



UiT The Arctic University of Norway

Faculty of Humanities, Social Sciences, and Education

Motivation as a factor for proficiency in early EFL-learners

A study on how different motivational types affect proficiency levels in EFL-learning in a classroom environment.

Zebastian Bernhard Bøe Olsen

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Abstract

This study investigated how motivational factors affect proficiency in early English as a foreign language (EFL)-learners in a classroom setting. 44 participants attending fourth and fifth grade in Norwegian primary schools were tested in proficiency and asked to answer a questionnaire detailing different motivational factors and method preferences in EFL-learning. The motivational statements in the questionnaire were based on Organismic Integration Theory (Ryan & Deci, 2020) and a scale of extrinsic to intrinsic motivation. The findings showed that there was a strong negative correlation between external extrinsic motivation and proficiency, the stronger the experienced motivation stemmed from external sources such as expectations of others, the lower the proficiency. On the other side, internal extrinsic motivation showed a strong positive correlation with proficiency, indicating that students that are motivated by valuing what they are learning and have goals of integrating with other speakers of English achieve a higher proficiency. The method preferences in EFL-learning showed a strong positive correlation between oral production preference and proficiency. These findings are discussed in light of several motivational theories and frameworks, suggesting how this can impact teaching practices in the EFL-classroom.

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List of Abbreviations

CDST – Complex Dynamic Systems Theory

EFL – English as a foreign language

EVT – Expectancy-Value Theory

GLMM – Generalized linear mixed-effects model

HPL – High proficiency learner

ID – Individual differences

L1 – First language

L2 – Second language

L2MSS – L2 Motivational Self System

LPL – Low proficiency learner

OIT – Organismic Integration Theory

PPVT – Peabody Picture Vocabulary Test

RQ – Research question

SDT – Self-Determination Theory

SET – Self-Efficacy Theory

SLA – Second language acquisition

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1 Introduction

A classroom is a constructed environment when it comes to foreign language learning, which presents both challenges and opportunities. As a learning collective, the instructor attempts to help all the students acquire the new language, supporting them in their journey to become fluent language users. How much of a challenge this is becomes clear when you are one person attempting to cater to 15-30 different students, all different individuals, with various needs and preferences. This is where motivation is key: a student who is motivated will to a larger degree be responsible for their own learning process. But what motivates a student to learn a language, and does successful acquisition differ based on which type of motivation the student is driven by? This is where motivational theories come in, whether it is Ryan & Deci's Organismic Integration Theory and the extrinsic-intrinsic model (2020), Dörnyei's second language (L2) motivational self-system, or Banduras' Self-Efficacy Theory (1977), they all have played a part in helping us understand how motivation affects L2 learning. Moreover, a commonality between them is that these theoretical frameworks suggest that a student's reasons for learning, whether due to personal interest, external pressures, or other factors, significantly shape their learning outcomes. That is what this thesis aims to investigate closer, more specifically how motivation affects proficiency. In this study, I have collected motivational data and proficiency-level measures from 44 early EFL-learners in the fourth and fifth grade of various primary schools in northern Norway. The motivational data was collected with a questionnaire employing statements detailing level and type of motivation, as well as statements describing preferences for different methods of learning English, both assessed on a 4-point Likert scale. The method preference-statements were included as they express motivation towards specific learning strategies, this is explored further in section 2.3. The motivational statements were categorized according to certain levels of extrinsic to intrinsic motivation, based on the framework of Organismic Integration Theory. Before the data collection and analysis, two research questions (RQ) and one hypothesis were formed:

RQ1: Do different types of motivation and motivation-levels in early-stage learners of English as a foreign language(EFL) affect proficiency-levels?

RQ2: Do method preferences in early EFL-learners affect proficiency-levels?

Hypothesis: Low proficiency learners (LPL) will have a lower level of motivation overall, but particularly lower intrinsic motivation. High proficiency learners (HPL)

will have a higher level of motivation overall, especially intrinsic motivation. In addition, production tasks will be preferred by HPLs and comprehension tasks will be preferred by LPLs.

The data was analyzed using a general linear mixed model. The findings show that there is a strong positive tie between internal extrinsic motivations, such as motives of identity or integration, and proficiency. A preference for oral production also showed a positive correlation with proficiency. On the other hand, external extrinsic motivations, such as motives of pleasing others, showed a negative correlation with proficiency. These findings are discussed in the light of presented theories and beliefs on L2 learning motivation, with a goal of gaining insight into what type of motivation leads to successful acquisition, and in turn, inform teaching practices in an EFL-classroom. An important question is how a teacher can better adapt the learning environment to aid this acquisition process by increasing and cultivating the right types of motivation.

1.1 Structure

The thesis is split into six parts, five following the introduction. The second chapter establishes the background for the study, by presenting the classroom setting for L2 learning, and by providing a comprehensive review of the existing literature on motivation in language learning. It discusses various motivational theories and examines previous studies on language learning motivation in classroom settings. The review highlights theories used in the current research landscape, with a focus on theories that this thesis aims to address empirically. It also outlines how method preferences can be a measure of motivation in English learning. The third chapter presents the methods used in this study. It describes the research design, data collection methods, as well as the formatting and analysis of the data. The results are presented in the fourth chapter. It analyzes the data collected from the questionnaires and the proficiency test, examining the relationship between different types of motivation and language proficiency. The results section also explores how method preferences among learners correlate with their proficiency levels. The findings of the study are then discussed and interpreted in the fifth chapter. This chapter attempts to interpret the results presented in the previous chapter in the context of the theoretical framework established in the second chapter. It discusses the implications of the findings for teaching practices and motivational strategies in EFL classrooms. Limitations of the study and possible future research are also discussed. The final chapter summarizes the key findings of the study, and revisits the research questions and the hypothesis.

2 Theoretical Background

2.1 Classroom instruction versus natural language environment and the Norwegian school setting

The environment of this study is situated within English as a foreign language (EFL)-classrooms in Norway, a country where English is not the native tongue. Nevertheless, Norwegians are widely acknowledged for their English proficiency, frequently engaging with English through various cultural- and media-channels. As reported by Education First in 2024, Norway was ranked fifth out of 113 countries on the English Proficiency Index for L2 English speakers, reflecting a considerable proficiency within the general population (Education First, 2024). Despite this, the dynamics of learning English in an EFL-classroom setting is inherently different from acquiring the language in a native English-speaking country. This section will describe these distinctions and offer an overview of how English is taught within Norwegian classrooms.

Classroom instruction contrasts with the natural setting of language learning in a native English context. The differences are clear in several dimensions, such as exposure to the language, practical use of the language, necessity of learning the language, feedback types, and variety encountered within the language. An immersive environment, where English is omnipresent, naturally provides more comprehensive exposure, clearer practical applications, continuous informal feedback from native speakers, and a richer diversity of language usage, such as varied vocabulary. In contrast, an EFL-classroom environment typically offers limited exposure, restricted primarily to classroom hours, though it is worth noting that Norwegians still have considerable English exposure outside the classroom, but not as intensively as in a native English country. The first language (L1) is often used as the language of instruction in EFL-classrooms as well, further limiting the exposure to English (Dahl & Vulchanova, 2014). Interactions will also mostly be limited to the same group of students, and the utility of language acquisition might not be as immediately apparent to learners, as they would not need it in daily communications with others in their environment outside of the classroom. The significance of these disparities is supported by research, with Porter & Castillo (2023) observing that immersive learning environments foster more robust language development due to their authentic, naturalistic engagement with the language.

Their study reinforced this viewpoint by demonstrating that immersion learners scored higher on a post-study TOEFL-test compared to traditional classroom learners (Porter & Castillo, 2023, p. 163). These differences can be argued to be essential to be aware of when teaching language in an EFL-setting, to attempt to mimic a more immersive environment for the students, if one believes that a naturalistic environment is superior to the setting of a classroom.

To understand the mechanisms of a Norwegian EFL-classroom, one has to look at the national curriculum for English education in Norway, LK2020. As the students involved in this study are enrolled in either the 4th or 5th grade of primary education, we will focus on the curriculum objectives at the culmination of the 4th year. By this point, students are expected to have completed a minimum of 138 hours of English instruction (Norwegian Directorate for Education and Training, 2024a). There are also certain competency aims that a student is expected to reach by the end of 4th grade, which should be the goal for the instruction in the English classroom. These goals vary from practical skills such as to “use digital resources to explore the language and interact with others” to less concrete competence aims, such as “follow simple rules for spelling and syntax” (Ministry of Education and Research, 2019, p. 6; for a complete list of the competence aims, refer to this source). It is important to note that these are goals rather than strict benchmarks; not all students may reach these milestones within the anticipated timeframe. In the Core Curriculum within LK2020, it also stated that differentiated instruction is required, meaning that the school and the teachers have to adapt all teaching to maximize learning outcomes and possible acquisition for each student (Ministry of Education and Research, 2017, p. 2). This is also established by law in Norway, in The Education Act section 1-3, which states that: “Education must be adapted to the abilities and aptitudes of the individual pupil, apprentice, candidate for certificate of practice and training candidate” (the Education Act, 1998, § 1-3). In summary, English instruction in Norwegian classrooms is not only aimed at achieving specific educational objectives but also mandates individualized adaptation to meet the unique needs of each student.

2.2 Motivation

To be able to research motivation in EFL-learning, one must first grasp the concept of motivation and how it has developed in the world of language acquisition. How is motivation defined? If we look at definitions of the word motivation in a dictionary, we will see it separately defined as “the need or reason for doing something”, “the enthusiasm for doing something”, and “willingness to do something, or something that causes such willingness”

(Cambridge dictionary, 2024). All of these definitions can be said to include certain facets behind the meaning of motivation, but none of them can be said to cover the full extent of the term. Dörnyei & Ushioda presents the etymological definition of the word: “ “motivation” derives from the Latin verb *movere* meaning “to move” ” (Dörnyei & Ushioda, 2021, p. 2). Here we have to think of “move” as not only the physical action of moving in space, but also the more abstract notion of a person wanting to move in psychological or logical space, moving towards a set goal. This action of moving can be argued to be one of the few things that most definitions of motivation have in common – the direction of an action. If we then again consider the three basic definitions provided by the Cambridge dictionary, we can see that they all concern themselves with different aspects of motivation. The need or reason for an action covers the *why*-aspect, the enthusiasm for an action can also cover the *why*-aspect while also describing possible effort one is willing to put into it, while willingness for an action can be related to the aspect of exertion or perhaps perseverance. Dörnyei & Ushioda have attempted to create a definition that cover all these aspects by stating that motivation is responsible for *why* people do something, *how long* they are willing to commit to it, and *how hard* people will pursue it, in other words the aspects of *choice*, *persistence* and *effort* (Dörnyei & Ushioda, 2021, p. 2). Although one can attempt to make a definition of motivation such as the one presented, and it can be practical to employ one at times, motivation is a complex topic that requires frameworks rather than definitions. In this section, relevant general motivational theories will be presented, as well as relevant motivational theories in language acquisition.

2.2.1 Cognitive Motivational theories

New motivational theories started developing after the cognitive revolution in psychology in the 1950’s, where one started to think of motivation as more than something formed from affection. Before the 1950’s, unconscious and uncontrollable processes were considered to have the largest impact on an individual’s motivation, but the cognitive revolution triggered a shift in focus to the motivational aspect of human psychology (Dörnyei & Ushioda, 2021). There are many motivational theories that have their origin in this cognitive shift; here I will present some of the most relevant ones for this study.

2.2.1.1 Self Determination Theory and Organismic Integration Theory

Self-Determination Theory (SDT) can be argued to be one of the most influential motivational theories of today. Developed by the psychologists Edward L. Deci and Richard

M. Ryan, SDT builds upon the notion of intrinsic and extrinsic motivation. Intrinsic motivation refers to the inherent pleasure and satisfaction one derives from an activity, without any emphasis on contingent outcomes. For instance, the act of engaging in an activity because of the pleasure it brings represents intrinsic motivation (Ryan & Deci, 2000). The measurement of intrinsic motivation in research is approached through methods such as the free-choice paradigm and self-report scales. The free-choice paradigm involves offering participants a task with an associated reward. Upon completion, participants are informed they can discontinue the task, at which point the researcher leaves the room. The continued engagement with the task, in the absence of external incentives, is indicative of intrinsic motivation. An example of a free choice study is Deci (1971) (as quoted in Ryan & Deci, 2000). On the other end of the scale, extrinsic motivation is located. Extrinsic motivation is then defined as external sources of motivation, such as pressure from others, goals set, rewards at the end of an action. Examples of this can be practicing vocabulary in a language to be able to speak that language, practicing for a test to please your parents or teacher, or perhaps to avoid punishment (Ryan & Deci, 2020).

It is debatable whether there should be such a sharp division between extrinsic (external source of motivation) and intrinsic (internal source of motivation). Even though a participant does not receive a reward or an incentive to carry out an activity, there might be internalized reasons for performing a task other than enjoying it, and these reasons may be less extrinsic than direct compensation, but also less intrinsic than pure enjoyment. Therefore, extrinsic and intrinsic motivation is often discussed on a scale. Consider this figure, given by

Ryan & Deci (2000):

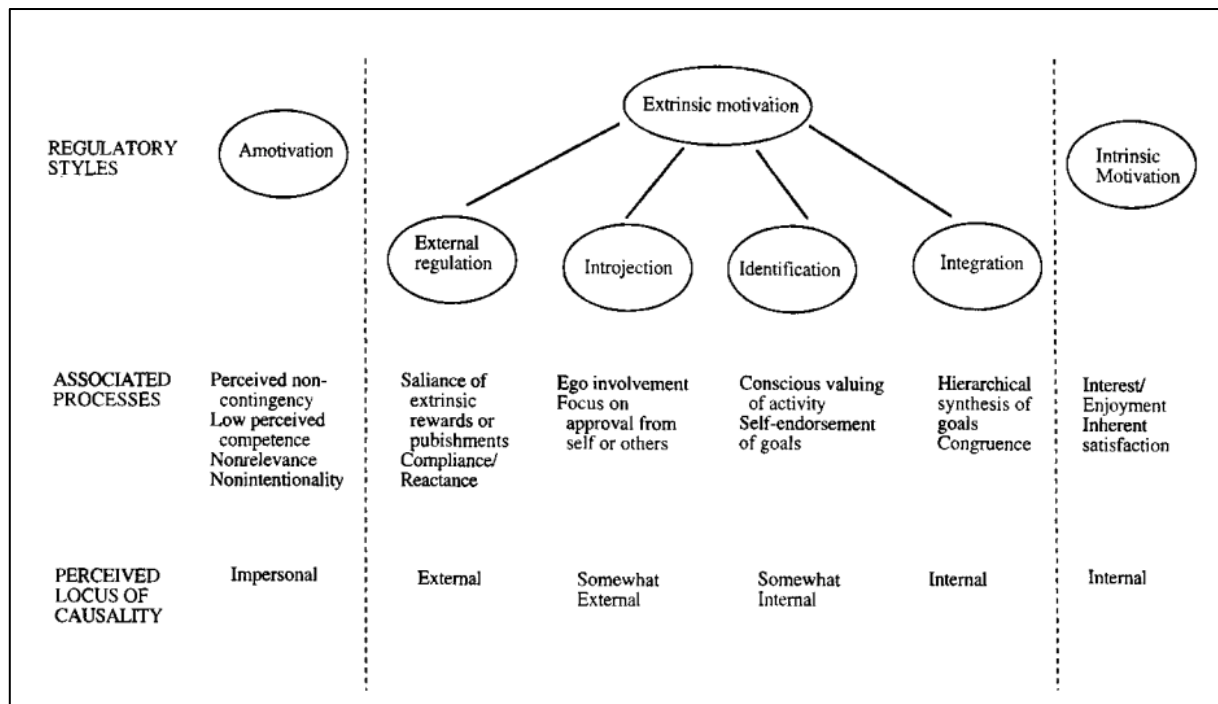


Fig. 1. A taxonomy of human motivation

Note. “**Fig. 1.**” Showcases scale of motivational factors in Organismic Integration Theory (OIT). From “Intrinsic and extrinsic motivations: Classic definitions and new directions: Motivation and the Educational Process,” by R. M. Ryan and E. L. Deci, 2000, *Contemporary Educational Psychology*, 25(1), p. 61.

