The Emergent Multiphase Design: Demonstrating a Fully Integrated Approach in the

Context of Language Research in Education

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Abstract

This chapter proposes that the emergent multiphase design can be conceptualized as an integrated mixed methods approach for conducting language research. There has been interest in students' first language (L1) and second language (L2) use and development in and outside of school. The emergent multiphase design is a way of conducting robust longitudinal inquiry within this topic. This is, in part, because, although a mixed methods research design can be planned in advance, changes can arise during the course of a study, thereby allowing for an *emergent* design. The multiphase aspect of the design allows researchers to attend to integrated analyses in a stepwise fashion, wherein each phase influences the next and wherein some decisions can be made during the research process. The emergent design is particularly relevant for the exploration of unexpected outcomes, and this chapter focuses on such outcomes in the form of empirical data concerning secondary school students' use of English outside school, their English proficiency, and the status of English in the youth culture with which they identify.

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One common approach to research entails specifying all design elements and steps at the beginning of the inquiry process and then systematically following the design throughout the course of a study. This is generally true in experimental studies (e.g., Hitchcock et al., 2018), where a priori, confirmatory questions are set in advance and researchers plan out all steps (e.g., sample collection following a pre-specified plan, generating contrasting conditions, collecting and analysing data with a model that fits the research questions at hand, and interpreting results) so as to answer these questions.[1] In contrast, research sometimes follows an *emergent* design, wherein one or more aspects of a study is not conceptualized in advance because, for example, new questions might emerge during the course of inquiry (e.g., Patton, 2002). This chapter proposes that the emergent multiphase design can be conceptualized as a *fully integrated mixed methods approach* for conducting language research in education. Integration refers to the combining or blending of quantitative and qualitative information to yield overall findings that might otherwise be difficult to achieve (e.g., Creamer, 2018). It is argued here that integration also can be pursued during component steps of a study in order to guide the emergence of new design steps, and this process is described in this chapter in the context of language research.

The emergent design is a way of conducting robust mixed methods (MM) research, which is of particular relevance when unexpected outcomes occur (Creswell & Plano Clark, 2011; Greene, 2007; Onwuegbuzie & Combs, 2010). Although MM designs can be fully planned in advance, Schoonenboom and Johnson (2017) argued that, "when one is able to plan for emergence, one should not refrain from doing so" (p. 122). Thus, the phrase *emergent design* describes situations in which the researcher makes adjustments to accommodate

unexpected situations. A study with an emergent design typically involves two or more phases, capturing development across phases that are initiated by unexpected situations (Schoonenboom & Johnson, 2017). In Creswell and Plano Clark's (2011) typology of MM designs, the combination of more than two phases over a period of time is conceptualised as a *multiphase design*, with data collection, sampling, analysis, inferences, or outcomes in one phase initiating the next. When the integration occurs interactively within and across each phase, the result can be seen as a *fully integrated design* (cf. Creamer, 2018; Onwuegbuzie et al., 2018). Combining these typologies into the *fully integrated emergent multiphase design* captures the complexity of MM designs (see Figure 1).

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Insert Figure 1 about here

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The research process of these mixed methodologies proceeds through obtaining unexpected or conflicting results and attempting to explain them. This explanation involves an exchange of data from various sources. The emergent research process not only is about what happens when researchers encounter unexpected or conflicting results, but also, perhaps to an even greater extent, is about how to create situations in which unexpected and/or conflicting results are likely to emerge (Schoonenboom & Johnson, 2017). Planning for several points of integration, within and across each phase, can be conceptualised as fully integrated MM research. As Creamer (2018) wrote:

> The value-added of a fully integrated approach to mixed methods lies primarily in the potential of integrating or mixing the qualitative and quantitative strands, including the tenacious pursuit of differences in interpretation that arise during the qualitative and quantitative analysis. (p. 12)

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Researchers face a challenge when attempting to determine how to integrate their data. The integration challenge can be expressed quantitatively by two alternative but not necessarily competing formulas: the 1+1=3 partial integration (Fetters & Freshwater, 2015) and the 1+1=1 full integration (Onwuegbuzie et al., 2018). The 1+1=3 formula suggests that "qualitative + quantitative = more than the individual components" (Fetters & Freshwater, 2015, p. 115). Conversely, in addition to integrating qualitative and quantitative methods, the 1+1=1 formula includes crossover analysis that involves either transforming qualitative data into a quantitative form (i.e., quantitising; for e.g., using numeric counts of themes) or transforming quantitative data into a qualitative form (i.e., qualitising; for e.g., obtaining narratives or poetry to explore the meaning of numerical data). Onwuegbuzie et al. (2018) explained, "such analyses hold great promise for a different and more seamless kind of integration across quantitative and qualitative thinking, facilitating mixed methods researchers in addressing increasingly complex research questions" (p. 2). The synergy expressed by the 1+1=3 formula is of central importance to the MM community, so much so that Onwuegbuzie et al. (2018) pushed the idea even further. Their perspectives on integration are expressed in the alternative 1+1=1 formula. Whereas the 1+1=3 formula reflects an assumption that a dichotomy of methodological approaches exists, fuller integration seems possible assuming that data equal information. Applying the 1+1=1 formula encourages the bringing of qualitative and quantitative methods together in a more unified way.

Having outlined the general point of the chapter, my specific purpose is to present emergent aspects of research design, to explore how these aspects initiate multiple research phases, and to identify points of integration within and across these phases. I use a dual perspective of design: the *process* of designing the study and the design as a finished *product* (Maxwell, 2013). In this chapter, I attempt to weave together threads from research, theory,

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and application for the express purpose of understanding how a fully integrated emergent multiphase design makes language research more robust than does a purely planned design.

In the pages that follow, I first offer a contextual section of language use in a globalised world before I turn to the methodological aspects of the design and provide a systematic unpacking of phases, points of integration, and insights. The goal is to provide sufficient detail to illuminate how to accomplish full integration during the emergent multiphase research project. I have divided the methodological unpacking into phases, highlighting the stepwise decisions that need to be made for each phase and how these decisions provide insight into the overarching research question. Towards the end of the chapter, I discuss how the fully integrated emergent multiphase design adds value to complex MM studies within the field of language education research. Challenging the combination logic of MM research, I argue in line with esteemed researchers in the field that simply combining qualitative and quantitative approaches is not enough; rather, careful—and full—integration is essential to respond to unexpected situations that arise during a research study (e.g., Creamer, 2018; Mertens, 2011; Onwuegbuzie et al., 2018; Schoonenboom & Johnson, 2017). Such responses are not merely a practical approach to explaining the unexpected, but a recognition of the "value-added that emerges from confirming results across settings and with multiple types of data" (Creamer, 2018, p. 11).

