had more of an academic, knowledge-based approach to teaching with exhaustive, detailed lectures. These were considered self-sufficient and essential for passing exams. The host-university was different: according to their

basic content, lectures were considered by YST to be “medicine for dummies”. He was forced to research details elsewhere. Small-group teaching placed emphases on the diagnosis and management of common/important presentations from multiple viewpoints. Ward activities reinforced this practical approach to medicine. The overall strategy gave the impression of a clinical focus and importance of application of theoretical concepts. The boundaries of what was needed to learn were less clear than those at the home-university. The fourth factor was assessment. YST knew exactly how to learn to pass his MCQs at the home-university. The first semester at the host-university was assessed with MCQs, but YST could not rely on his usual LBs because it felt inappropriate. Absence of the expected, well-defined boundaries (lecture slides) made anticipation of how he should prepare for exams very difficult and, finally, he chose textbooks. Assessments predominantly tested clinical knowledge, and methods were diverse (OSCEs, various written formats). His learning habits and learning resources evolved along with changes in assessment. This observation fits into the concept of “pre-assessment effect”<sup>33</sup> and the common idea that “assessment drives the learning”. The final factor was communication with teachers and students. For YST, the way teachers and students talked about learning was decisive. Formal and informal guidance from teachers included suggesting reading and resources (e.g. clinical guidelines, clinical encounters). Frequent discussions with other students helped him progressively modify his method of learning and expand his horizon of learning resources (official books, personal textbooks, patient encounters). He described cues from discussions with teachers and students as having an impact.<sup>34</sup>

These five contextual factors influencing LBs were weighted differently according to the environment. In a competitive environment with a predominantly knowledge acquisition-orientated curriculum, combination of tight schedules and assessments seemed to be the dominant factors dictating LBs. In a more clinical participation-oriented context, the diversity of teaching methods and “loose” boundaries of what had to be learned fostered autonomy and resource diversity.

## DISCUSSION

Our study was not designed to rate MS curricula but to explore how a student adapts if immersed in one context and into another one. YST went through phases of adaptation, and contextual factors had decisive roles for developing more autonomous LBs with a: (i) personal choice of resources; (ii) much wider self-organised study time; (iii) motivation driven by his future profession besides his next exam. He internalised these new LBs strongly and planned to continue with an enjoyable and motivated method of studying. Nevertheless, he reverted to his previous lecture slide-chasing, exam-driven learning within a few weeks. This radical change from a superficial to deep learning approach and back again could be viewed as strategic.<sup>35</sup> However, the typical game-playing attitude of a strategic approach was present only in the superficial period whereas, for the deep-learning period, YST showed a true 'deep' attitude. That such a radical change in LBs is possible according to study context demonstrates the importance of curriculum planning and learning culture.

Our reliance on a single student exposed to two academic contexts was a major limitation. Percentage of students at the host-university who returned the survey was unsatisfactory. Nevertheless, the comparison between, and triangulation from, the three research strands offered a deep understanding of adaptation. Our findings resonate well with the literature<sup>31-34</sup> on the influence of context on the LBs of students, and adaptation to new academic environments.<sup>29,30</sup> Additional studies with more students and different academic environments are needed to draw a more generalizable understanding of the interaction of the contextual factors that influence learning behaviour. Our study also showed the potential of study-exchange programmes for exploring the influence of learning contexts.



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## FIGURES

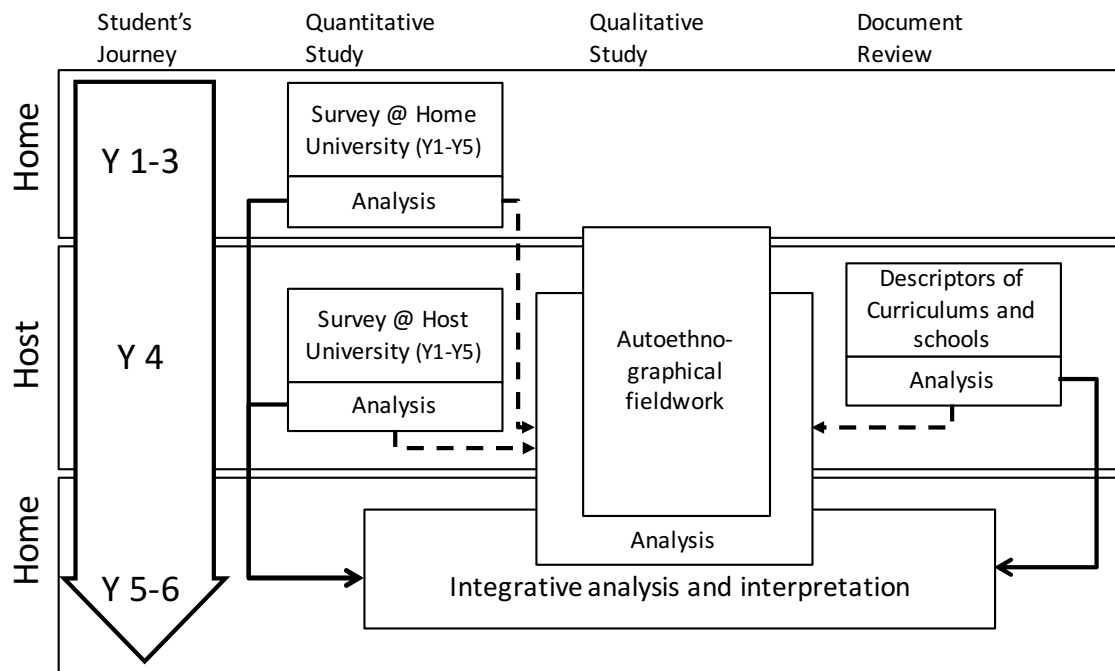


Figure 1: Mixed-methods study design (middle and right) in relation to our student's year of study (left).