Figure 1 is related to a sub-theory of SDT, namely Organismic Integration Theory (OIT), which focuses in more detail on the interplay between external versus internal motivation in extrinsic motivation. From the most external elements, such as direct reward or punishment, to the most internal elements, which can be described as internalized values that become self-regulated actions, similar to intrinsically motivated actions (Ryan & Deci, 2000). The figure describing OIT functions as a scale. The lowest motivation and at the same time extrinsic motivational factors are found on the left-hand side, while the highest motivation and intrinsic ones occur on the right. OIT does not only add nuance to extrinsic motivation, but also shows where amotivation and intrinsic motivation exists in relation to the extrinsic scale. All the way on the left-hand side of the figure, we find amotivation. **Amotivation** is a negative measure of motivation, elements such a low perceived competence or no relevant reason to acquire a language would be described as demotivational factors, and exist in the amotivation category. Then the figure moves to the most **external** form of extrinsic motivation, similar to the one

described in relation to SDT above: reward, compliance or punishment are the external reasons which can motivate someone to learn a language. **Introjection** is the next step of extrinsic motivation, still existing on the external side, but less so than direct reward or punishment, introjection can be defined in this context as a search for approval. When moving further towards internalized goals, **identification** is the next category. Identification is when the individual starts to identify with the action or process. By valuing the goals of the action or final goal, one gets more motivated to work towards it. Lastly, for the most internal extrinsically motivated actions in the OIT, we find **integrated** motivation. Integrated motivation adds to the identification aspect, with alignments of interest and values within the person being the markers (Ryan & Deci, 2020). This can be difficult to separate from intrinsic motivation, an example is given in the next paragraph to attempt to explain the nuances.

Let us try to understand what separates these most integrated extrinsically motivated actions from intrinsically motivated ones with an example. The core of this divide, according to OIT, is where the base of the motivation stems from. Consider this example: Ben loves to help people, it makes him feel good, and for that reason he wants to work as a nurse. He is intrinsically motivated. Fiona, on the other hand, studies medicine to become a doctor, as it is a highly regarded position in society and gives potential for high income jobs. She achieves her goal of becoming a doctor. However, in the process of this, she comes to internalize these motivations and genuinely align them with her personal values, such as a deep-seated desire to help others, a passion for science and healing, and a commitment to contributing to society. Fiona would still, according to SDT and OIT, be described as someone who is extrinsically motivated, but for integrated extrinsic reasons rather than her original introjection and identification reasons.

SDT has been operationalized in several studies. Jones et al. (2009) leveraged SDT to foster intrinsic motivation among foreign language undergraduates by adopting teaching strategies that aimed to make learning activities enjoyable and engaging. Their study concluded that activities designed using SDT principles resulted in heightened intrinsic motivation within the classroom environment (Jones et al., 2009, p. 186). Furthermore, a comprehensive meta-analysis of SDT and OIT by Howard et al. (2021) validated the significance of intrinsic motivation and supported the validity of the motivational spectrum proposed by OIT. It was found that the most external forms of motivation had minimal impact on educational outcomes and could exacerbate adverse effects such as anxiety. Conversely, intrinsic motivation and extrinsic motivations characterized by introjection and identification showed a positive correlation with educational performance (Howard et al., 2021, p. 1318).

2.2.1.2 Expectancy-Value Theory and Self-Efficacy Theory

SDT is arguably the most central motivational theory in cognitive psychology, but there are also other well-regarded theories that contribute rich perspectives to our understanding of motivation, including its application to language learning. These theories, some of which intersect with SDT on key points, provide additional insight into the multifaceted nature of motivation. Expectancy-value theory (EVT) is one of these theories, developed by several psychologists in the 1950's and 1960's, most notably John William Atkinson (Atkinson, 1957). EVT builds upon the notion that motivation equals expectancy times value (motivation = expectancy x value). "Expectancy" refers to an individual's assessment of their likelihood of succeeding in a task, while "value" relates to the importance they place on the success of that task (Atkinson, 1957; Dörnyei & Ushioda, 2021). The theory suggests that motivation is at its peak when both expectancy and value are experienced as high, indicating that individuals are driven to engage in activities where they see a reasonable chance of success and where they value the potential outcomes. Conversely, when either expectancy or value is deemed low, motivation diminishes accordingly. In this sense, EVT can be argued to highlight the importance of enhancing both an individual's expectation of success and the perceived value of a task to improve motivation. This has also been focused on in later iterations of EVT, such as the one developed by Wigfield & Eccles (2000), where they show the importance of children's subjective understanding of the said expectancy and value.

Self-Efficacy Theory (SET), a theoretical approach developed by Albert Bandura (1977), is yet another framework applicable to learning and motivation. SET is constructed on the view that the motivation to do a task comes from an individual's self-efficacy. Self-efficacy can be understood as an individual's belief in their ability to perform an action successfully, which in turn achieves the goal of the action (Sohn & Bong, 2020). In other words, perceived relevant competence is key to motivation (Dörnyei & Ushioda, 2021). A perceived deficiency in competence can contribute to amotivation, which resonates with the factors categorized as amotivation within OIT. If the individual perceives a task as too difficult, or that the goal cannot be reached because of their own shortcomings, giving up is an outcome that often can occur. In this sense, SET offers a detailed account of certain facets of amotivation that SDT does not detail to a great extent.

Both EVT and SET has been investigated and operationalized through studies on their

validity. Mahyuddin et al. (2006) explored the link between self-efficacy and English language proficiency among 1146 Malaysian secondary school students, finding a positive correlation between students' self-belief and their language achievement (Mahyuddin et al., 2006, p. 68). Similar findings can be observed in other studies, for example Chen (2007) or Ayoobiyani & Soleimani (2015). When it comes to EVT, perceived expectancy of success and the valuing of that success has been measured against language performance in several studies, such as Wu & Kang (2021) or Hu & McCormick (2012). The studies show a positive relation between these factors, but it is difficult to ascribe the language performance to EVT with certainty. There appears to be a mutual relationship: students who excel are likely to anticipate continued success, leading them to report high expectancy, which is validated through their subsequent achievements. Thus, the correlation is evident and suggests that expectancy and value play influential roles in educational outcomes (Wu & Kang, 2021, p. 8-9).

2.2.2 Further developments of motivational theories in relation to second/foreign language acquisition; Gardner's beginnings

All the aforementioned theories of motivation have been applied to the setting of education and learning, but none were specifically developed with language learning in mind. Robert C. Gardner was one of the first to develop a theory that specifically covered motivation in relation to second language acquisition (SLA)/EFL-learning. Gardner, who started working on his socio-educational model of SLA in the 1970's (Gardner, 2006), does not just include motivation as a factor in his model. For example, his theory also details elements such as language aptitude and learning context in an attempt to explain and predict outcomes in SLA. As the name suggest, the model is more socio-psychological than the cognitive theories previously discussed. Moreover, some of the most influential parts of this model is precisely the motivational aspects of SLA. The motivational model includes many components such as integrativeness, anxieties and desires (Gardner, 2006, p. 246), but the most famous aspects of his theory today are the key terms *integrative orientation* and *instrumental orientation*. By orientation, Gardner refers to goals, more specifically the goals that make people feel motivated to learn a language. Integrative orientation refers to the learner's desire to learn a second language to integrate into the culture of the language's speakers. By integration, Gardner does not mean assimilation but rather wanting to understand and participate in the culture, be accepted by its inhabitants and be able to interact within that linguistic community

(Gardner, 2020, p. 247). An example of integrative orientation as a motivational source could be someone who wants to move to a country and be able to communicate with the native inhabitants in their mother tongue, or someone who wants to participate in a discussion in an online international forum where the language differs from their L1. On the other hand, instrumental orientation refers to a type of motivation that is more pragmatic and utilitarian, where the learner's primary goal is to gain some social or economic benefit from learning the second language, such as securing a job or passing an exam. While instrumental orientation can drive learners to achieve proficiency, Gardner suggested that integrative orientation typically leads to more profound and sustained language learning outcomes. This is because learners with high integrative motivation are more likely to achieve success in second language acquisition as they have a genuine interest in the language and its cultural context (Gardner, 2006; Dörnyei & Ushioda, 2021).

2.2.2.1 Current theories: Dörnyei and the L2 Motivational Self System

Zoltan Dörnyei was one of the most influential scholars when it comes to modern psychology in SLA. His work in the early 2000's led to a larger emphasis on the time aspect and sequential nature of motivation, a period Dörnyei himself referred to as The Process-Oriented Period (Dörnyei, 2005). The Dörnyei and Ottó Model of L2 Motivation is a product of this period, and it divides the process of L2 learning into three phases of motivation, namely the Preactional Stage, the Actional Stage, and the Postactional Stage as shown in Fig. 2.

(Dörnyei, 2005, p. 85). The Preactional Stage is the phase where motivation needs to be formed or renewed, through goal- and intention-setting, as well committing the first action in the current L2 learning process. Why one wants to learn, what the goal is behind the action, and expectations for success and support from one's surroundings are central factors here.

The Actional Stage builds further on the first stage, by maintaining motivation through reminding oneself of the goals set, as well as having an ideal learning environment to continue to perform in. The environmental element also includes actors around the learner, such as parents, teachers, or perhaps most importantly, the learner group. The Postactional Stage completes this process, by an evaluation of the preformed actions/processes, looking back on how the process went. What led the learner to complete their action with success and what feedback they received are both important to strengthen motivation according to the model. This last stage is also critical for forming new motivation for a new process, leading the learner back to the Preactional Stage, with new goals and intentions (Dörnyei, 2005).

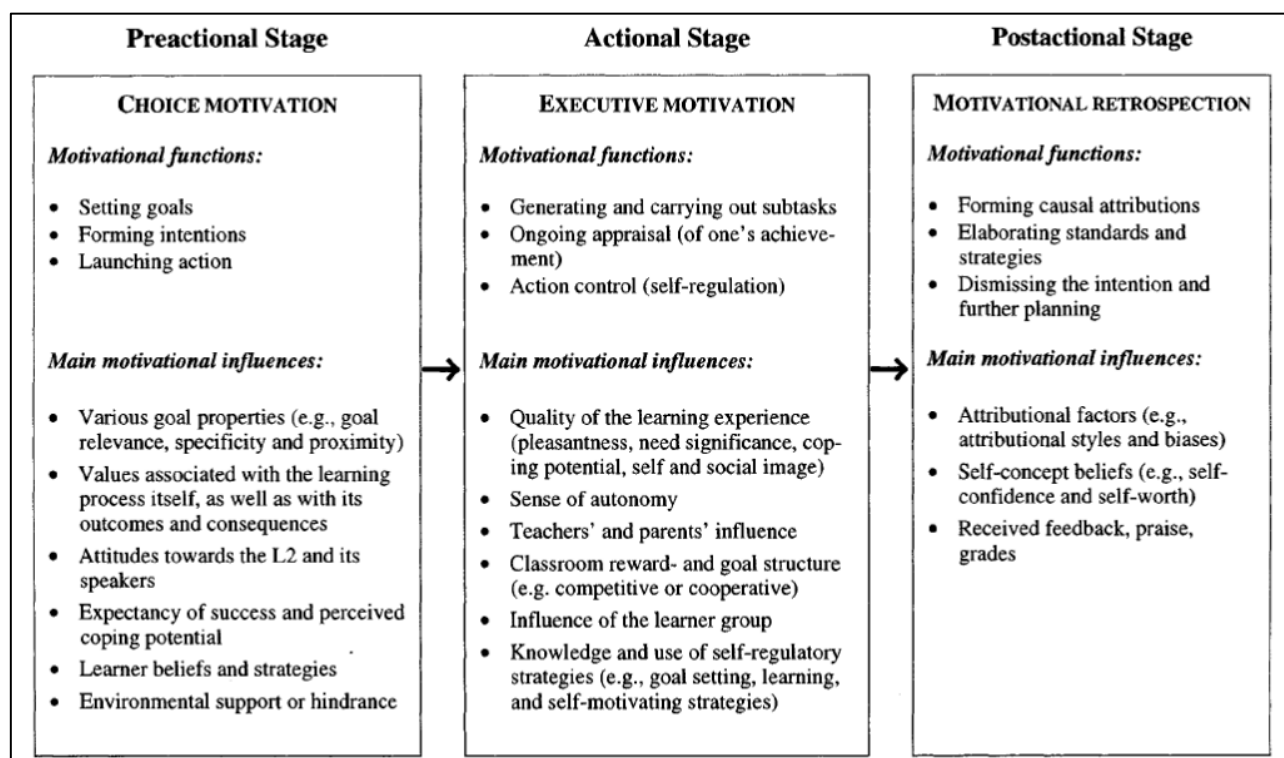


Fig. 2. The Dörnyei and Ottó Model of L2 Motivation

Note. “**Fig. 2.**” Showcases the Dörnyei and Ottó Model of L2 Motivation. From *The psychology of the language learner: individual differences in second language acquisition* (p. 85), By Z. Dörnyei, 2005, L. Erlbaum.