Language Use in a Globalised World and the VOGUE Project

In an increasingly globalised world, English has become a lingua franca; it is the foremost language of communication, with more than two billion English learners across the world (Education First, 2020). Being able to read and to listen in English—regardless of whether English is the first language (L1) or second language (L2)[2]—gives individuals access to vital societal information, and being able to speak and to write in English opens doors of

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communication, allowing people across the world to influence democratic processes. English is also the language of the Internet, providing individuals with opportunities to develop English proficiency, particularly in informal contexts. However, many people lack Internet access, which limits these opportunities. This situation is illustrated by a global average Internet penetration rate of 63.2%, with the percentage of people with Internet access in a country ranging from 7.9% in South Sudan to 98.4% in Norway (Internet World Statistics, 2020).

This emphasis on language use aligns with the international educational policy agenda. According to a 2013 study conducted by the World Bank, language skills are considered key to active participation, and UNESCO's sustainable development goals state that all young people must achieve literacy by 2030 (UNESCO, 2004). This goal is of urgent concern because one quarter of all 15-year-olds have poor reading skills, in rich and poor countries alike, and students who perform poorly at the age of 15 face a risk of dropping out of school altogether (European Commission, 2010). The report *Education at a Glance* (Organisation for European Economic Co-operation [OECD], 2016) links such skills to motivation: "Students' lack of motivation can be the result of poor performance at school, which can, in turn, lead to further disengagement, creating a vicious circle" (p. 46). Reducing dropout is an initiative that relates closely to social inclusion, interest, and language development.

These considerations were key to the initiation of the Vocational and General Students' Use of English (VOGUE) project at the University of Oslo, Norway. Used as an empirical lens in this chapter, the VOGUE project is concerned with authentic language development among adolescents, their L1 and L2 proficiency, their use of L1 and L2 across contexts in and outside school, and the status of these languages in the youth culture with

which they identify. When authentic practices are studied, research is heavily dependent on context and involves human participants, with unexpected situations often arising.

Prior quantitative findings from a large-scale national study had indicated that, among 10,331 Norwegian adolescents (aged 16-17), most scored in the same quintile in L1 and L2 on the basis of standardised reading tests in the two languages (Brevik et al., 2016). In other words, their skills in English and Norwegian languages tend to be similar. These results came as no surprise, given that Norwegians are among the most proficient L2 users of English (Crystal, 2012; Education First, 2020). They are extensively exposed to English in informal situations outside school, and they learn English in school from Year 1, with L2 literacy developing alongside L1 literacy (Rindal, 2014; Simensen, 2010). Most unexpected, however, was the identification of an outlier group ($n = 463$, 4.5% of the total sample) who scored significantly better in L2 than in L1. In other words, their English skills were considerably stronger than the skills of their first language. The prior quantitative findings showed the majority of these outliers to be boys in vocational educational programmes, a group statistically at risk of dropping out of school (OECD, 2016). These outliers defy conventional thinking about reading and language acquisition, and challenge Bernhardt's (2011) notion that a poor reader in one language is most likely to be a poor reader in another language, as well as the common dichotomy of identifying students as either good or poor readers (e.g., Grabe, 2009). On the basis of these unexpected findings, the researchers of the VOGUE project aimed to understand why and how such outliers developed markedly better reading proficiency in L2 compared to L1. This sets the stage for using emergent design principles because there is no ready theoretical explanation for these outlier students. In fact, it is arguable that allowing for design flexibility sets the stage for more rigorous inquiry than

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following an a priori set of questions and design, simply because the situation called for

exploration of unusual phenomena.

Multiple Purposes Informing the Multiphase Design

Many MM researchers rely on multiple purposes of mixing (e.g., Poth & Onwuegbuzie,

2015). The presence of multiple purposes promotes fuller integration because of both

quantitatively and qualitatively oriented purposes informing overall conceptualization of the

work. Such multipurpose perspectives informed the VOGUE project, which used four of

Greene et al.'s (1989) five purposes for mixing:

- *Initiation:* Exploring unexpected findings from an earlier study (Brevik et al., 2016)

  necessitated this purpose; using multiple methods to engage different points of view

  (outliers) and types of knowledge (test results vs. self-reported views on reading

  proficiency), being open to the emergence of contradictions across the methods.

- *Triangulation (within each phase):* Collecting quantitative data (test results, surveys, or

  language logs) and qualitative data (focus groups or interviews) about the same construct

  (reading proficiency) from the same participants, at the same point in time; looking for

  possible convergence, corroboration, or correspondence of results from the different

  methods.

- *Development (across phases):* Collecting and analysing data sequentially across phases to

  let convergence or contradictions from one phase inform the next phase, specifically, to

  identify the sample for the next phase and to make implementation and measurement

  decisions.

- *Complementarity (across phases):* Collecting and fully integrating quantitative and

  qualitative data about multiple constructs (reading proficiency, use, and development)

  seeking elaboration and clarification from different samples (different outlier groups) in

different phases, seeking a more holistic picture by exploring different aspects of the same

phenomenon.

Thus, using the VOGUE project as an empirical lens in this chapter illustrates how a *fully*

integrated emergent multiphase design has the potential to capture the complexity of the

outliers' language proficiency, use, and development across formal and informal contexts.

Dialectical Pluralism as a Philosophical Underpinning for Integration

The fully integrated, emergent multiphase design requires deliberately engaging with

paradox and difference rather than a practical solution to explaining unexpected results. The

design places equal priority on convergence, consensus, and corroboration on the one hand

and divergence, dissonance, and contradiction on the other. This view of reality aligns with

dialectical pluralism (Greene, 2007; Johnson, 2017), which reflects a philosophical mindset of

viewing reality as multiple, valuing different perspectives and diverse voices in the research

process, as a "mixed methods way of thinking" (Greene, 2007), which "aspires to better

understand complex social phenomenon by intentionally including multiple ways of knowing

and valuing and by respectfully valuing differences" (p. 17). Greene's (2007) understanding

of dialectical pluralism provides philosophical underpinning of the VOGUE project, because

the qualitative and quantitative components are brought together and add insights at several

points of integration throughout the research phases. The planning of the research design

involved fully integrating standardised test results with the outliers' own voices of why they

read markedly better in L2 than in L1, across multiple phases, wherein convergence or

divergence of results in one phase initiates the next.