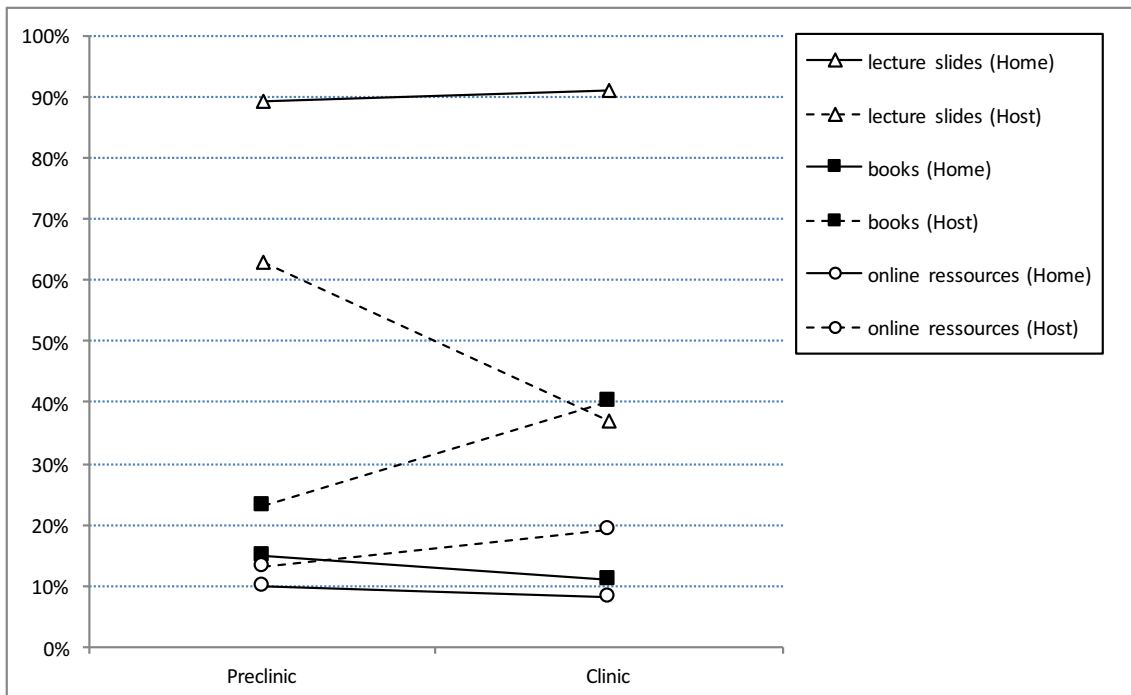


Figure 2: Learning time students spent on various learning resources: comparison between preclinical- and clinical-study years, and between the home-university and host-university.

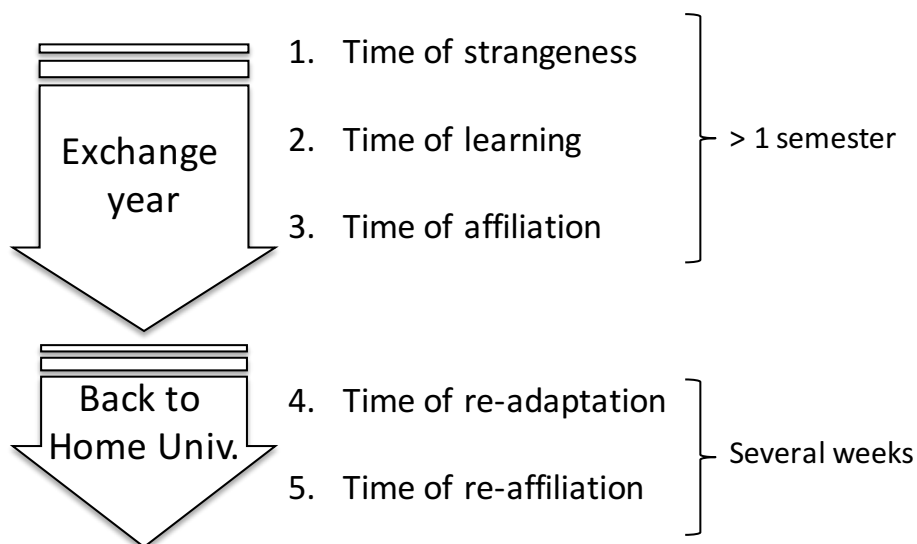


Figure 3: Five phases of adaptation during a study-exchange programme (based on Coulon<sup>29</sup>).