Dörnyei has also attempted to develop a blend of earlier motivational theories and frameworks, but with stronger ties to SLA, in his L2 Motivational Self System (L2MSS). The L2MSS is based upon Gardner’s work on integrative motivation as well as theories on selves (Markus & Kitayama, 1994), the latter being more purely a psychological theory than a theory that involves SLA. The L2MSS consists of mainly three concepts: the ideal L2 self, the ought-to L2 self and the language learning experience (Dörnyei & Ushioda, 2021). In the first two aforementioned concepts, one can see clear ties to the integrativeness one finds in Gardner’s theory: The ideal self and the ought-to L2 self discusses the idea of becoming an individual that speaks the L2 and possesses the abilities and attributes needed to be better integrated in L2-environments, where certain expectations are present. The time aspect of the theory is in this sense future-oriented, the depiction the learner has of their future self is central to motivation. What separates the ideal L2 self and the ought-to L2 self is, again, where the motivation stems from. The ought-to L2 self learns a language because they ought to, to live up to expectations, fulfill duties, or avoid negative outcomes. On the other side, the

ideal L2 self captures how the learner envisions themselves in the future as a highly proficient speaker of the language, being able to use it in all aspects of life, driving current motivations to acquire the language. The language learning experience is a more expansive addition to the theory than the other concepts. It factors in motivation that comes from the experience one has in the learning environment of the language, such as the impact of the teacher, what material one uses to learn, or interlocutors and their skills and expectations (Dörnyei & Ushioda, 2021, p. 62). In that sense, the L2MSS can be better suited, and perhaps more operational, for research in classroom environments, where the environment of learning is of large importance, something often overlooked in other motivational theories.

Even if it is better suited for research in a classroom environment, the L2MSS can also be described as complex and hard to operationalize. As a relatively new theory in the field, not many studies on its validity exist. There are studies that have used the L2MSS as the main theoretical background, but omitting the language learning experience aspect is common. An example of this is Wong (2018). This study tested the relation between the L2MSS and L2 achievement in 121 primary school students in Hong Kong. The ideal L2 self was positively correlated with reading achievement, while both ideal L2 self and ought-to L2 self were correlated with motivated behavior in the learning process (Wong, 2018, p. 209-210). Subekti (2018) is a study that implemented the L2 learning experience in addition to the two other factors. However, the study was inconclusive when it came to the effect of the L2MSS on L2 achievement, the only significant factor was ought-to L2 self, which had a negative correlation with achievement (Subekti, 2018, p. 62-64).

2.2.3 A qualitative shift in L2 motivation research, individual differences and shifting environments in focus

With the cognitive focus that motivation theories had since the cognitive revolution (Although certain social-psychological theories existed, such as Gardner's), quantitative research became the most natural approach in trying to validate the theories. This was also one of the reasons why the time-aspect was often overlooked, as quantitative research of a longitudinal nature is resource heavy and hard to execute. In the late 1990's and early 2000's, the qualitative method paradigm gained more traction, largely because of the focus on the time aspect of motivation, but also because of other elements that quantitative data can be argued to have a hard time expressing, such as the aforementioned L2 learning experience, but also individual differences and contexts (Boo et al., 2015).

Ema Ushioda were one of the main researchers developing new methods supporting a

qualitative shift in motivation and SLA, arguing that this would “...enable a richer, more nuanced analysis...” (Dörnyei & Ushioda, 2021, p. 54). One of the key contributions of Ushioda's work is the emphasis on the learner's identity and the social context as central to understanding motivation in language learning. She argues that motivation cannot be fully understood without considering the learners' identities, their relationships with the languages they are learning, and the specific social and cultural contexts in which their learning takes place. This perspective shifts the focus from traditional, more quantitatively measured aspects of motivation, such as intensity and duration of effort, to more qualitative aspects, including the learner's engagement, agency, and personal reasons for learning a language. This could perhaps be captured by quantitative measures as well, but as Ushioda argues, this would not provide the nuance needed to understand motivation (Ushioda, 2020). Ushioda also worked on person-in-context relational view of motivation, a view which integrates the individual differences in learners with the environmental and contextual factors influencing their motivation. This approach recognizes that motivation is not solely an internal trait of learners but is also shaped by their interactions with their environment and the people around them. (Dörnyei & Ushioda, 2009). Ushioda and others researched and observed these factors through qualitative studies that employed interviews, observations, and narrative analyses (Dörnyei & Ushioda, 2021, p. 215).

An example of this methodology supporting quantitative methods, is a study conducted by Pfenninger & Singleton (2016), testing the differences in motivational aspects (questionnaire), L2 proficiency (proficiency tests) and language experiences (qualitative essays) in two groups of EFL-learners in Switzerland. One group consisted of 100 students who started learning English around the age of 8, while the other group of 100 started learning English around the age of 13. The tests were conducted twice, at the start of secondary school and at the end. The results showed that there was not a large difference in the proficiency of the late-start learners in the end, they caught up with the earlier starters quickly and remained equal in both test periods. With the help of the questionnaire, this was attributed to the more future-focused motivation perspectives of the late learner, while the earlier learners did not report this perspective. That this leads to the late learners catching up is not a surprising finding, as many motivational theories ascribe future goals as a strong motivational factor, but why do not the early learner possess this motivation? This is what the qualitative essay helped reveal, giving insight that would be difficult to achieve with only the quantitative measures. The essays revealed that the early-start learners expressed negative attitudes towards the EFL-environment, including low belief in the efficacy of in-school

learning, and a negative opinion of the teacher or the subject of English (Pfenninger & Singleton, 2016, p. 333-335). These nuances would have remained hidden if not for the qualitative addition to the study, supporting Ushioda's claims on the importance of qualitative methods.

Ushioda was not the only researcher that looked at the qualitative element of individual differences (ID), Zoltan Dörnyei also developed theories on ID in language learning. Dörnyei's work on ID's extends beyond motivation. He has explored various personality factors, cognitive styles, and other personal characteristics that influence how individuals learn a second language. For example, he has looked into how learners' self-efficacy, anxiety, and willingness to communicate can affect their language learning process and success (Dörnyei & Skehan, 2003; Dörnyei & Ushioda, 2021). In more recent years, Dörnyei has incorporated the Complex Dynamic Systems Theory (CDST) into his research on individual differences and motivation (Dörnyei & Ushioda, 2021, p. 76-80). The CDST hypothesizes that language acquisition is a complex, dynamic process influenced by a multitude of interacting factors, and not only linear causality (Dörnyei et al., 2015; Dörnyei & Ushioda, 2021, p. 78-79). The points Dörnyei brings up are important to consider even when studying motivation and proficiency quantitatively, and will be discussed when looking at the results of this study.

2.2.4 Quantitative methods are still dominant: the practical challenges of qualitative and mixed method studies in L2 learning motivation

Despite the fact that there has been a shift towards qualitative methods in the field of language acquisition and motivation, the most applied method standard is still the quantitative one. In two separate reviews of the L2 learning motivation, both Boo et al. (2015), examining the period of 2005-2014, and Mahmood & Yousefi (2022), examining the period of 2010-2019, found that quantitative methods are most common. Mahmoodi & Yousefi (2022) examined 94 empirical studies on language learning motivations, published between 2010 and 2019. The studies were taken from six research journals, all highly regarded within the field of L2 motivation. The results show that out of the 94 studies, 48 studies used quantitative methods only, while only 21 studies were purely qualitative in their design. The remaining 22 studies employed mixed methods (Mahmoodi & Yousefi, 2022, p. 281). Why is it that quantitative methods are still dominant? In this section, the three options of quantitative, qualitative, or mixed methods and why one might deploy one over the others will be presented in relation to

L2 learning motivation as discussed in the review conducted by Mahmoodi & Yousefi (2022). Positive and negative aspects of each method will also be considered. Differences between quantitative and qualitative methods will also be exemplified through the study described in the previous section 2.2.3, Pfenninger & Singleton (2016), as it is a mixed methods study, showcasing aspects of both qualitative and quantitative methods.

The least common methods used are qualitative methods. However, as described in the previous section, the push towards qualitative methods have been strong the last 20 years within the field of L2 motivation. Ushioda's argument of capturing nuances is a relevant one, as well as Dörnyei's focus on individual differences and complexity, as it allows the researcher to get each individual's opinion on the researched matter (Ushioda, 2020; Dörnyei & Ushioda, 2021). The study by Pfenninger & Singleton (2016), which has previously been described in section 2.2.3, displays this, as the long-form essays written by the participants added nuance to the study. This also brings up another important element of qualitative studies in L2 motivation; interviews or other forms requiring long-form answers are the most commonly deployed method within qualitative studies (Mahmoodi & Yousefi, 2022). Questionnaires are less common; this is most likely caused by the fact that they do not have the same ability to capture nuances as interviews. Fixed-answer questionnaires might not provide more insight than static quantitative data, eliminating the advantage and reasons for using qualitative methods. If we then consider interviews and other long- and free-form answers, as they seem to be the optimal option for qualitative studies in L2 learning motivation, why are they not used more? One of the major reasons can be argued to be time- and resource-constraints. If one wants to capture data from a larger group, conducting and analyzing interviews is an arduous process that requires a considerable amount of time spent on each individual in the study and their respective data. One way to counterbalance this would be to focus on a smaller group of participants. This leads to fewer data points in the study, but more data per participant. However, this may lead to less confident correlations in the data than if additional participants partake. To summarize, qualitative methods capture nuance and individual factors at a greater level but are also resource-intensive and often cover fewer participants than other studies.

Mixed methods are the second-most common method used when studying L2 learning motivation. A mixed method study employs both qualitative and quantitative methods in combination. In this way, one can both capture the nuance that qualitative measures provide, but also the structured and analyzable data that quantitative studies provide. Again, the study by Pfenninger & Singleton (2016) showcases this. The quantitative data from the

questionnaires and proficiency test allows the researcher to analyze the correlation between motivation and proficiency, while the qualitative data provides context for the findings. From this perspective, the mixed methods can seem like the best of both worlds when it comes to studying L2 learning motivation, and this is also what Mahmood & Yousefi (2022) concludes (p. 282-286). However, as the advantages multiply by combining methods, so do the amplification of one disadvantage, namely research capacity. Again, as with qualitative methods, the resources and time needed to be able to conduct a study of this design is large. This is strengthened by the fact that for the quantitative data to be relevant, one needs data from a group of a certain size, meaning that the qualitative data one has to analyze is also more extensive. Therefore, mixed method studies are often large in extent; for example, Pfenninger & Singleton (2016) is a study that spans three years. To summarize, mixed methods have the benefit of both capturing nuances as well as robust quantitatively measurable correlations. The large disadvantage that follows this is that the studies are even more resource-intensive than qualitative studies and are not always feasible to conduct.

Quantitative methods are still dominant within L2 learning motivation studies, and this is not without reason. Data collected with quantitative measures in this field allows the researcher to collect data from a larger number of participants while spending less time than when collecting qualitative data. In this study, a quantitative approach was taken to be able to collect a substantial amount of data in the course of a short period of time. Thus, it was possible to include a total of 44 participants, as the data could be collected simultaneously from all the participants that attended the same class (the method is detailed further in section 3). The use of quantitative methods makes it possible to include a larger number of participants, which also makes the data more robust than data from fewer participants. In addition, statistical analysis follows standard procedures, making interpretation of significance easier, both regarding replicability and comparability to other studies. The downside of the quantitative method is then that one can lose the nuances behind the correlations found. However, data collection is less resource and time-intensive, allowing more studies to be conducted. To summarize, quantitative methods provide the possibility to measure clear correlations within larger groups of participants. The data can be examined through established statistical analyses, contributing to making the findings more robust. The downside is that some nuance is lost. Yet, the resource aspect, as well as the quality of analysis, is a likely reason as to why quantitative methods still dominate in the field of L2 learning motivation, and this is also the reason why it was chosen for this study.

2.3 Method preferences in acquiring English

The investigation of method preferences in learning English is central when examining the relationship between motivational aspects and language proficiency, that is why it will be tested in this study. Such preferences may mirror underlying motivations, providing insights into the observed variability in motivational factors. The hypothesis of this study states that production tasks will be preferred by HPLs; there are several reasons for this assumption. Production is often considered harder than comprehension, and anxieties can be higher in a student when producing output than when comprehending input (Trebits, 2016). In addition, method preferences can be argued to be another measure of motivation, but at a more fine-grained level. Method preference could be reformulated as motivation to use methods in EFL-learning. This section aims to discuss the theoretical underpinnings of how various method preferences might impact proficiency.

The choice between production and comprehension as preferred methods for English acquisition can be closely linked to the learner's objectives. If comprehension is their main focus, understanding English might be their main concern. This focus aligns with the concept of value in EVT, if one considers the value placed on the comprehension skill. Value here can come in the form of being able to comprehend English one meets in daily life, such as understanding a website or a video-game. In contrast, a preference for production may reflect deeper integrative motivations as described by OIT and Gardner's integrative orientation (Ryan & Deci, 2020; Gardner, 2006). Production can be argued to facilitate an individual to integrate to a larger degree with the language and associated culture, by making interaction possible, not only observation, as is the case with comprehension. Because of this, An HPL with higher levels of integrative extrinsic motivation, or an integrative orientation, might prefer production to a larger degree than an LPL, as it grants them more clear tools of integration and engagement with the second language. This preference can be a reason for becoming an HPL, as integration would lead to more immersive learning, which in turn can lead to more successful acquisition, as described in section 2.1

When considering oral versus written methods, the preferences of HPLs remain unclear based on theory. On one hand, written tasks have shown to pose greater difficulty than oral ones, particularly among younger learners, which is the demographic participating in this study. In Bourdin & Fayol (1994), a study showed that written production was harder

than oral production for children (ages 7-10). This was shown by testing them in a recall task both orally and in writing. It was conducted in their L1, but can be argued to have implications for L2 as well, as the study suggests that cognitive load and orthographic complexity make written tasks more demanding (Bourdin & Fayol, 1994, p. 614). According to these findings, writing is more difficult than oral production, but there are also other factors to consider. Anxiety in L2 production can lead to avoidance of production, and this is experienced more strongly in oral production than written production. Trebits (2014) investigated this and found that anxiety about speaking was significantly higher than anxiety about writing in 18-year-old L2 students. Given these contrasting elements, it is challenging to definitively determine whether oral or written methods are uniformly preferred by either LPLs or HPLs.

2.4 Summary of the theoretical background

In the background section, the classroom environment for EFL-learning, motivational theories relevant to L2 learning motivation, and method preferences as measure of motivation has been presented. The classroom environment has been explored both as a general concept, in how it differs from a natural environment, but also more specifically, in how a Norwegian school's classroom is regulated and practiced. Both are relevant for understanding the environment of this study better. Various cognitive motivational theories have been presented, such as the SDT and OIT that explore the scale of extrinsic to intrinsic motivation (Ryan and Deci, 2020), and the EVT (Atkinson, 1957) and SET (Bandura, 1977) that focus more on the learner's belief in themselves and the value of the performed activity. Moreover, Socio-psychological motivational theories in relation to L2 learning have been explored, such as Gardner's socio-educational model, and especially his key terms instrumental and integrative orientation (Gardner, 2006). The Dörnyei and Ottó Model of L2 Motivation and Dörnyei's L2MSS (Dörnyei, 2005; Dörnyei & Ushioda, 2021), bringing in the element of stages in a motivational process, as well as the focus on the learner's identity and self-image. A qualitative shift in how L2 learning motivation have been by presenting Dörnyei's & Ushioda's concepts concerning individual differences and nuances in the learning process that are not always captured by quantitative measures (Dörnyei & Ushioda, 2021). All these theories have been presented as they are relevant in exploring how motivation affects proficiency, and will be used in the discussion to explain the results of this study. Lastly, in relation to motivational theories and study paradigms, qualitative, mixed, and quantitative

methods usage in exploring L2 learning motivation and proficiency is presented, in an effort to explain why quantitative methods are still most common, and deployed in this study. Finally, method preferences and their relevance for L2 learning motivation and proficiency is presented, in order to explain why they are a part of this study.