The Planned Emergent Multiphase Design

To capture different perspectives and diverse voices, the VOGUE project was designed as a multiphase MM study (three phases), in which we planned for emergence (unexpected outcomes) and full integration of the qualitative and quantitative components of the project throughout each of the phases. Figure 2 illustrates the planned multiphase design (design as process) and the data collected in each phase. This figure shows the complexity of integrating the outliers' quantitative performance measures in the form of test scores (L1 and L2) with the perspectives of these outliers through self-reported quantitative and qualitative data sources in the form of surveys, focus groups, and interviews. Although Phase 1 was quantitatively oriented, using standardised test scores and survey responses, the two following phases integrated quantitative and qualitative data. Specifically, Phase 2 integrated test scores, survey responses, and interviews, whereas Phase 3 integrated test scores, survey responses, and focus groups.

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Insert Figure 2 about here

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In an emergent multiphase design, integration can be accomplished at several points within and across phases. The data within a phase are typically collected concurrently, whereas data across phases are typically collected sequentially, often initiated by analyses in a previous phase, offering the opportunity to attend to research in a stepwise fashion, whereby some decisions can be made during the research process (Creswell & Plano Clark, 2011). Thus, using a multiphase design enables a way of thinking that acknowledges research complexity within and across phases.

The VOGUE project researchers planned for several points of integration within and across phases. Following is a brief design overview, and details for each phase (e.g., surveys,

focus groups) are provided later in the chapter. The study involved more quantitative data

sources (L1 test scores, L2 test scores, surveys) than qualitative data sources (interviews,

focus groups), but two portions were conceptualized as having equal status, because VOGUE

was not quantitatively driven (Creswell & Plano Clark, 2011; Schoonenboom & Johnson,

2017). Phase 1 was planned to integrate three sets of quantitative data (L1 test scores, L2 test

scores, surveys), initiated by the prior unexpected quantitative findings among the original

outlier group (Brevik et al., 2016). Phases 2 and 3 were planned as an initiation and

development of the original nationwide sample to identify and to examine local samples to

corroborate or to contradict the outlier profile on the basis of quantitative data (L1 and L2 test

scores). In addition, mixed data collection (surveys, interviews, focus groups) was planned

from the local samples to seek complementarity in the hope of gaining a more holistic picture

of the outliers' own views of their L2 reading proficiency and L2 use. The data sources in

each phase were triangulated to identify convergence or divergence in the data, analysis, and

inferences, both within and across phases. Some analyses were expected, from the outset, to

emerge as the inquiry effort unfolded.

The Enacted Emergent Multiphase Design

Figure 3 illustrates the final enacted design (design as product). The full integration of

data and methods was a result of emergent outcomes in each phase of the VOGUE project. As

shown, Phases 1-3 were conducted during the 2012-2016 period, and this timeframe provided

the potential for influence among the phases, as data from one phase suggested what to look

for in the next, which, again, established integration. In Figure 3, each phase can be seen as

being *unlocked* with a prior phase serving as a key. That is, in terms of data collected and

analyses, points of integration, inferences, emergent outcomes influenced subsequent phases.

Phase 1, in contrast, was informed by the aforementioned initiation goal from Greene et al.'s

(1989) typology.

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Phase 1

Phase 1 was initiated via unexpected quantitative outcomes in a prior large-scale study

among upper secondary school students (Brevik et al., 2016). Outcomes in a nationwide

sample (N = 10,331) showed that most participants scored in the same quintile across L1 and

L2, suggesting that they read more or less equally well (or poorly) in the two languages, in

line with theory (e.g., Bernhardt, 2011; Grabe, 2009). Unexpectedly, however, a small group

of adolescents (n = 463) performed significantly better in L2 than in L1, with results in the

20th percentile in the L1 test and in or above the 60th percentile in the L2 test, a highly

unusual combination. In other words, they showed stronger English reading skills than in their

first language. On the basis of their atypical reading profile, they were labelled for the

purposes of this line of work as *outliers*. Thus, the research gap addressed in Phase 1 was to

examine the outlier group further, aiming to understand characteristics of the outlier profile

and their L1 and L2 proficiency. The Phase 1 research study was published (see Brevik &

Hellekjær, 2018).

Methodological Considerations

To address the identified research gap, the purpose of Phase 1 was informed by

initiation and triangulation (Greene et al., 1989). This phase comprised three quantitative data

types that were collected concurrently in September of 2012: (a) L1 reading scores, (b) L2

reading scores, and (c) a national L2 survey. The outliers' L1 and L2 test scores were first

compared to the scores of the remaining students in the nationwide sample using univariate analysis (i.e., correlation and regression), and then their L2 scores were compared to their survey responses, also using univariate analysis (i.e., correlation and regression). In this phase, we used mixed analysis in its least integrated form, involving non-crossover analysis, giving priority to quantitative analysis of quantitative data (Onwuegbuzie & Combs, 2010), with four points of integration. The final point of integration did, however, involve crossover inferences.

Point of Integration 1—QUANTITATIVE Data Collection and Initial Analyses (Test Scores and Survey)

The L1 and L2 reading tests and the national survey were collected at the same point in time. Both tests were standardised, with closed-ended items only, with all items having more than one fixed answer between which to choose and no open-ended items. The scoring was based on predetermined correct/incorrect answers, with no ambiguity in the scoring (e.g., Johnson & Christensen, 2017). Both tests were administered by the Norwegian Directorate for Education and Training (2010a, 2010b), based on the same reading construct; measuring language skills (vocabulary and grammar) and reading comprehension (finding explicit information, understanding main points, and making inferences). The students were administered the national survey immediately after taking part in the tests. The survey provided information on the reading comprehension strategies used by the outlier students in the L2 test and otherwise, as well as information about their motivation and interest for L2 reading in general. Most items comprised closed-ended items only, with few open-ended items.

Point of Integration 2—QUANTITATIVE Analysis (L1 and L2 Test Scores)

As a starting point, I re-analysed the L1 and L2 reading scores from the prior study (Brevik et al., 2016). I divided the nationwide sample into two groups: the outliers ($n = 463$) and the remaining students ($n = 9,868$) to compare the scores across groups. The scores from the tests were merged and analysed using the quantitative software Statistical Package for the Social Sciences (SPSS). No relationship between the outliers' reading proficiency in the two languages (i.e., L1 and L2) was identified, although the analysis showed a strong external correlation ($r = 0.68$; $r^2 = 0.46$) for the remaining student sample. Thus, correlation analyses showed that a key characteristic of the outliers was the lack of explained variance between L1 and L2 reading proficiency. The outliers' L2 test scores were further analysed via SPSS to identify details about their L2 reading proficiency. This analysis showed that, when comparing the two samples, the outliers ($n = 463$) as a group outperformed the remaining students ($n = 9,868$) for both the L2 language tasks and the reading comprehension tasks. Unexpectedly, the largest difference between the two groups concerned making inferences from text, which is identified as the most difficult reading construct ($p = 0.65$), with the outliers outperforming the remaining students by 17 percentage points (Figure 4).

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Insert Figure 4 about here

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Point of Integration 3—QUANTITATIVE Analyses (L2 Test Scores and L2 Survey)

In the next stage of analysis, background variables were identified that might explain the outliers' high L2 test scores. The majority were boys in vocational study programmes, a group considered at risk of dropping out of school not only in Norway, but internationally (OECD, 2016). Specifically, the outliers comprised boys in vocational studies (40%), boys in general (academic) studies (26%), girls in vocational studies (18%), and girls in general

studies (16%). Multiple regression analysis showed that neither language background, gender, nor study programme explained these outliers' unexpectedly high L2 reading proficiency.

Finally, a desire to search for explanations outside what the test data offered, and valuing the outliers' perspectives (Greene, 2007), initiated correlation analysis of the L2 survey responses and background variables. Measuring the outliers' self-reported motivation and interest for L2 reading revealed high motivation to be strong for L2 readers, regardless of language background, gender, or study programme. However, using gender and study programme as variables, we found fairly strong correlations between the outliers' L2 proficiency and specific reading comprehension strategies, with the girls prioritising some strategies and the boys prioritising others.

Point of Integration 4—CROSSOVER Inferences (Test Scores and Survey)

After all the analysis decisions had been made, the final stage of the research process in Phase 1 involved attempting to make meaning of the outliers as proficient L2 readers, in terms of characterising their atypical reader profile. I transformed the quantitative test scores and the outliers' voices captured in the surveys into qualitative form, in terms of qualitising the numerical data (Onwuegbuzie et al., 2018). In writing up these crossover inferences, I used a poem as a form of representation (Johnson et al., 2013), drawing inferences from the test data in Lines 1-6 and the survey data in Lines 7-9:

Outliers

mostly vocational boys

at-risk of school dropout

poor readers in the first language

but unexpectedly proficient readers in English

knowing how to make inferences

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using strategies to comprehend

revealing how important it is to them

to be good readers of English

The Phase 1 analysis provided information that helped characterise the outliers as at-risk students *and* proficient L2 readers motivated to develop their L2 proficiency. The analysis indicated how their L2 proficiency was linked to making inferences from text and using strategies to make meaning. These analyses added to the impression that students with the outlier profile merited further investigation, which, again, supports the use of emergent design. Because the Phase 1 data were anonymized, there was no possibility to go back and explore the outliers' views on *how* and *why* their L2 proficiency had developed more than their L1 proficiency, creating a certain "silence" in the data (Nightingale, 2003, p. 85). In turn, this silence initiated an emergent need for a new research phase to identify students with the outlier profile in a new sample and to fully integrate quantitative and qualitative components to explore their views and to capture their voices on the matter.

Phase 2

Phase 2 was initiated on the basis of the emergent need to explore the outliers' voices further. One consideration was to determine whether the outlier profile existed outside the nationwide sample in Phase 1 and, if so, to examine their views on their L2 proficiency in further detail, aiming to identify *how* and *why* their L2 proficiency had developed markedly more than did their L1 proficiency. The Phase 2 research study was published in Brevik (2016).

Methodological Considerations

Although in Phase 1, priority was given to the quantitative analysis, Phase 2 was planned as a fully integrated mixed design, thereby strengthening the credibility of the Phase

1 outcomes (Onwuegbuzie & Johnson, 2006). Aiming to understand *why* and *how* the outliers performed markedly better in L2 than in L1, I examined their self-reported use of the two languages in and outside school and their views of themselves as L2 readers. Similar to Phase 1, the purpose was initiation and triangulation, in addition to development (Greene et al., 1989). This phase comprised four data sources, all collected concurrently (November 2015): (a) L1 reading tests, (b) L2 reading tests, (c) survey responses, and (d) interview responses capturing the outliers' views. In Phase 2, the test scores were used for sampling purposes only, and I conducted univariate analysis (i.e., correlation) to identify students with the outlier profile. Here, I used mixed analysis in its most integrated form, involving crossover analysis and inferences throughout (Onwuegbuzie & Combs, 2010), with three points of integration.

Point of Integration 1—MIXED Data Collection (Test Scores, Survey and Interviews)

Based on the outlier characteristics identified in Phase 1 (i.e., that most were vocational students), I invited a large upper secondary school to participate, where two vocational classes had taken both reading tests. Among these, I identified students who had scored below the 20% intervention benchmark in the L1 test ($n = 16$) but 60% or above in the L2 test ($n = 6$). The difference between the number of students with the outlier profile ($n = 6$) and those willing and able to participate ($n = 5$) was that the sixth student had dropped out of school after taking the tests (September 2015) and before I collected the data (November 2015), which added to the impression of the outliers as at-risk students. They first participated in the survey, addressing their L1 and L2 reading in and outside school, how easy or difficult they found L1 and L2 texts, respectively, and their motivation for reading in either language. Most questions comprised closed-ended items. Because I fully integrated the qualitative and quantitative components of this phase, the survey responses served as information on which to base the interviews.