3 Method

This study was part of a larger study on Norwegian primary school students investigating to what extent explicit teaching of word order affects how target-like the students are in production of this word placement in English, as well as a study on how extramural activities affects proficiency. In collaboration with PhD-candidate Helene Jensberg, data was collected in three different towns of Northern Norway from three different schools, testing a total of 93 participants. The full data collection consisted of multiple proficiency tests, an extensive questionnaire, and pre- and post-tests after conducting an intervention study (see Jensberg in prep for further details). The subset of tests used for this study were one of the proficiency tests and certain statements from the questionnaire, designed to cover the topics of motivation and method preferences for learning EFL. These selected statements were designed on the basis of OIT, discussed in section 2.2.1.1. All the testing for this study was done in the pre-test phase of the larger study, in the span of one to two days per class of students.

The current chapter will provide an overview of the methodology used in this study. It starts with some information about the participants, then goes on to explain the structure of the questionnaire and proficiency test that was deployed. Lastly, the formatting of the data material as well how the analyses were conducted will be described.

3.1 Participants

The data collection for this study was conducted at two of the three different primary schools, in three different classrooms of students, two fifth grade classes and one fourth grade class. The number of tested participants from the different classes were 14, 15 and 15 students respectively. The ages of the students varied from eight to ten years old, and almost all of them reported that they started learning English in 1st grade, correspondingly three or four years ago, depending on the current grade they were attending. All of the students had

Norwegian as their L1, but seven of them also had exposure to another language at home. The other separate languages were Romanian, Spanish and French. The students' proficiencies in these languages were not assessed. There was a ratio of 60% females and 40% males in the selected data for the study. As described, the data used in the current study was part of a larger data collection, gathering data for multiple studies (see Jensberg, in prep.). 44 of the 93 students were eligible for this study due to their completion of the questions about motivation and learning method preference in the questionnaire and the proficiency test used.

3.2 Questionnaire

The questionnaire used in the collection of studies consisted of general questions about age, gender, and language background, as well as questions about extramural activities in the students' L1 as well as L2. It also included statements about method preferences for learning English, and motivations for learning English. These latter ones were the ones designed specifically for this study. The whole questionnaire was presented to the students in Norwegian. Two classes of students filled out the questionnaire digitally by computer or tablet, while one class had to complete it by hand, as there were no digital devices available. All the students had a researcher available in case there were any questions related to filling out the survey, to avoid any misunderstandings surrounding the meaning of the given questions. The students were also given guidance on how to fill out the questionnaire correctly before starting. Some students experienced difficulties with reading certain questions or statements, or writing answers to some of the survey items. In those cases, a researcher would read the question or statement and its alternatives to the student, and the student would then provide an answer that the researcher could then write down. This was done to eliminate the factors of general reading and writing proficiency affecting results, as it is natural variation in these factors among the students, especially at the age they were at the time of testing.

There was a total of seven categorical statements about method preferences and eight categorical statements about motivations for learning English. The statements were designed with possible answers given on a four-level Likert scale. The method preference questions are

provided below for illustration.

Jeg synes det er gøy å lære engelsk...

i dette skjemaet skal dere svare på hvordan det er mest spennende eller gøy å lære engelsk. Nedenfor er en rekke eksempler på måter dere kan lære engelsk. Marker det alternativet som er riktig for deg. **Jeg synes det er gøy å lære engelsk...**

	Helt uenig	Litt uenig	Litt enig	Helt enig
...på skolen: lesing *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...på skolen: oppgaveløsning *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...på skolen: snakke engelsk med andre i klassen *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...hjemme: lekser der man må skrive *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...hjemme: lekser der man skal snakke *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...hjemme: se på videoer (YouTube eller film for eksempel) *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...hjemme: snakke engelsk som ikke er lekser (for eksempel mens man spiller eller med venner) *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Fig. 3. Statements about method preferences

“**1. I think it is fun to learn English... ...at school: reading**” is the first of the statements. Its intent is to make the student answer about their opinion on a written comprehension task. All the questions are prefixed with the phrase “**I think it is fun to learn English...**”, and are continued in the following manner:

“**2. ... at school: task solving**” (intended to cover written production)

“**3. ...at school: speaking English with other people in class**” (intended to cover oral production)

“**4. ...at home: homework where you have to write**” (intended to cover written production)

“**5. ...at home: homework where you are supposed to speak**” (intended to cover oral production)

“**6. ...at home: watching videos (For example YouTube or a movie)**” (intended to cover oral comprehension)

“**7. ...at home: speaking English that is not homework (for example while gaming or being with friends)**” (intended to cover oral production).

The idea was that it would be intuitive for a child aged 8-10 to understand what was being

asked, therefore the formulations of the survey items are quite basic in nature. The alternatives for answering on the statements were: Totally disagree, somewhat disagree, somewhat agree, totally agree. The decision behind these possible answers was partly made because it is a structure the students of that age are already familiar with, through taking national student surveys conducted by the Norwegian Directorate of Education and Training (2024b). The statements can, as showcased above, be categorized into four different categories: Oral production, written production, oral comprehension and written comprehension. Some of these categories are covered by a single question, while some have multiple statements within the same category. The motives behind this choice of categorization of the statements is that it covers the aspects of comprehension and production, as well as separating between oral and written methods. The statements also included elements about method preferences at school, preferences for homework, and preferences for extramural activities. These elements in the statements are not used in this study other than making sure the categories of production tasks (oral versus written) cover both the environment of home and at school, but were added to make the dataset eligible for further possible studies.

The statements on motivation were of similar formatting to the preference statements,

an illustration of them is shown below.

jeg ønsker å lære engelsk for...

i dette skjemaet skal dere svare på hvorfor dere ønsker å lære engelsk. Nedenfor er en rekke påstander om hvorfor du ønsker å lære engelsk. Marker det alternativet som er riktig for deg. **Jeg ønsker å lære engelsk for...**

	Helt uenig	Litt uenig	Litt enig	Helt enig
... for å kunne snakke med venner som snakker engelsk *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...for å bli kjent med nye mennesker som snakker engelsk *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...for å kunne snakke bedre engelsk i klasserommet *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...for å kunne se på engelsk tv og videoer (for eksempel YouTube) uten å trenge undertekster *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...for å spille videospill på engelsk *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...for å kunne lese engelske tekster *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... for å gjøre det bra i engelskfaget på skolen *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...fordi det gjør meg glad å lære nye ting og språk *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Fig. 4. Statements on motivations for learning English

“1. I want to learn English to... ..be able to speak with friends who speak English” is the first of the statements for the students to evaluate. The same four-point Likert-scale were used for possible answers. All the statements started the same way and were completed as follows:

“2. ...be able to get to know new people that speak English”

“3. ...speak better English in the classroom”

“4. ...be able to watch English TV and English videos (for example YouTube) without the need for subtitles”

“5. ...be able to game in English”,

“6. ...be able to read English texts”

“7. ...be able to perform better in the English subject at school”

“8. ...because it makes me happy to learn new languages and things”

The statements cover multiple reasons why a student might want to learn English, many of them in what could be categorized as extrinsic motivations by the SDT. The statements were

designed with OIT in mind. There is only one statement covering the intrinsic aspect, but this split can be argued to be natural as the scale of extrinsic motivation is much larger per the OIT, than the limited room of something being intrinsically motivating (see section 2.2.1.1 for further explanation of the OIT). The OIT was used as the framework for categorizing the statements on a scale of extrinsic to intrinsic motivation, splitting them into three categories within that scale. Statements 1, 3, and 7 were classified as **external extrinsic**. The reasoning behind this is that they all cover elements that deal with approval from others being a reason to learn English, especially 3 and 7. Statement 1 can be argued to be a bit more unclear, but it is more of external value as it deals with interaction and approval from others than the other statements that are internal to a larger degree. The **internal extrinsic** statements are statements 2, 4, 5, and 6. Statements 4, 5, and 6 cover elements of identification, in the sense that learning English is based on that the student value the activity the acquisition leads to, they identify with what they can use English for. In this instance, those activities are TV watching, gaming, and reading. These were designed to cover activities the majority of students in the selected age group are likely to engage in. Statement 2 can be argued to be even more internal, as it deals with the element of integration, being able to get to know new people who speak English. The most internal statement is the intrinsic one, namely statement 8, therefore it is placed in the category **intrinsic**.

3.3 Proficiency test

The proficiency test used for this study was a modified and shortened version of the Peabody Picture Vocabulary Test (PPVT) (Pearson, 2007). The PPVT-standard of testing consists of providing the participant with a stimulus word and choice of four depictions, one of them depicting the stimulus word provided. The participant is then requested to make a choice between the four depictions, scoring a point if they choose the correct one (Campbell, 1998). The test is designed to assess receptive vocabulary, and is often paired with a larger battery of tests to assess several other measures of proficiency, for example the Expressive Vocabulary test, assessing expressive vocabulary (Williams, 1999). However, receptive vocabulary has been shown to have strong correlation with overall proficiency. De Wilde et al. (2020) tested 765 participants with an A2 level of English, both with the PPVT and a test covering written and spoken production and perception. The tests showed that there was a high correlation ($r = .79$) between the PPVT and the wider covering Cambridge English Young Learners test (De Wilde et al., 2020, p. 360). Based on this, and due to time and resource restraints of this study,

only a modified PPVT-test was conducted to measure proficiency. The deployed test was structured in the same manner as the PPVT. 20 test items as well as two practice words were provided to the students, the test words being homophones in Norwegian and English (cup/kopp and drinking/drikke). The words used for the test were a selection taken from various sets of the original PPVT-test, and were as following: spoon, crying, money, fire, toad, farmer, empty, necklace, branch, measure, binoculars, tearing, diving, waistcoat, vehicle, grooming, tugging, hive, target, and delivering. The depictions were displayed on PowerPoint-slides, and the stimulus words were pronounced and recorded by a British-English native speaker (Jensberg, in prep.)

The illustration below showcases the actual scores from the test used in this study:

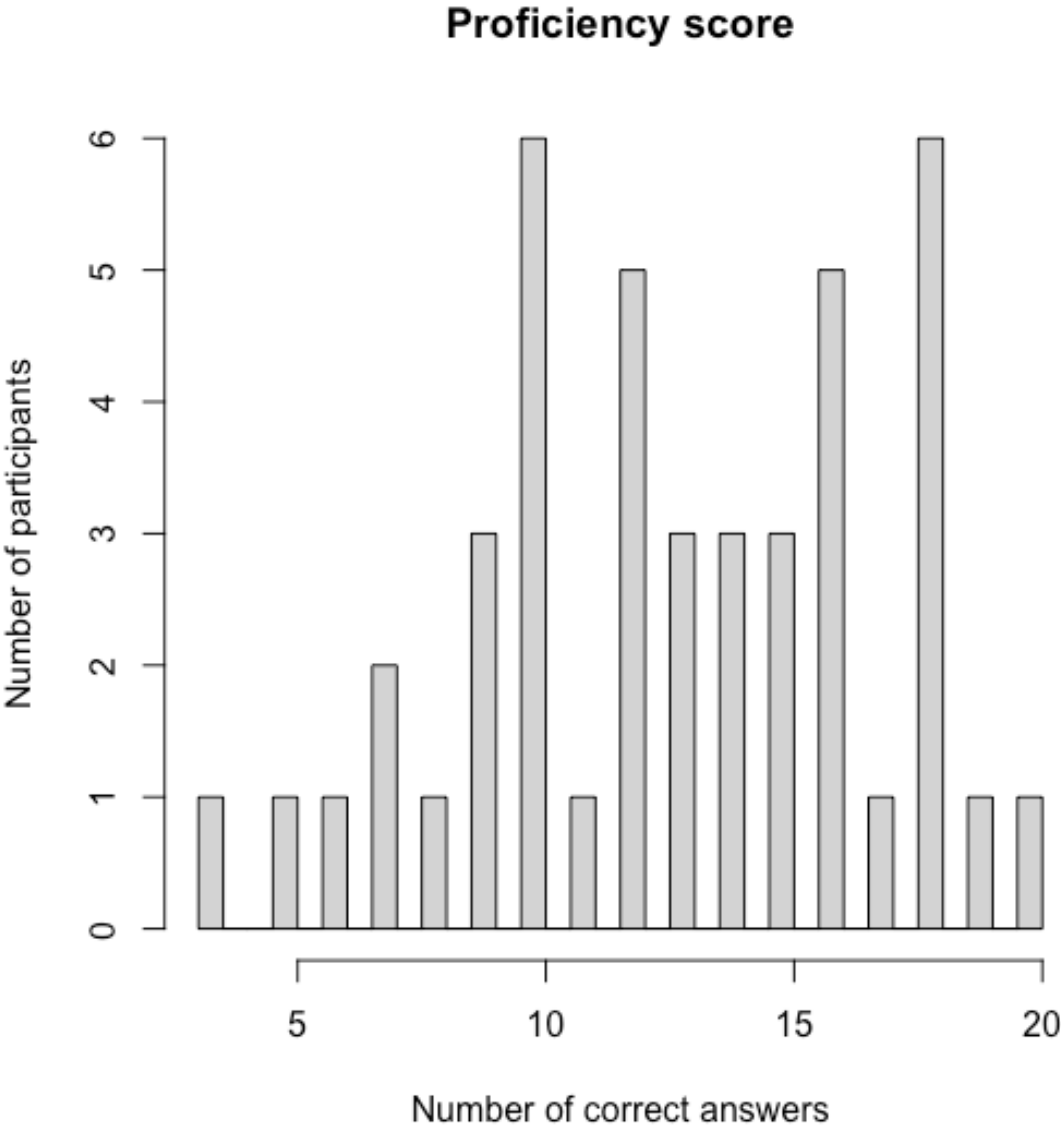


Fig. 5. Test scores by number of participants

The X-axis showcases numbers of correct answers, 0 being the minimum possible correct ones and 20 being the maximum possible correct answers. The Y-axis displays the number of participants with the corresponding number of correct answers. It is clear that there is a large variation in the test scores, with the minimum score displayed being 3, and the maximum being 20 ($M= 12.82$, $SD= 4.12$, $Mdn= 13$). This indicates that the test used was not too easy nor too difficult for the students, as nearly the whole range of scores are covered. One could argue that the fact that the results are somewhat positively skewed showcases that the test does not show the full range of proficiency found in the test group. However, with only two participants receiving the top scores of 19 and 20, it can be argued that it is unlikely that a more difficult test would alter the spread of scores significantly.