Point of Integration 2—MIXED Analysis (Test Scores, Survey and Interviews)

The test scores confirmed that the outlier profile existed outside the original sample. The mixed analysis revealed for which activities they used each language, including frequencies (survey), and elaborations on how and why they used English for the activities in question (interviews). Although they acknowledged higher motivation for English than Norwegian as school subjects, they expressed the belief that their L2 proficiency had mainly developed due to extensive use of English outside school. All five addressed how they used English on a daily basis by reading their Facebook feed, listening to music and reading the accompanying lyrics, watching TV series and films, and playing online games more than 3 hours each day. In addition, four outliers used English to read the news, and one read novels and cartoons. Norwegian was used for few of these activities, and not at all for online gaming. They explained how gaming involved communication in English with a network of gamers, which required them to use strategies and to make inferences to stay in the game (most typically, to avoid an event through which their characters die). An unexpected finding was the emphasis they placed on their L2 use during online gaming, compared to their other L2 uses, and the circumstance that they found it difficult to bring their gaming identities as proficient L2 users into school (discontinuity). The general consistency across the quantitative and qualitative data corroborated the outliers' views on the importance of their L2 proficiency, although all five acknowledged that they had not given the difference in L1 and L2 proficiency much thought. Note that this helps to demonstrate the general utility of emergent qualitative work because use of English during activities like gaming might not have been queried by relying on a priori expectations alone. Simply put, there was power in asking student how they spend their time and circumstances under which they use English.

Point of Integration 3—CROSSOVER Inferences (Survey and Interviews).

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Similar to Phase 1, I qualitised the numerical survey data (Onwuegbuzie et al., 2018) to make crossover inferences on the basis of the outliers' voices from the survey *and* interviews. In writing up these crossover inferences, I developed the poem from Phase 1 as a form of representation (Johnson et al., 2013), using the test data in Lines 2-5 and the survey and interview data in Lines 1 and 6-10 (italics):

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Gaming outliers

vocational boys

at-risk of school dropout

poor readers in their first language

but unexpectedly proficient readers in English

frequently playing online games in English

making inferences—or dying—in the game

using strategies to comprehend

confirming how important it is to them

to be good readers of English

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The multiphase analysis across Phases 1 and 2 confirmed the outliers' characteristics as vocational at-risk students, motivated for being good L2 readers. Another confirmation was their use of strategies and inference-making; however, the outliers attributed these competences to their extensive online gaming. Thus, inferences from the fully integrated Phase 2 analysis suggested the importance of English for these students as *gaming* outliers. Still, because Phase 2 involved only five students with the outlier profile, there was an emergent need for a new research phase with a larger sample for validation purposes. This research need initiated Phase 3.

Phase 3

Phase 3 was initiated on the basis of the emergent need to examine the outliers' characteristics and views among a larger sample, preferably by replicating the Phase 2 design. The choice to replicate was enabled by the multiphase design and served to strengthen the credibility of the findings (Onwuegbuzie & Johnson, 2006). The Phase 3 research study is published in Brevik (2019).

Methodological Considerations

Similar to Phase 2, this phase also was planned as a fully integrated mixed design. Replicating the prior phase with a new group of outliers, the purpose of Phase 3 was triangulation and development (Greene et al., 1989). Thus, Phase 3 also comprised four data sources, all collected concurrently (September 2016): L1 and L2 reading tests, survey, and interview responses. As in Phase 2, the test scores were used for sampling purposes only, using univariate analysis (i.e., correlation) to identify students with the outlier profile. Here, again, I used mixed analysis in its most integrated form, involving crossover analysis and inferences throughout, prioritising fully integrated thematic analysis (Onwuegbuzie & Combs, 2010) with three points of integration.

Point of Integration 1—MIXED Data Collection (Test Scores, Survey and Focus Groups)

A large school in a different Norwegian county was invited to participate. The school, which had both vocational and general programmes and administered both reading tests to all students at this level, agreed to participate. On the basis of the test results, the school identified the students who had scored below the 20% intervention benchmark in the L1 test ($n = 40$) but 60% or above in the L2 test ($n = 22$). I was provided the results and validated the school's identification. Although one student declined participation, most were willing and able to participate ($n = 21$). These outliers comprised greater variation than for the Phase 2 sample; specifically, the outliers were boys in vocational studies (76%), girls in general

studies (14%), girls in vocational studies (5%), and boys in general studies (5%). Due to the

relatively high number of outliers compared to Phase 2, they were interviewed in focus groups

containing two to five participants. As in Phase 2, the interviews were open-ended, guided by

the outliers' survey responses (Maxwell, 2013), audiotaped, and transcribed.

Point of Integration 2—MIXED Analysis Within and Across Phases (Survey and Focus Groups)

Similar to Phase 2, these outliers also revealed higher motivation for and mastery of

English than Norwegian as school subjects, and they seemed to have chosen English as their

preferred language outside school. The relatively larger group of outliers in this phase

corroborated and nuanced the findings from Phase 2, whereas the accumulated outcomes in

this phase showed greater variation (see Figure 5). The mixed analyses across Phases 2 and 3

revealed that both samples used English on a daily basis to read novels and cartoons, to listen

to music and to read the accompanying lyrics, to read the news and their Facebook feed, to

watch TV series and films, and to play online games more than 3 hours each day. Although

the outliers used Norwegian for the same activities, few used L1 for online games and TV

series and films. Another view that came across as similar across the two phases was the

circumstance that the outliers found it difficult to bring their identities as proficient English

users into school (discontinuity), as if there was a perceived divide between English use

across contexts.

_____

Insert Figure 5 about here

_____

Integrating information from the survey with the focus groups, these outliers indeed

expressed more variation in their explanations than did the gamers in Phase 2. First, one half

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of them explicitly stated that, although they performed better in the L2 test and might be better L2 readers, they used Norwegian more than English both in and outside school. Second, the girls revealed that, although they had gamed when they were younger, they did not play online games anymore. Instead, they mainly used English for social media use, two of them as consumers of TV series and films, and two as producers of oral communication (e.g., Skype). Third, gaming appeared as the main activity in which one half of the boys used English for up to 8 hours a day, whereas the remaining boys used English to *surf* for a variety of online consumption, including gaming, reading the news, listening to music, and watching TV series and films. Across Phases 2 and 3, I identified 13 Gamers and eight Surfers, all boys, and five Social Media Users, all girls.

Point of Integration 3—CROSSOVER Inferences (Survey and Focus Groups).

In this final phase, I also qualitised the numerical survey data (Onwuegbuzie et al., 2018) to make crossover inferences on the basis of the outliers' voices from the surveys and the focus groups. In writing up the final crossover inferences, I revisited the poems from the two previous phases and developed a final poem as a form of accumulated representation across the phases, relying on the test data in Lines 1-5 and the outliers' self-reported data in Lines 6-12 (italics):

<div align="center">

Outliers

mainly vocational students

at-risk of school dropout

poor readers in their first language

and unexpectedly proficient readers in English

identifying themselves as gamers, surfers, or social media users

gamers: making inferences in English—or dying—in the game

</div>

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surfers: seeking authentic English language situations

social media users: consuming and producing English

using strategies to comprehend across media

confirming how important it is to them

to be good readers of English

Overall, the integration of the original outliers in Phase 1 with the two outlier groups in Phases 2 and 3 suggests that, regardless of context, these adolescents used English extensively, including a number of language skills and more than what would be expected from at-risk students who were poor readers in the L1. The impression of the outliers' views of English as a language of choice in a range of situations was strengthened across the two final phases. The impression of making inferences and using strategies as characteristic for the outliers (Phase 1) and the impression of online gaming as their main source of L2 development (Phase 2) were nuanced, with Internet surfing and social media use as other major explanations for how and why their L2 proficiency was markedly better than was their L1 reading proficiency (Phase 3).

Methodological Contribution

On the basis of the fully integrated emergent multiphase design of the VOGUE project, meaning making developed both within and across phases. The main methodological contribution of this design was the opportunity to validate the existence of the outlier profile across nationwide and local samples, comprising adolescents with test scores in the 20th percentile in L1 and in or above the 60th percentile in L2, a highly unusual combination. Because adolescents with the outlier profile comprise a small group (4.5% of the original nationwide sample in Phase 1 and 7.8% of the local sample in Phase 3), they are easily overlooked. The outlier profile challenges theoretical notions that a poor reader in one

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language most likely is a poor reader in another as well as the common dichotomy of identifying students as either good or poor readers (e.g., Bernhardt, 2011; Grabe, 2009). Even the outliers themselves struggle to identify as proficient L2 readers, particularly in a school context. Thus, the *multiphase* aspect of the design enables comparison across phases, whereas the *emergent* aspect of the design opens for development in terms of turning to new samples, and the *fully integrated* aspect of the design emphasises qualitising of the test scores to identify thematic inferences.

Another methodological contribution was the opportunity to plan for and to initiate new research phases on the basis of emergent outcomes. In the VOGUE project, the most prominent aspects of emergence were the research needs to go beyond anonymised data and explicitly to engage the outliers' views on this phenomenon, as well as to replicate this procedure when the first local sample turned out to be quite small. Qualitative sampling should aim at maximum variation (Schoonenboom & Johnson, 2017). Considering dialectical pluralism as philosophical underpinning opens up for deliberately engaging with paradoxes (Johnson, 2017), adopting a mixed methods way of thinking better to understand such a complex social phenomenon by intentionally including the outliers' voices and views on their L2 proficiency, use, and development (Greene, 2007). Here, the *multiphase* aspect of the design enables comparison of different knowledge types within and across phases, whereas the *emergent* aspect of the design opens for development by turning to new data sources, and the *fully integrated* design aspect emphasises qualitising survey responses to identify thematic inferences of L2 use and development.

A final methodological contribution concerned the opportunity to pursue the purpose of complementarity. Engaging in complementarity across the phases, concerning the multiple constructs of reading proficiency, use, and development, enabled elaboration and clarification

from different outlier groups. Their explanations in terms of voluntary L2 use in activities

generated a more holistic picture by exploring different aspects of the same phenomenon,

such as online gaming, surfing on the Internet, and social media use. The integrated findings

suggest that, although English proficiency in Norway in general might be considered high,

English seems to have become the second language by choice for these 16-year-old outliers.

The fully integrated emergent multiphase design and analyses over 4 years (2012-2016)

provided a depth and richness of the material that would not otherwise have been possible

(e.g., Greene, 2007; Johnson & Christensen, 2017).

Conclusion

In this concluding section, I argue that the fully integrated emergent multiphase design

adds value to complex studies in educational research. It challenges the combination logic of

MM by arguing in line with esteemed researchers in the field that simply combining

qualitative and quantitative approaches is not enough; instead, careful—and full—integration

is essential, arising from multiple points of integration of qualitative and quantitative

components of the design (e.g., Mertens, 2011; Schoonenboom & Johnson, 2017). This

design enabled sample integration, data integration, and integration of analyses, inferences,

and outcomes. Designing a research study with the expectation that unexpected or conflicting

results will occur enables researchers to plan for the unexpected and to attempt to find

explanations (Schoonenboom & Johnson, 2017). Researchers create designs in which these

unexpected findings are likely to occur by including diverse types of data. Including fewer

dimensions in a research design would not have provided the same insight into the richness of

the material.

Although the design per se does not do full justice to what mixed methods can do in

education research, the opportunities to identify "silences and incompatibilities" (Nightingale,

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2003, p. 80) in the data are just as important as is the opportunity for corroboration and

contradiction. I believe that this is crucial not only to including participants' views in the

research study, but also to delving into various knowledge types (Greene, 2007). Such an

effort is necessary if we want to tap into the many social and material resources that abound

and retain their ecological validity in a quickly progressing knowledge society.