The test was conducted in the classrooms of the students, with all the present students participating simultaneously. The participants used digital devices, typically a tablet, to scan a QR-code leading them to an online survey where the posed question “what did you hear?” was presented for each test item. The alternatives for answering were the numbers 1-4. Illustrations of the alternatives were displayed on the PowerPoint slides, with the corresponding number listed next to it. The words were then played to the students, and they were queued to select the answer they thought were correct. The words were often played twice if needed, or sometimes thrice if a participant asked to hear it again. This is how most of the participants conducted the study. A number of students were not present when it was performed in the classroom, so they conducted the test individually with a researcher at a later point. In the individual cases, the students were made to state the answer orally (the number 1-4), instead of selecting it in a digital survey (Jensberg, in prep).

3.4 Data formatting and analyses

For the data-analyses, R was used. A generalized linear mixed-effects model (GLMM) was the main model used for analysis. The “glmer” function in RStudio was deployed to run the model, using the “lme4” package. The “dplyr” and “tidyr” packages were used for data formatting. In this section I will explain how the data were formatted to make the analyses possible, as well as certain assumptions made about the variables.

3.4.1 Formatting of the data

When the data had been collected, it was formatted into wide format for analysis. The subset of data I was working with, namely 44 out of the 93 participants and selected statements from

the survey, were filtered into a new data frame; the proficiency test scores were also placed into their own data frame. By keeping the raw test scores (with correct or incorrect answers to each question in the test marked as 0 or 1), the data was converted into long format using the “pivot_longer” and “left_join” commands, joining the two data frames together by participant ID-string, creating 20 rows per participant, one row for each of the questions in the proficiency test. In this manner, it is ensured that the dependent variable “score” is binary, as every single individual answer is included (in the form of incorrect = 0 or correct = 1), instead of one combined total score per participant on the proficiency test. The independent variables were created using the participants’ answers on the motivation and method statements. Aggregated scores using the “rowMeans” command were created in certain instances. As described in section 3.2, a number of the statements were grouped into the same category, this was the base for creating the aggregate scores with the same names as the categories. This includes **written production, oral production, external extrinsic motivation and internal extrinsic motivation**. The variables **intrinsic motivation, oral comprehension and reading comprehension** were kept in their original format, as there was only one statement per variable, and no need for aggregation. Additionally, one more variable was created for the analysis. This was **Other language than English**, and it was a binary variable indicating if the participants used another language than Norwegian or English to communicate at home. It was created by looking at answers to certain questions in the questionnaire, detailing what language the students speak with their parents and siblings. If they spoke a foreign language based on those questions, it was indicated with a score of 1 (0 if they did not) in the newly created variable. This variable was created to control if this wider language knowledge had an impact on their score results in the proficiency test.

3.4.2 Analyses

For the analysis in the GLMM, some assumption had to be made. The first assumption is that the distance between the statements ranked on a Likert scale were interpreted as items of equal distance by the students. If this is a valid method to interpret a Likert scale is debatable, but support for this does exist (see Joshi et al. (2015) for an in-depth overview of this topic). This has to be done to be able to interpret the effect of the variables on the proficiency test score. The second assumption is that the receptive vocabulary test is sufficient to showcase the varying levels of proficiency in the classrooms. This has been argued to be the case in section 3.3 by showing the spread of proficiency scores. With those assumptions made,

continuing the analysis is possible. For the dependent variable, I used the “score” variable, containing all the 20 individual answers to the proficiency test by every single student. The fixed effects of the model were the variables outlined in the last section: **written production, oral production, external extrinsic motivation, internal extrinsic motivation, intrinsic motivation, oral comprehension, reading comprehension** and **other language than English**. In addition to this, **task name** (the name of the tasks on the proficiency test, respectively task 1-20) and **group:participant** were used as random effects, to make the model more accurately reflect the structure of the data, leading to more reliable estimates of the fixed effects. The syntax in the **group:participant** variable denotes that there is an interaction between **group** and **participant**. **Group** represents which of the three classes the student belongs to, and **participant** indicates the student’s unique participant ID. In other words, each participant belongs to one group, and the group might influence the outcome of the dependent variable, but within each group, the participants are also unique, and there will be natural variation in the participants within each group.

What exactly does the model show? The GLMM modeled with these variables will firstly show if any of the fixed effects are significant in predicting the dependent variable. If any of the fixed effects are significant, they will show the average predicted increase or decrease in probability of a correct response on any given question in the proficiency test. The increase in probability will correspond with the value of any of the fixed effects, in this case 1-4 on the Likert scale for the statements given on motivation or method preferences. For further explanation, see the results section.

4 Results

In this chapter the results of the current investigation will be presented. Recall that the main aim of the study is to examine if different motivation-levels and -types affect proficiency-levels in early EFL-learners. By employing the method described in the last section, data was collected and analyzed to investigate this. In this section, the results of this analysis will be presented. The validity of the GLMM will be showcased, as well as further presentation of the significant variables in the GLMM. Below follows a summary of the GLMM, as shown in Fig. 6.

<i>Predictors</i>	<i>Log-Odds</i>	score	
		<i>CI</i>	<i>p</i>
(Intercept)	-0.40	-2.57 – 1.77	0.720
preference production oral	0.78	0.15 – 1.40	0.015
preference production written	0.30	-0.25 – 0.86	0.284
preference comprehension written	-0.14	-0.63 – 0.35	0.578
preference comprehension oral	-0.10	-0.58 – 0.38	0.687
intrinsic motivation	-0.09	-0.52 – 0.35	0.699
extrinsic motivation	-1.05	-1.72 – -0.37	0.002
identification extrinsic motivation	0.78	0.07 – 1.49	0.030
OtherLangNorEng	0.02	-1.01 – 1.05	0.968
Random Effects			
σ^2	3.29		
τ_{00} Group.x:Participant	0.94		
τ_{00} task_name	1.35		
ICC	0.41		
$N_{\text{Group.x}}$	3		
$N_{\text{Participant}}$	44		
$N_{\text{task_name}}$	20		
Observations	880		
Marginal R^2 / Conditional R^2	0.067 / 0.450		

Fig. 6. Summary of the GLMM

The model in figure 6 indicates that there are three significant variables, namely **preference production oral, extrinsic motivation, and identification extrinsic motivation**. These variables correspond to **oral production, external extrinsic motivation, and internal extrinsic motivation**. Illustrated in the sections below is the predicted impact of each of these variables on the dependent variable. First, however, let us confirm the validity of the model by checking for any outliers in the random effects by studying the underlying caterpillar plots. This will be done for the individual vocabulary items used in the proficiency task first (Figure 7), and subsequently for the individual participants (Figure 8). As illustrated by these figures, there are no significant outliers neither among the items nor among the participants. This strengthens the validity of the model.

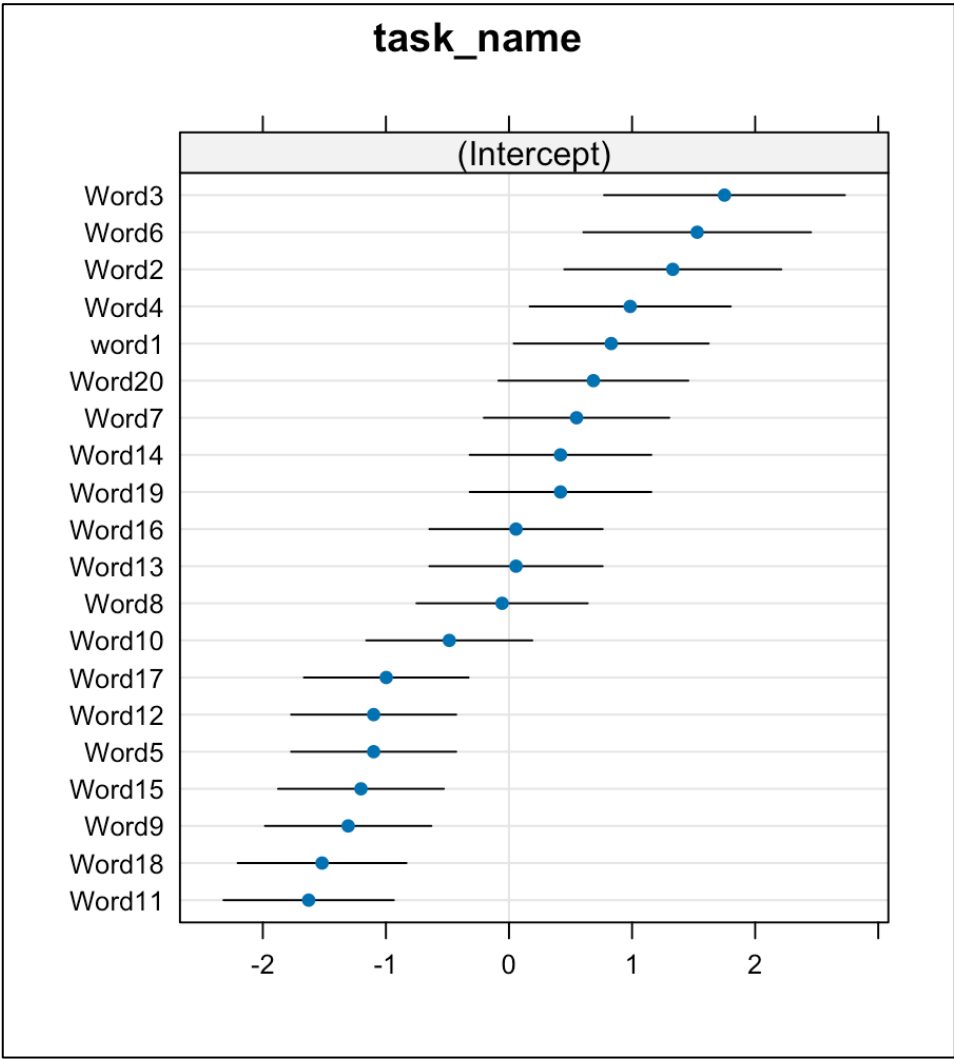


Fig. 7. Caterpillar plot of random effect **task name**

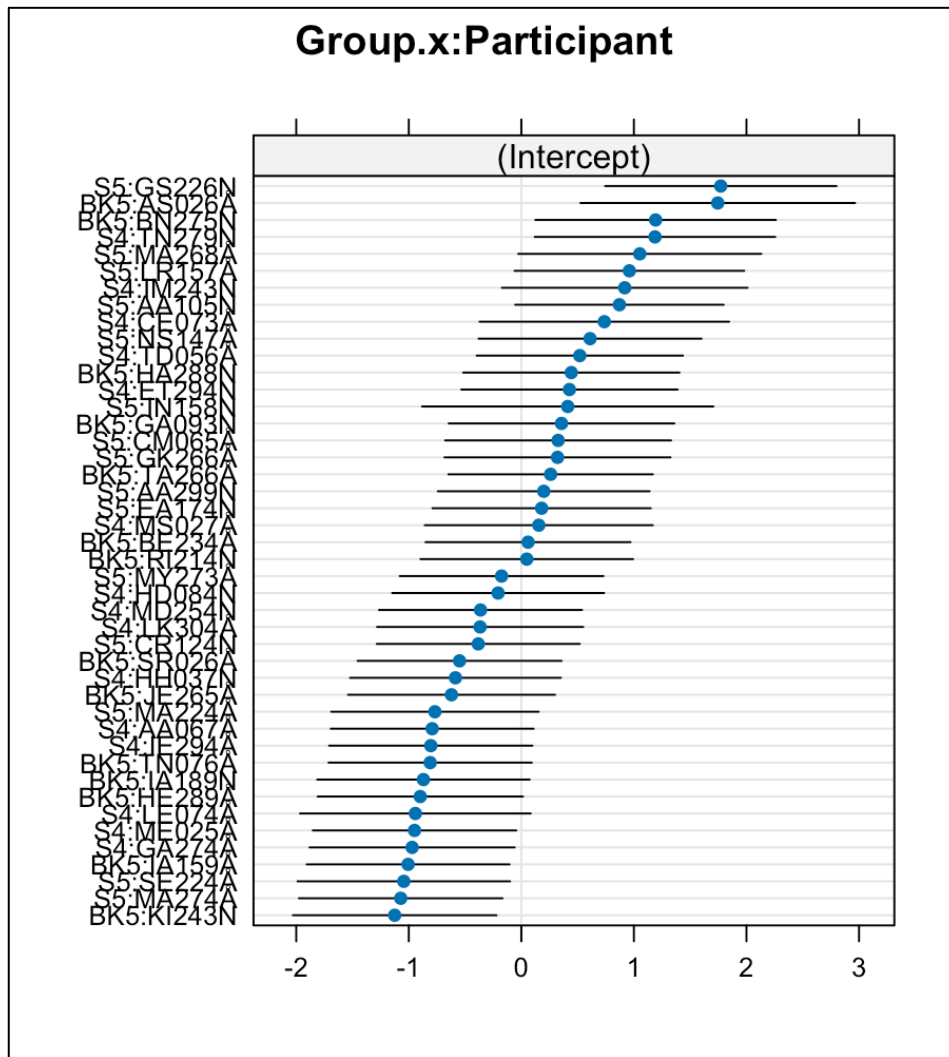


Fig. 8. Caterpillar plot of random effect **Group:Participant**

In the remainder of this chapter, the significant results will be presented in turn.

4.1 Method preference: oral production

One of the research questions of this master’s thesis pertains to whether there are any correlations between preferred learning method and proficiency. By having proficiency as the significant variable in the GLMM, the fixed effects show if they respectively affect proficiency in a significant manner. This was the case for oral production as a preference, it showed a strong positive correlation between the two variables. Figure 9 displays this relation. 1-4 on the x- axis refers to the Likert-scale answers provided by the participants. Since **oral production** is an aggregated score of two statements, it is also this aggregated score that is displayed on the x-axis. The participants’ score on the proficiency task is found on the y-axis. As can be seen from Figure 9, the more highly the participants rate the use of

oral production tasks in learning, the better they score on the proficiency task. With an average answer of 1 (totally disagree) on the statements about **oral production** and the preference for this method, the average predicted probability of scoring correctly on any proficiency test question is 41%. With an average answer of 2 (somewhat disagree), the average predicted probability of scoring correctly on any proficiency test question is 54%. With an average answer of 3 (somewhat agree), the average predicted probability of scoring correctly on any proficiency test question is 68%. With an average answer of 4 (totally agree), the average predicted probability of scoring correctly on any proficiency test question is 79%. The average predicted probability between answering 1 and 4 is then a 27% higher chance of answering correctly on any proficiency test question.