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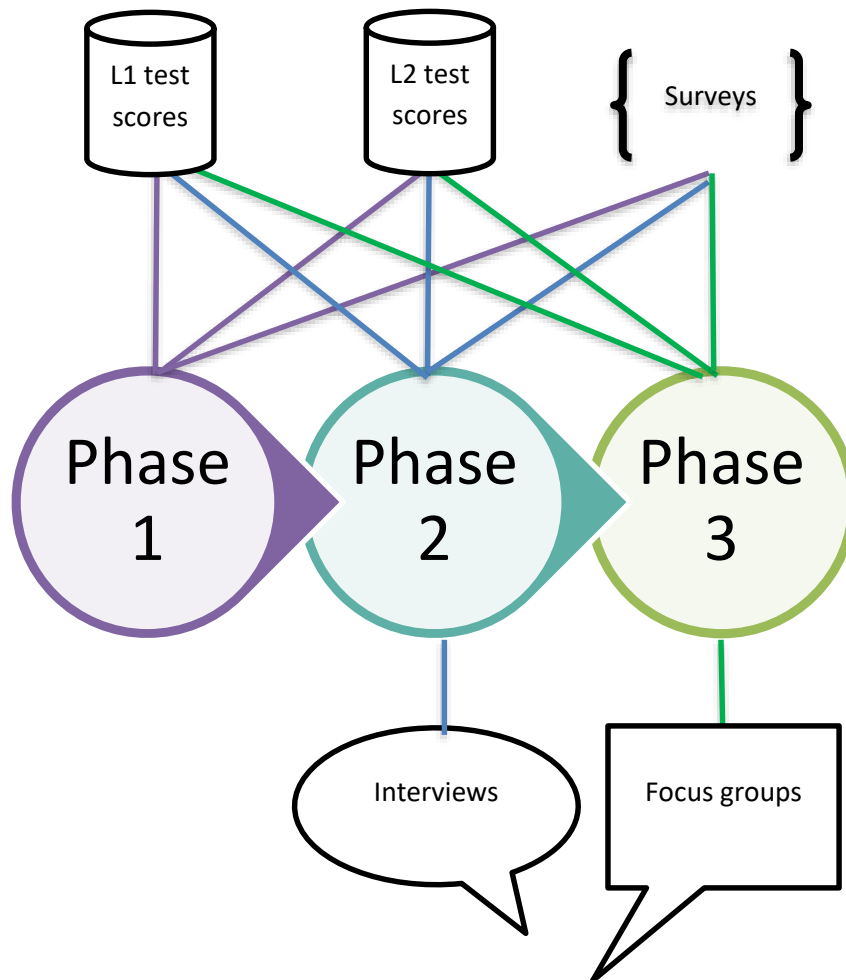
Figure 1

The Fully Integrated Emergent Multiphase Design: Merging of Three MM Approaches
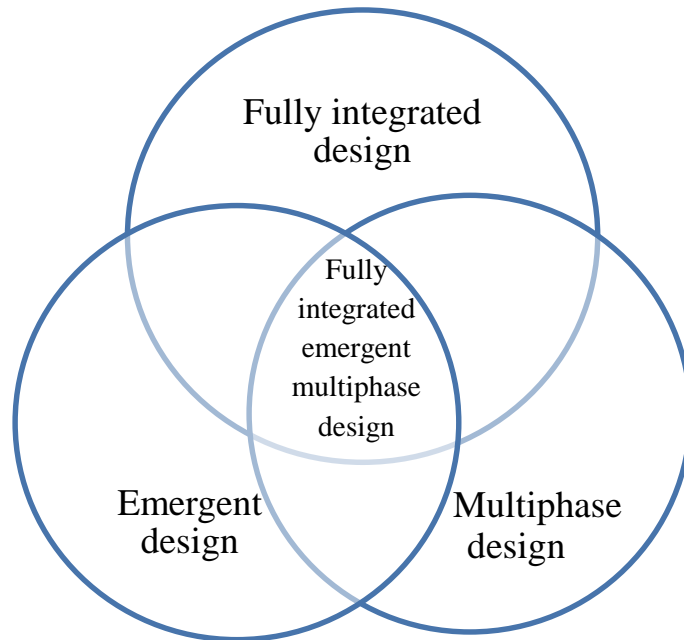
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Figure 2

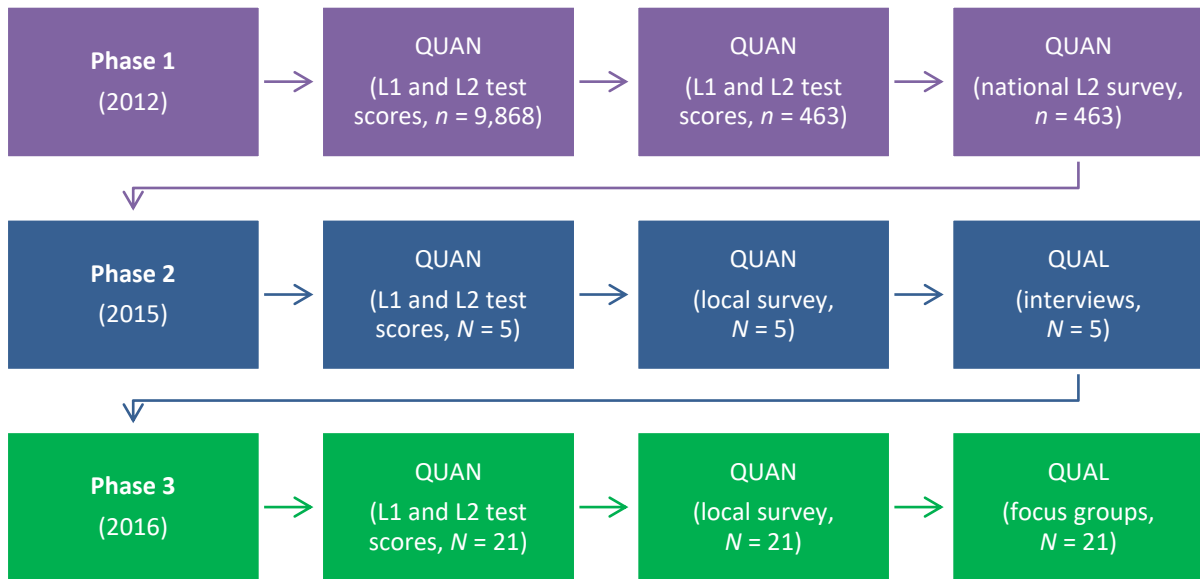*The Complexities of the Planned Emergent Multiphase Design in the VOGUE Project[1]*

[1] Quantitative data sources appear above the phases with qualitative data sources below the phases.