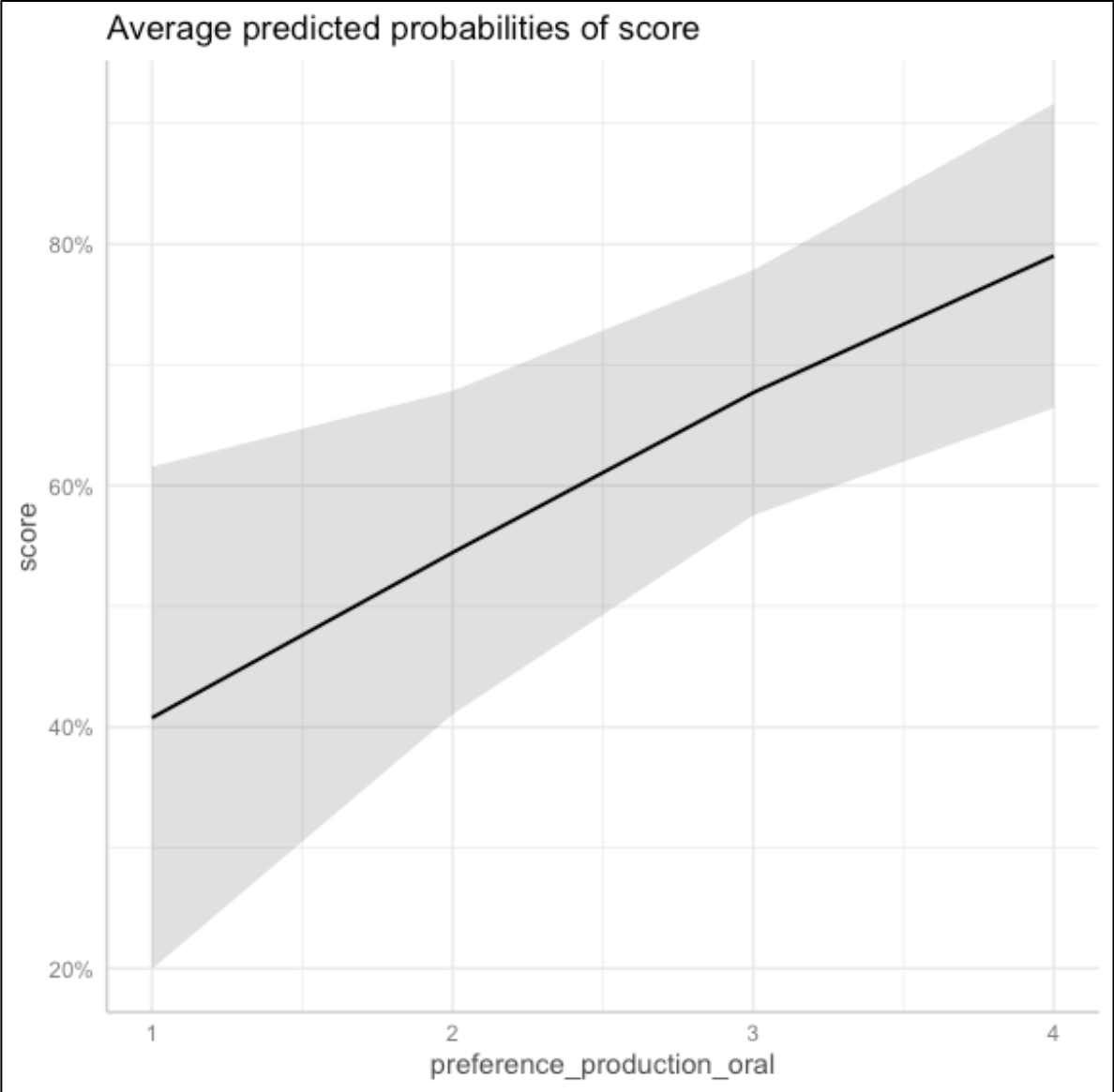


Fig. 9. The average probability of a correct answer on the proficiency task, based on the participants' answer on preference for oral production tasks.

4.2 Motivation: external extrinsic

Turning to the question of the relationship between type of motivation and proficiency, let us consider the effect of external extrinsic motivation on proficiency score. As a reminder, this type of motivation can be categorized by its external nature, for example in the form of rewards or avoidance of punishment. In the theoretical framework of the OIT, external extrinsic motivation is the type of motivation that is closest to amotivation. The results can be argued to support this, as this variable shows strong negative correlation with proficiency in the GLMM. This is illustrated in Figure 10. 1-4 on the x-axis refers to the Likert-scale answers given by the participants. Since **external extrinsic motivation** is an aggregated score of three statements, it is also this aggregated score that is displayed on the x-axis. Proficiency score is displayed on the y-axis. As illustrated in Figure 10, there is an inverse relationship between the degree to which the participants describe themselves as driven by external extrinsic motivation and their proficiency score. With an average answer of 1 (totally disagree) on the statements about **external extrinsic motivation**, the average predicted probability of scoring correctly on any proficiency test question is 88%. With an average answer of 2 (somewhat disagree), the average predicted probability of scoring correctly on any proficiency test question is 76%. With an average answer of 3 (somewhat agree), the average predicted probability of scoring correctly on any proficiency test question is 61%. With an average answer of 4 (totally agree), the average predicted probability of scoring correctly on any proficiency test question is 43%. The average predicted probability between answering 1 and 4 is then a 45% lower chance of answering correctly on any proficiency test question.

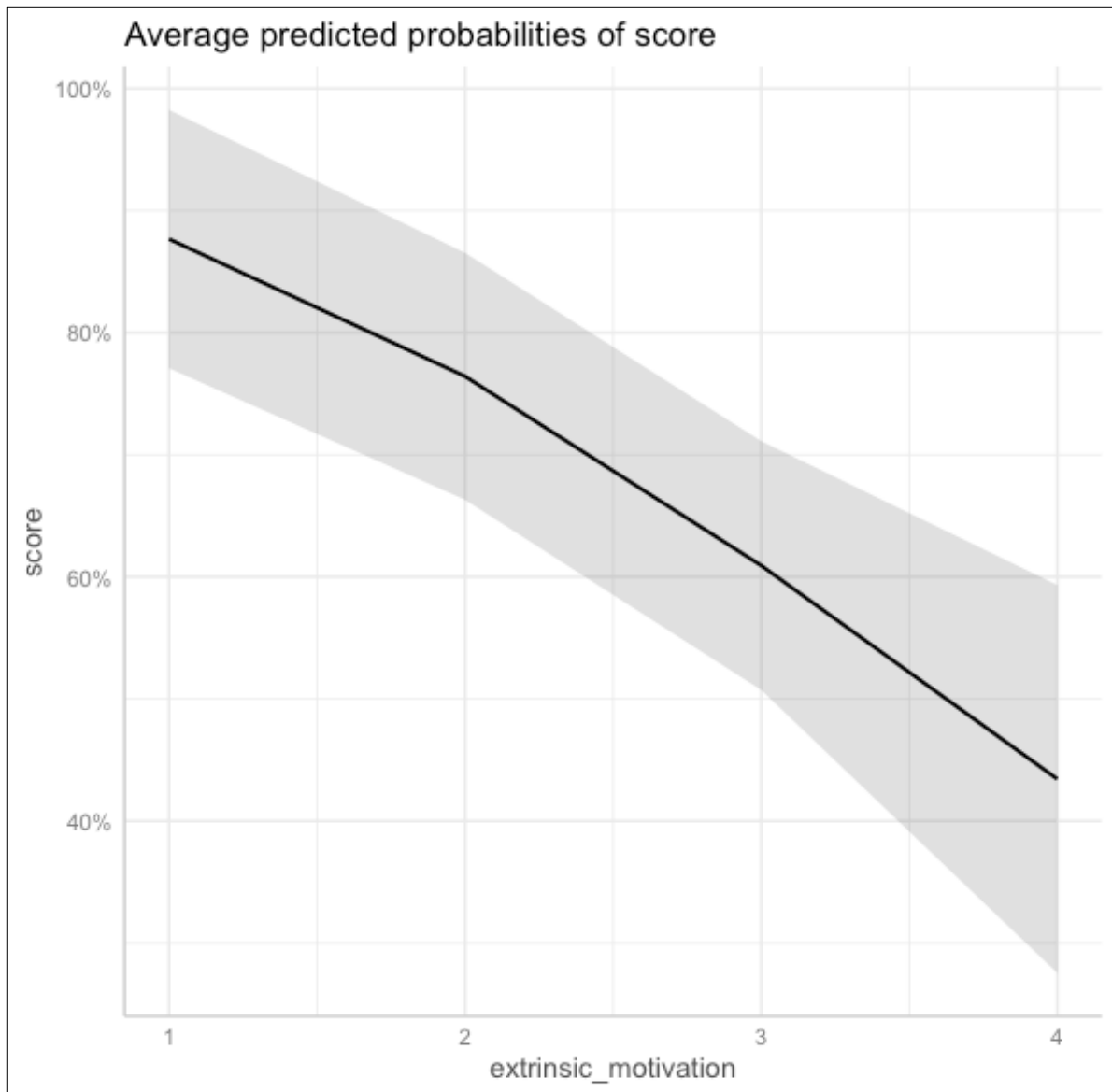


Fig. 10. The average probability of a correct answer on the proficiency task, based on the participants' answer on external extrinsic motivation statements.

4.3 Motivation: internal extrinsic

Last of the significant results is the factor of internal extrinsic motivation. The results here show a strong positive correlation with proficiency. This corresponds with OIT, as only intrinsic motivation is a stronger motivational type in the framework. Why intrinsic motivation is not significant in this study, is discussed in section 5.3.1. Internal extrinsic motivation's correlation with proficiency is showcased in Figure 11. 1-4 on the x-axis refers to the Likert-scale answers given by the participants. Since **internal extrinsic motivation** is an aggregated score of four statements, it is also this aggregated score that is displayed on the x-axis. Proficiency score is provided on the y-axis. As illustrated in Figure 11, the more the

participants describe themselves as driven by internal extrinsic motivation, the higher their proficiency score is. With an average answer of 1 (totally disagree) on the statements about **internal extrinsic motivation**, the average predicted probability of scoring correctly on any proficiency test question is 37%. With an average answer of 2 (somewhat disagree), the average predicted probability of scoring correctly on any proficiency test question is 51%. With an average answer of 3 (somewhat agree), the average predicted probability of scoring correctly on any proficiency test question is 64%. With an average answer of 4 (totally agree), the average predicted probability of scoring correctly on any proficiency test question is 76%. The average predicted probability between answering 1 and 4 is then a 25% higher chance of answering correctly on any proficiency test question.

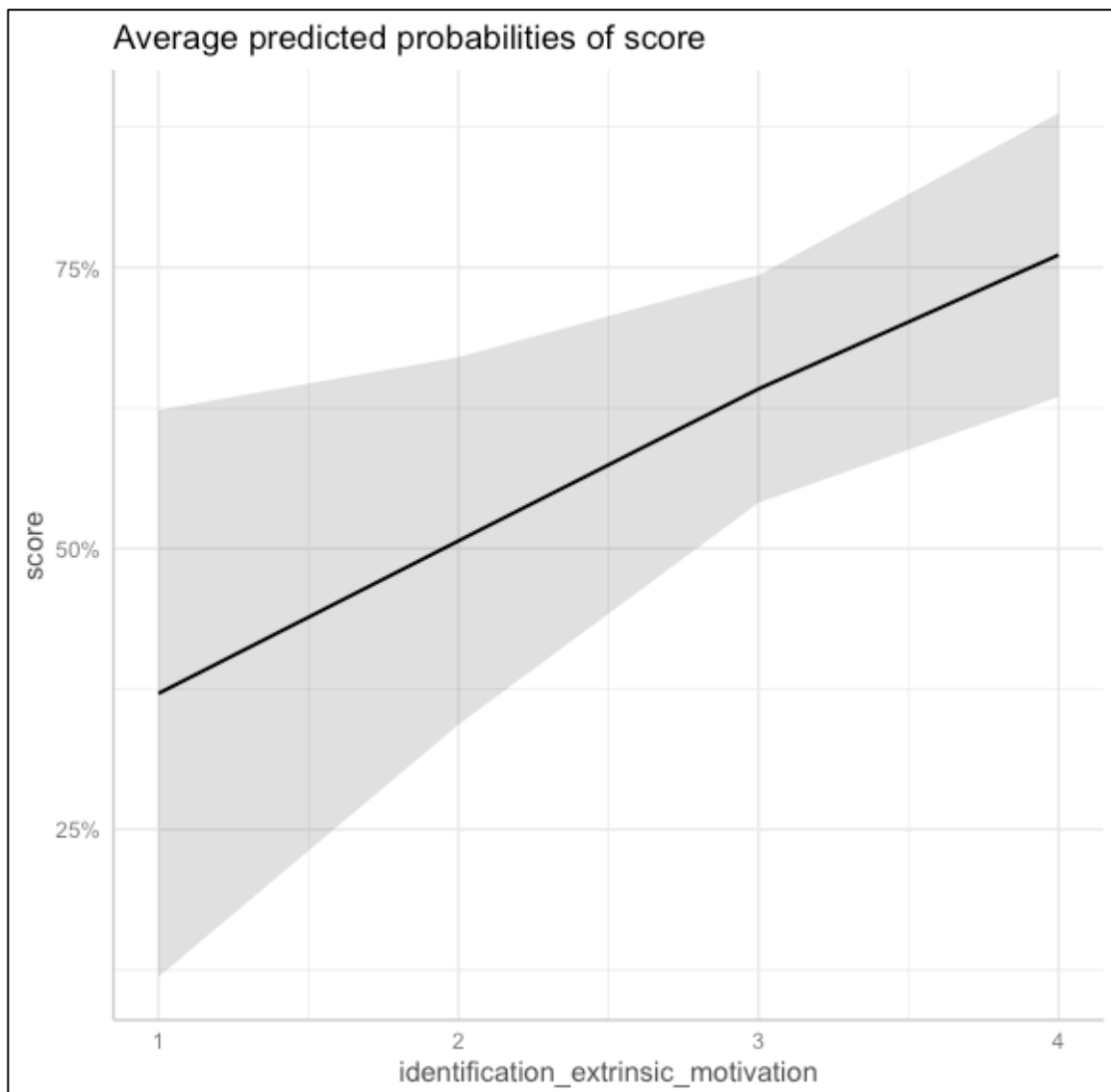


Fig. 11. The average probability of a correct answer on the proficiency task, based on the participants' answer on internal extrinsic motivation statements.

5 Discussion

in this section I will discuss the findings from the results and how they correspond to my **RQ1, RQ2** and **hypothesis**. This will be done through discussing the significant variables. There are clear trends in the data, as displayed in the results, but there are also reasons to consider that there can be individual factors behind proficiency. The focal point of discussion will be the HPLs and LPLs, more specifically what we can learn about them from the analysis. By considering the results in light of the various motivational theories described in section 2, I will argue how the results can be explained. The end goal is to inform how teaching and EFL-learning in a classroom setting can be conducted to improve proficiency by looking at the motivational factors in the student population. The basis for this is the aforementioned RQ's and hypothesis: **RQ1:** Do different types of motivation and motivation-levels in early EFL-learners affect proficiency-levels? **RQ2:** Do method preferences in early EFL-learners affect proficiency-levels? **Hypothesis:** Low proficiency learners (LPL) will have a lower level of motivation overall, but particularly lower intrinsic motivation. High proficiency learners (HPL) will have a higher level of motivation overall, especially intrinsic motivation. In addition, production tasks will be preferred by HPLs, and comprehension tasks will be preferred by LPLs.

5.1 Oral production as a preferred method in HPLs

As shown in section 4.1, having a preference for oral production in English positively correlates with a high score on the proficiency task. 50% represents the chance score on the proficiency scale, with an equal chance of answering correct or incorrect, and participants who answer 2 on the Likert scale to the question(s) pertaining to a preference for oral production, indicating mild disagreement, on average barely surpasses this threshold, with 54%. Yet this is considerably higher than those who answer 1 (strongly disagree), with 41% correct on the proficiency task. The larger differences are at the top end of the scale, with those providing positive answers (3 or 4) to oral production scoring 68% and 79% on average. This clearly shows that HPLs prefer oral production, suggesting that certain method preferences characterize the HPL learners in this study. What is the cause behind this? Perceived task difficulty, anxiety or learning environment can be argued to be some of the reasons, each of these factors will be discussed below.

5.1.1 Task difficulty

The difficulty of any given task can be argued to be a factor when a student decides whether it is something that the individual is inclined and motivated to do. Both Atkinson's EVT (1957) and Bandura's SET (1977) argue that the learners' belief in their ability to do a task and achieving success in the task has a major influence on motivation. As a reminder, The EVT states that that expectancy of success plus value in the action or goal equal motivation. The SET presents a similar notion, but states that it is the belief in your own abilities, or efficacy, that increases your motivation and subsequently leads to the success of an action. Presented as a practical example, one can say that when a student believes that oral production is something within their repertoire of mastery, the inclination to prefer this task is higher than if the task is perceived as too demanding. The value put on oral production can further increase this preference. How does this lead to a preference for oral production in HPLs and not in LPLs? The true answer to this is most likely extremely complex and hard to measure, but there are certain things that can be argued to be underlying reasons for this. One of the reasons could be perceived task difficulty. As my hypothesis states, it was expected that HPLs would have a stronger preference for production than LPLs, this is due to stronger motivation for acquiring production skills, as detailed in section 2.3. To reiterate the main points given in that section: Production can be argued to be more difficult than comprehension, and motivations for production might stem from a learner's motives to be able to communicate and integrate with speakers of the language. The LPLs might see this as less important, and in turn find production tasks less valuable and also too difficult, and in turn disagree with the statement that this is a preferred method in EFL learning. The HPLs can be argued to be at a level where production is thought of as feasible, and therefore do not mind these kinds of tasks, and see the integrative value of them. That this is only found with oral production and not written production may be due to learning environment and anxieties, as will be discussed further in section 5.1.2.

If the result of the method preference analysis in fact stems from the line of reasoning given above, it should not affect teaching practices to a large degree, other than inform us that this is the case, as method preference then is a product of proficiency rather than the proficiency being a product of method preference, a task becomes easier with increase in production, therefore this preference-split exists. However, this might not be true; there is an argument to be made that the participants that prefer oral production have achieved higher proficiency because they have wanted and chosen to use the language. which then has led to a

more successful acquisition process. In Nagata (1998), 26 L2 students of Japanese in San Francisco participated in a study to find out if comprehension or production tasks led to higher proficiency in certain syntactical structures. Environmental factors were miniscule for this study, as both the production and comprehension tasks were conducted with a computer, eliminating interlocutor interference. The study spanned a short time-frame of only four one-hour sessions plus a pre- and post-test, where half of the study participants focused on production tasks, and the other half focused on comprehension tasks. Despite the short time-frame, the production task group saw a larger improvement overall, scoring higher or equal in all aspects of the test compared to the comprehension group (Nagata, 1998, p. 167-168). This alone is not enough to conclude that production is superior for increasing proficiency, but it showcases that it can be argued that the preference for oral production in the HPLs in this study may have led them to more successful acquisition than in the other participants, especially when there are no other significant method preference differences. Furthermore, considering that classroom language acquisition substantially differs from naturalistic environments, as discussed in section 2.1, a leaning towards oral production could arguably afford learners greater English exposure, mimicking a natural setting to a larger degree (Dahl & Vulchanova, 2014). Such exposure, in turn, might facilitate proficiency advancement, highlighting the potential benefits of integrating preferences for oral production into educational goals.

5.1.2 Anxiety and learning environment

In the SDT's and OIT's approaches to motivation, anxiety is described as one of the factors causing amotivation (Deci & Ryan, 2020). This is, as shown in Fig. 1, the leftmost category on the extrinsic to intrinsic scale, the rightmost and most motivating category being intrinsic motivation, and the middle of the scale consisting of different categories of extrinsic motivations. Anxiety is also something that could affect method preferences to some degree, as anxiety of production is something that could lead certain students to avoid production tasks, especially oral production tasks. Trebits shows in her study from 2016 that anxiety was at much higher levels in 18-year-old L1 Hungarian L2 English students when producing spoken output than when producing written output in their L2 (Trebits, 2016). This can explain why oral production is a significant variable, while written production does not seem to have the same impact. Why would this then lead to HPLs preferring oral production to a larger degree than LPLs? It may be that learners with a lower proficiency experience more anxiety, as the chance of making errors would be higher. It is also likely that students that

experience higher levels of general performance anxiety in the classroom shy away from oral production tasks to a larger degree than students with lower levels of general performance anxiety. This could then in turn lead to a group of low proficiency students in the classroom that avoids oral production tasks, leading to a lower increase in proficiency over time, as theorized in the previous section.

Individual differences and other factors such as the learning environment also play significant roles, even though they are not directly examined in this study. Ushioda (2009), and Dörnyei in his CDST (Dörnyei & Ushioda, 2021) emphasizes the importance of considering the subtleties of a learner's personality or social circles in shaping their method preferences. The classroom setting, where students frequently measure their performance against their peers, can profoundly influence their sense of competence and, consequently, their motivation. This dynamic underscore the critical role of the teacher in fostering a classroom environment that students perceive as supportive and non-threatening. Such an environment could mitigate anxiety and encourage engagement with more challenging tasks, including oral production, potentially benefiting language acquisition for all learners, irrespective of their initial proficiency level.

5.1.3 Summary

The question of whether a learner's preference for oral production shapes their proficiency or whether their proficiency dictates their preference for oral production is complex and indeterminate. The cause-effect relationship between motivation and proficiency does not only go in one direction, but rather one of interdependence. However, the fact that learners of high proficiency in this study prefer oral production should not be overlooked. It might stem from them being more confident since they are performing better than others, or it might stem from an ID-factor such as a personal inclination towards oral engagement, which then again has resulted in them reaching higher levels of proficiency faster. Nevertheless, this can inform teaching practice of one thing: It suggests that fostering a proclivity for oral production in an EFL classroom environment is beneficial, as there are fewer opportunities to naturally practice this skill in these contexts than in other language learning settings.

5.2 External motivation: a marker of low proficiency

As shown in section 4.2, the higher the level of external extrinsic motivation a student reports, the lower the chance of a high score on the proficiency test. If a student strongly disagrees with the statements concerning external extrinsic motivation, they has an 88% chance to score

correct on average. On the other hand, if they strongly agree with the statements, the chance of correctness decreases to only 43% on average. The effect here is significant, and this is corresponding with current beliefs in some of the motivational theories discussed. The scale in OIT, given in Fig. 1, details how extrinsic external motivation is the closest to amotivation of the different motivational types. In a classroom setting, external motivational elements tend to be common, through traditional grading and feedback, which is an unfortunate fact when looking at the results of this study. In this section, I will discuss why what might be causing the negative correlation between external extrinsic motivation and proficiency.

5.2.1 External regulation and low self-efficacy in the context of Dörnyei

Even though external extrinsic motivation is a source of motivation and not amotivation within the OIT, it still shows a negative correlation with proficiency in the current study. Recall that in the aggregate score for external extrinsic motivation, statements of introjection are also included. When we look at how introjection is defined within OIT, it is described as “rewards or punishment, compliance/reactance” and “focus on approval from self or others” (Ryan & Deci, 2000, p. 61). These sources of motivation are external sources, such as earning a reward for completing an action, or trying to avoid disappointment or judgement from parents or the teacher. Although these can be strong sources of motivation, as reported by many students in this study, it can be argued that they are also distant sources of motivation, in the sense that they are external and not internal. In a study conducted by Weber, it was shown that the students’ external motivation and interest in the learning material were negatively correlated, while internal motivation and interest were positively correlated (Weber, 2003, p. 381). Thus, being driven by strong external motivation might suggest that one is learning for the “wrong” reasons, or at least not the reasons that will spark further interest and propagate motivation levels.

Let us consider external extrinsic motivation and the findings of Weber (2003) in a process-oriented manner by looking at it in the context of Dörnyei’s and Otto’s Model of L2 motivation (2005). In the Preactional Stage, an externally motivated student will be setting the goal of perhaps acquiring new vocabulary to please the teacher or practice speaking to not disappoint their parents. In the Actional Stage, the main motivational source can then be argued to involve the influence of parents or teachers, or perhaps other students. This can be argued to lead to low engagement with the content, perhaps also because of low interest in actually learning it. In the Postactional Stage, the main motivational influence, and possibly also the main goal, will be to receive feedback that either will strengthen or weaken the

student's approval of themselves. Now when the students evaluate the process and seek motivation for a new sequence of learning, the main goal can be argued to be to increase that approval rate. This can shift the focus from the actual learning process and acquisition to the reward or punishment, and make the student stuck in a loop of trying to live up to expectations instead of actually learning English. This becomes even clearer if we put it in the context of Dörnyei's L2MSS (Dörnyei & Ushioda, 2021): What will the students' ideal L2 self and ought-to L2 self consist of? The ought-to L2 self will be the strongest attribution to motivation and shaper of identity in the student. Fulfilling responsibilities and conforming to social norms because one "ought to" will dictate actions in the learning process. Necessity instead of interest and avoidance of negative outcomes. The ideal L2 self might not get a lot of space in such a student's life, the depiction of being a successful speaker in the future is not of main emphasis, and not rooted in desires, goals and interests.

When addressing the other side of the scale, we have to ask the question of why external extrinsic motivation is not of importance for HPLs. Again, there are most likely complex and multifaceted reasons behind this, but certain scenarios can be argued to be more likely than others. When having another motivational source that leads to successful acquisition, HPLs do not have to rely on external motivation. Conforming to norms and not disappointing their teachers or parents might be of importance to them, but because of their performance being high, it is likely that they do not face a large amount of negative feedback. Positive feedback can also be argued to be of less impact if they receive it on a regular basis. Other factors, such as interest or fulfilling a goal of being able to perform certain actions in English is what they focus on instead. Not having to worry about what external sources think of their actions might leave them with more cognitive power to use on actual learning rather than on the surrounding factors. This might also be a reason why they have been able to reach higher levels of proficiency than the learners with a strong sense of external motivation. HPLs motivational sources will be discussed further in section 5.3

5.2.2 Summary

To summarize this section, as we have seen, external extrinsic motivation is stronger within LPLs than in HPLs. Acquiring a language is an interactive and complicated process, and involvement in learning seem to be important for successful acquisition. When we take focus away from the learning process and goals within it and shift it to external approval, it can be argued to lead less successful acquisition process of English. The HPLs do not report high levels of external extrinsic motivation, and in turn, does not spend time focusing on these

factors. In turn, the less resources a student spends on trying to please or conform to standards set by people surrounding him, the more resources they can spend on learning the language.

5.3 Internalized extrinsic motivation: The gold standard?

On the other side of the spectrum of proficiency, the results show that internalized extrinsic motivation has a large impact. The higher the level of internalized extrinsic motivation a student reports, the higher the chance of scoring correct on the proficiency test. If students strongly agree with the statements concerning internal extrinsic motivation, they have an 76% chance to score correct on average. On the other hand, if they strongly disagree with the statements, the chance of correctness decreases to only 37% on average. This contrasts with external extrinsic motivation and shows that the two have the opposite effect. Internalized extrinsic motivation stems from goals and interest internalized in the students; they want to acquire the language for their own benefit. This is not to be confused with fully intrinsic motivation, where one partakes in the process/action because it is enjoyable and the process/action itself gives inherent satisfaction. Why is internalized extrinsic motivation a clear marker for an HPL in this study? Why is not intrinsic motivation significant in increasing proficiency, but the less internalized internal extrinsic motivation is? These questions will be discussed in this section.

5.3.1 Why is not intrinsic motivation a significant measure?

In my hypothesis it was stated that a higher level of motivation overall would lead to HPLs, but also that particularly intrinsic motivation would have an effect. The reasoning behind this prediction was that according to the SDT and the OIT, intrinsic and internalized motivation is categorized as the gold standard for motivation (Deci & Ryan, 2000; 2021). The most internalized one is the one that would lead to the highest levels of motivation, which in turn would be assumed to lead to the highest levels of proficiency. This is shown not to be true in this study, and there may be several reasons for it. Let us consider the variable intrinsic motivation and the answers given by the students, by looking at a boxplot in Figure 12.

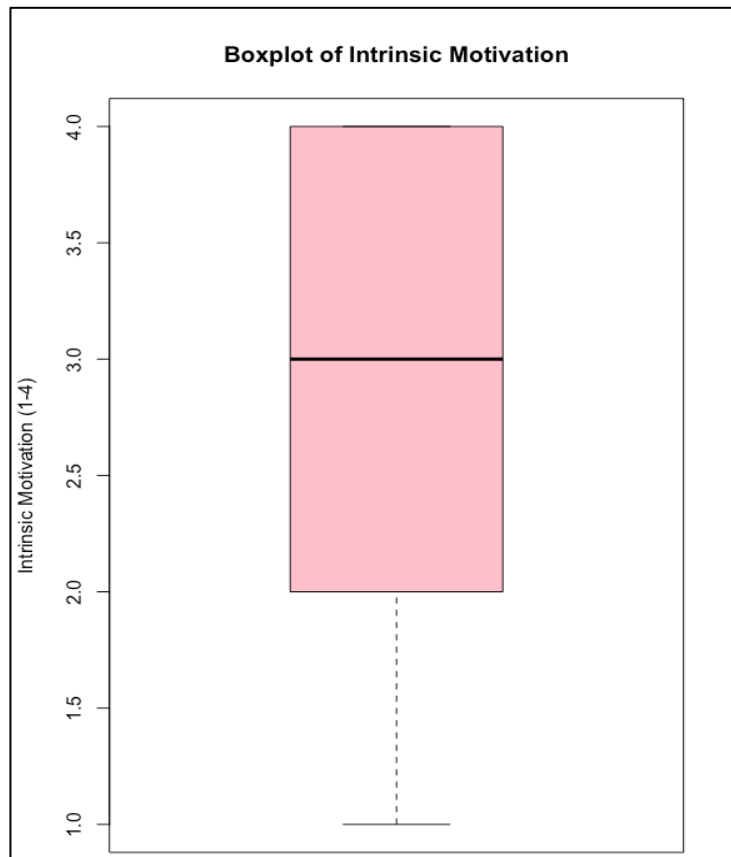


Fig. 12. Boxplot of the variable Intrinsic motivation. Y-axis expresses answers on the Likert-scale 1-4.