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Figure 3

The Enacted Design in the VOGUE Project. Within Each of the Phases, the Data Sources

were Collected Concurrently

Phase 1 (2012)	QUAN (L1 and L2 test scores, n = 9,868)	QUAN (L1 and L2 test scores, n = 463)	QUAN (national L2 survey, n = 463)
Phase 2 (2015)	QUAN (L1 and L2 test scores, N = 5)	QUAN (local survey, N = 5)	QUAL (interviews, N = 5)
Phase 3 (2016)	QUAN (L1 and L2 test scores, N = 21)	QUAN (local survey, N = 21)	QUAL (focus groups, N = 21)

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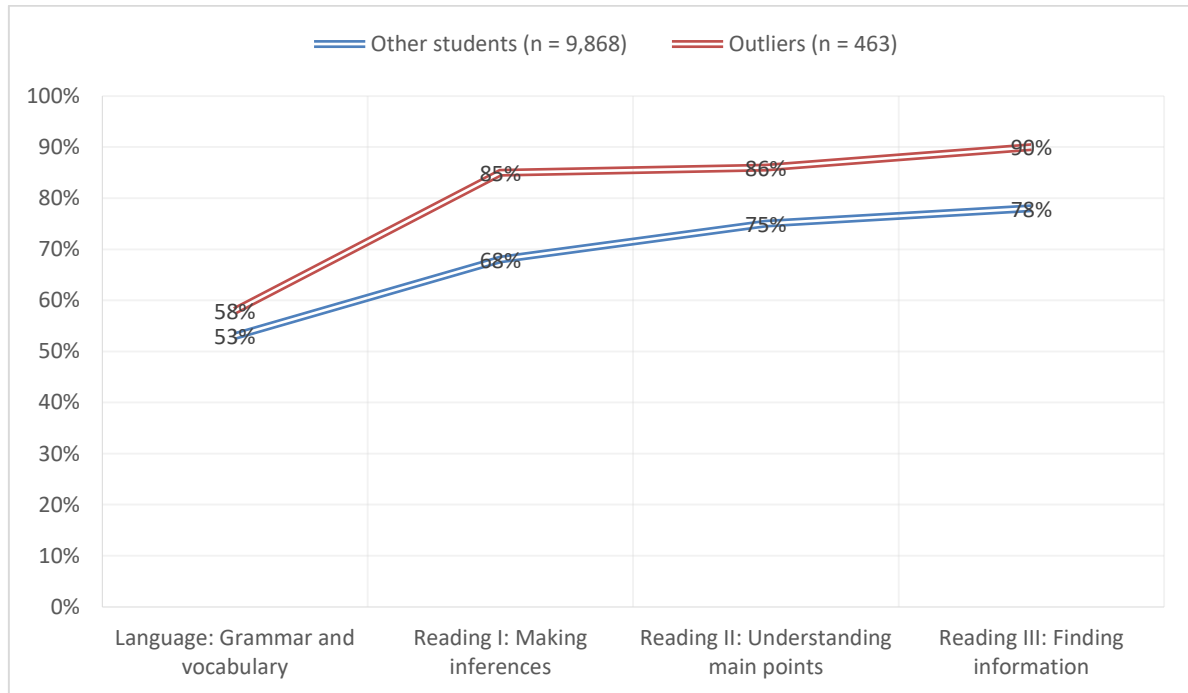
Figure 4

L2 English Reading Test[1]

[1] This line chart indicates the percentages of each L2 construct for the outliers compared to

the remaining students in the nationwide sample. *Note*. *n* = number of participants.

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Figure 5

Accumulated Outcomes Across Phases 2 and 3 for the 26 Students' Self-Reported Reading in

Norwegian and English Outside School
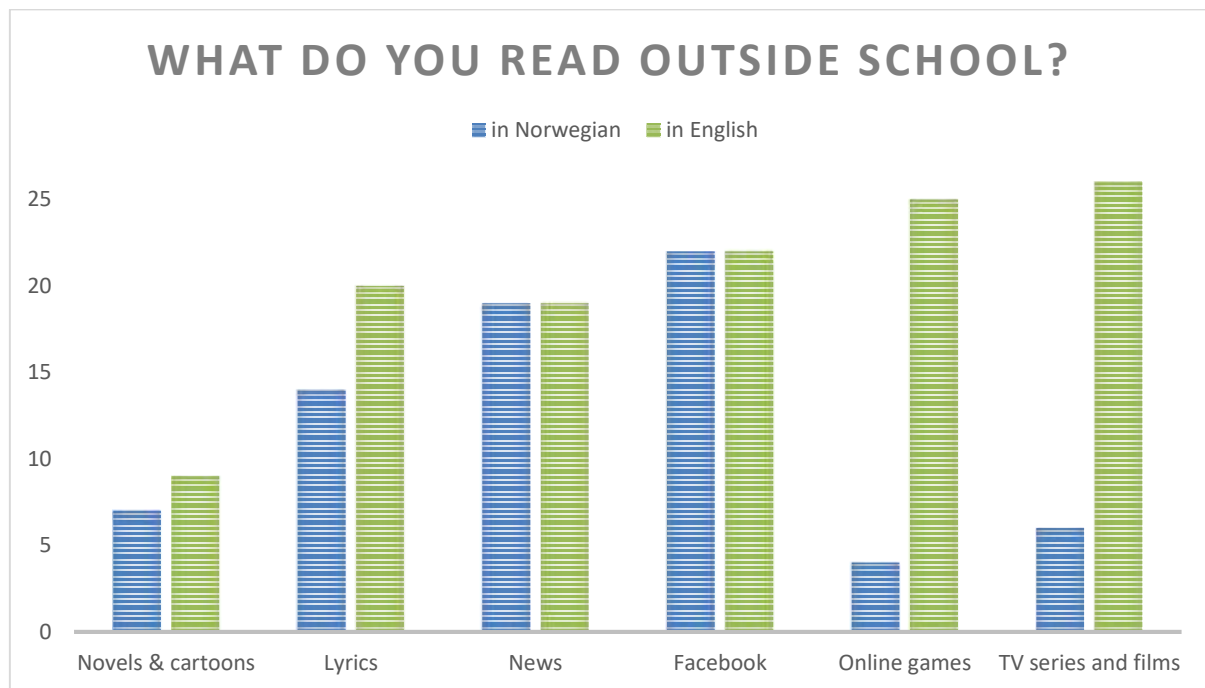
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[1] Experimental studies of course allow for exploratory questions, but these are often specified in advance as well.

[2] The term *second language (L2)* is used when referring to English as a second or additional language.