As seen by looking at Fig. 12, the variable for intrinsic motivation is strongly positively skewed, with only 5 of the 44 participants strongly disagreeing with the statement on intrinsic motivation. The median = 3, mean = 2.864, and the whole 3rd quartile is 4. The fact that most participants in this study mildly or strongly agree with the statement on intrinsic motivation means that the variable does not have any significant effect on proficiency. This in itself can be argued to be a good thing, as it means that most of the student population enjoy learning English. However, there exists a high degree of intrinsic motivation on average in the participants of the study, yet there is substantial variation in proficiency. Should not this motivation drive learning and proficiencies to a higher level overall? This would be an expected outcome. A possible explanation why this is not the case can be found in a study by Noels et al. (2000). The study examined how reported levels of motivation in L2 French learners, on a scale based on the OIT, corresponded with the typical factors driving L2 learning, in this case theoretical antecedents to variation in motivations hypothesized to correlate with intrinsic and extrinsic motivations. The study was conducted by making the learners answer a questionnaire. The theoretical antecedent variables were perceptions of

competence, perceived freedom of choice, anxiety, and intention to continue L2 studies. The variables were measured on a 7-point Likert scale, with three to five items representing each antecedent. The scale based on OIT included seven categories with eight items per category of motivation, with one category covering amotivation, three categories covering different extrinsic motivations and three covering intrinsic motivation. (see Noels et al., 2000, p. 65-74 for further explanation of these antecedents, categories and subcategories). The findings of the study showed the expected positive correlation between amotivation and the antecedent anxiety, as well as negative correlation between amotivation and the positive antecedents, namely perceptions of competence, perceived freedom of choice, intention to continue L2 studies. However, the study also showed that extrinsic integrated motivation was surprisingly more highly correlated to high scores on the positive antecedents than intrinsic motivation, and a reason behind this may be, as Noels et al (2000) puts it:

“On a more practical level, this finding might suggest that those who naturally enjoy the feeling of learning an L2 may not necessarily feel personally involved in the learning process; they may view language learning as a puzzle or a language game that has few repercussions in everyday life. To foster sustained learning, it may not be sufficient to convince students that language learning is interesting and enjoyable; they may need to be persuaded that it is also personally important for them” (p. 75).

This corresponds with the findings of this study, as personal importance, identification and integration within the language seem to be more important for HPLs.

5.3.2 Identification and integration: convincing reasons for learning English

In contrast to the external regulation that we find in external motivation, internal extrinsic motivation is largely a motivational variable that covers aspects of self-regulation, without direct influence from others. Recall that the variable **internal extrinsic motivation** is an aggregate score from statements on motivations for learning English concerning identity and integration. Within identity lies the students' goal of improving abilities that makes them able to perform tasks connected to activities they identifies with. This can be argued to be a strong motivator, as it is easy for the student to see the value in increasing their proficiency, and when experiencing this improvement, it also becomes clear to the student what benefits it gives. Making someone conscious of the activity and what you reap from performing it, can be argued to ascribe a personal importance to the actions.

The second part of this motivational variable concerns integration. As Gardner first highlighted with his Integrative orientation (Gardner, 2006), integration into a culture through

being able to participate, understand, and be accepted by it can be a strong motivator to learn a language. Especially when discussing EFL-acquisition, one can see how this is a large factor. American and English-spoken cultural influence is dominant in Norway and the western world today, something that the students in this study, aged 8-10, feel the effects of. Therefore, the wish to be able to integrate into this culture is understandable, and this also seems to have strong correlation with success in acquisition. Moreover, the finding that internal extrinsic motivation and integrative motives leads to a proficiency increase are not surprising. This is not only reflected in Gardner's theory, but also many other proceeding motivational theories, such as Dörnyei's L2MSS (Dörnyei & Ushioda, 2021).

5.3.3 Summary

As discussed, language has to be more than enjoyment, tangibility is of importance for HPLs, and could in turn be the reason they have attained the proficiency. Intrinsic motivation is not enough to achieve a higher proficiency, one must have a goal or envision a future where one uses the language, that is where the largest gain is to be had. From a teacher's perspective, this is an important factor to consider: a student should not only be enjoying EFL-learning, as this alone is not a marker for a successful acquisition process, the teacher should also strive to make them conscious of how knowing English can affect their lives positively.

5.4 Implications of the findings: Fostering the habits of a typical HPL and avoiding the pitfalls that leads to the practices of an LPL

What are the implications of the findings in this study? Although none of the findings are definite, there are certain things one can learn from observing them. Let us try to describe two archetypes, one for an HPL and one for an LPL in this study. The typical HPL is someone who has a preference for oral production tasks, have internal extrinsic motivated reasons for wanting to learn English, and does not get motivated by external extrinsic motivational factors, such as praise or punishment from parents or teachers. The internalized goals and benefits the HPL gets from learning English are what really motivates them, such as being able to use English to make new acquaintances, or take advantage of it to expand on existing interests, they have understood that there is a lot to gain from it. The LPL, on the other hand, does get motivated by external pressures and attempts to fulfill expectations at all costs. Shying away from oral production tasks is something they attempt, given the opportunity. The LPL has not yet realized, or at least not internalized, the benefits of actually learning English

and not only performing to please their surroundings, their internal extrinsic motivational levels are therefore low.

Both the given descriptions above are perhaps of an exaggerated and stereotypical nature, to strengthen the points made. Nevertheless, If these findings are to inform anything, it must be that teachers should strive to create HPLs based on these characteristics, and try to lead LPLs away from the pitfall of focusing on external motivation. Below I have attempted to summarize how this can be attempted in three key points:

1. Create an environment where oral production is preferred by the students:

Oral production might lead to higher proficiency, even in these early stages of acquisition. There is a high likelihood that there are a lot of teachers that promote a classroom where interaction is key and oral production is a frequently used method, due to the fact that EFL-classrooms are situated outside of countries where English is the main language used outside of school, and they know that the students will have limited interaction occurrences outside the classroom. However, this might not be enough. Just as important as creating a classroom where oral production is something that is possible for the students to practice is the fact that the teacher must attempt to make students enjoy and prefer this method. Reducing anxiety of production, and attempting to create a learning environment experienced as safe by the students should be part of this process. Giving positive feedback or grades that improve over time based on performance should probably not be the main motivational factor here though, which leads us to our next point.

2. External motivation should get less stage time:

As is often the case in schools, grades and accomplishments are something that is focused highly on, as these are measurable metrics of performance. Grades or results on a test can allow the student to show parents how well they are doing, but they can also provide the student with a measure of not performing at the expected level. Motivation that stems from this external approval does not lead to a successful HPL, but rather an LPL that can be argued to spend more energy on seeking approval rather than actually increasing proficiency. The less one can make a student care about external extrinsic motivation, the higher the focus can be on actual acquisition. One way of doing this is to mimic the feedback and treatment one would give as a teacher to an HPL. Of course this is not fully in the hands of the teacher, parents and other external sources also play a part here. Feedback could also be given in a different shape, as discussed in the next point.

3. Give identifiable reasons for the student to acquire the language:

When a student realizes that EFL-acquisition comes with advantages and has actual

implications on that person's life, motivation can be shown to lead to higher proficiency. What if instead of feedback, one can revisit an activity the student was not previously able to master but can now participate in? By succeeding in playing a game, or listening to a tutorial that explains how to change tires on your bike, or now being able to read the instructions on how to mix the perfect cookie batter, the realization of what one has gained will drive the motivation for further learning. Connection to individual interest might be an advantage in this process, allowing the student to identify what there is to gain from acquisition. The idea that integration with the language can prove useful and be enjoyable is key here, as HPLs seem to have realized this and are reaping the benefits of it. It can be argued to be impossible to achieve the immersion one would have from a natural language environment such as living in a native country, but by attempting to mimic the identifiable and integrative benefits one would experience in such a setting, a classroom might scaffold motivation and acquisition in a more similar manner, leading to more successful acquisition. Identity and integrative motives are key motivators.

5.5 Limitations and further research

While the insights of the findings of this study can be valuable for understanding motivation and proficiency, one has to recognize that the study has certain limitations, and further research expanding on the topic would be beneficial in explaining the relations shown. The first limitation is the sample size of the study. As the study included 44 participants, it is not a miniscule sample size, but they are all in the same age group, attending the same school system. Therefore, any definite conclusions drawn from the study can only be said to apply to this particular group, and one can only hypothesize on how it applies to other groups. To find out if these correlations hold true in a general sense, one should test multiple groups of students of different ages and located in different countries where the standard of instruction varies from the one in this study. The second limitation can be said to be the timeframe of when motivation was reported by the participants. While proficiency can be argued to be a stable measure that will only increase or stay the same over time as long as English instruction is consistent and continuous, motivation might vary, capturing it only gives us a snapshot of how the students feel at the time of filling out the survey. By studying the students over a longer period of time, their motivational factors can be established more clearly. However, this process is resource and time-demanding, making it difficult to form into a feasible study for this project. This brings us to our next limitation, which is also one of time and available resources, this study only contains quantitative data. If interviews or other

long form participant-formulated answer were included, the reasons behind the correlations might have been clearer and given us insight into the background of the answers given in the questionnaire. To summarize, the factors of sample size, longevity and methodology can be limitations in this study. However, this study has been able to capture strong correlations between motivational types and proficiency using a feasible quantitative approach. Further research with other sample sizes, longer time spans, and perhaps a mixed methodology approach can add to the findings of this thesis.

6 Conclusion

In this study I have investigated how motivation affects proficiency in early EFL-learners, by using the OIT as the main motivational framework, but also by discussing the findings in relation to other mainstream motivational theories. This has been done by surveying 44 primary school students on their motivational motives and method preferences, in addition to testing their proficiency in English. RQ1 and RQ2 can be answered by saying that the results show that there is a significant positive correlation between internal extrinsic motivation and proficiency as well as between a method preference for oral production and proficiency. The results also show that there is a significant negative correlation between external extrinsic motivation and proficiency. The hypothesis stated that LPLs were expected to have lower levels of motivations overall, and the opposite was expected from HPLs. Evidently, this has shown to not be true; rather, the difference between the groups is related to the type of motivation, not the levels. Intrinsic motivation was also shown to be positive overall, and to not have a significant impact on proficiency. These findings have been discussed in an attempt to explain why this is the case. Increased exposure to interaction and genuine internalized understanding of the benefits of acquiring English can explain some of the positive correlation. Too large of a focus on what others think of one's learning process may be one of the factors causing the negative correlation. However, none of these elements are definite, as there can be other nuances and factors affecting motivation. Therefore, further research is required, perhaps with mixed methods. Nevertheless, there are certain things one should consider based on this study, to help aid students in succeeding in the acquisition process of English: A safe environment can lead to more oral production which contributes to acquisition. Further, one should attempt to lower external pressures, perhaps by making EFL-learning less focused around grades and scores. Lastly, make the students identify with the language by giving the actual internal reasons to want to acquire it, because internal extrinsic motives can lead to higher proficiency levels in early EFL-learners.

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Appendix

2. Consent form

Samtykkeskjema: Prosjekt om engelsk som andrespråk

Obligatoriske felt er merket med stjerne *

Velkommen til forskningsprosjektet: Engelsk som andrespråk hos skolebarn i Norge: Læring og undervisning

Dette er en forespørsel om ditt barn kan delta i et forskningsprosjekt hvor formålet er å se på hvordan barn lærer seg engelsk ved skoler i Norge. Et sentralt mål er å undersøke hvordan vi kan bruke undervisning for å lære barn utfordrende deler av engelsk. I dette skrevet gir vi deg informasjon om formålet med prosjektet og hva deltakelse vil innebære for ditt barn.

Formål

Formålet med prosjektet er å undersøke engelsk som andrespråk hos skolebarn i Norge. Dette er et Ph.d.-prosjekt der jeg skal se på hvordan mengden engelsk i skolen påvirker hvordan barn lærer engelsk. Undersøkelsene skal gjennomføres både ved offentlige skoler og internasjonale skoler i Norge.

Hvem er ansvarlig for forskningsprosjektet?

UIT – Norges arktiske universitet er ansvarlig for prosjektet.

Hvorfor får ditt barn spørsmål om å delta?

Jeg spør om ditt barn kan delta fordi barnet mottar engelskundervisning ved en internasjonal eller offentlig skole i Norge.

Hva innebærer det for ditt barn å delta?

Hvis du velger å la ditt barn delta i prosjektet, innebærer det:

- At du/dere fyller ut et spørreskjema om barnets språksituasjon (hvilke språk snakker barnet hjemme nå og hvilke språk har barnet snakket før).
- Barnet skal vurdere en serie setninger i klasserommet (her er det elevenes skriftlige vurdering som samles inn).
- Barnet skal delta i forsøk på skolen der målet er at barnet skal produsere spesifikke setningsstrukturer gjennom aktiviteter barnet gjør sammen med forsker alene og i gruppe. I denne delen tar vi **lydopptak** og **videoopptak** for å kunne behandle og analysere datamaterialet i ettertid. Forskeren/assistentene kommer også til å ta notater underveis i prosjektet. Lyd/videoopptakene skal transkriberes og **anonymiseres**. Barna får et kodenavn, slik at funnene ikke kan kobles til barnas identitet i ettertid.
- Det er kun noen grupper som skal være med på undervisningsdelen. Her bruker jeg observasjon og notater underveis, og barna testes i målstrukturene før og etter undervisningsopplegget gjennomføres.

Det er frivillig å delta

Det er frivillig å delta i prosjektet. Hvis du velger å samtykke til at ditt barn kan delta, kan du når som helst trekke samtykket tilbake uten å oppgi noen grunn. Alle barnets personopplysninger vil da bli slettet. Det vil ikke ha noen negative konsekvenser for deg eller ditt barn hvis barnet ikke deltar eller senere velger å trekke seg. Dersom du ikke ønsker at ditt barn skal delta, vil barnet få et tilrettelagt opplegg i klasserommet i de delene av prosjektet som foregår i plenum.

Hva skjer med personopplysningene dine når forskningsprosjektet avsluttes?

Prosjektet vil etter planen avsluttes 13. februar 2026. Etter prosjektslutt vil datamaterialet med personopplysninger anonymiseres og ubearbeidet datamateriale som kan identifisere deltagere vil slettes. Anonymisert data slettes ikke, men lagres slik at det kan brukes i fremtidig forskning.

Hva gir oss rett til å behandle personopplysninger om deg?

Vi behandler opplysninger om deg basert på ditt samtykke.

På oppdrag fra UIT Norges arktiske universitet har Personvern tjenester vurdert at behandlingen av personopplysninger i dette prosjektet er i samsvar med personvernregelverket.

Dine rettigheter

Så lenge du kan identifiseres i datamaterialet, har du rett til:

- innsyn i hvilke opplysninger vi behandler om ditt barn og å få utlevert en kopi av opplysningene
- å få rettet opplysninger om ditt barn som er feil eller misvisende
- å få slettet personopplysninger om ditt barn
- å sende klage til Datatilsynet om behandlingen av ditt barns personopplysninger

Hvis du har spørsmål til studien, eller ønsker å vite mer om eller benytte deg av dine rettigheter, ta kontakt med:

- UIT Norges arktiske universitet ved Helene Ruud Jensberg: helene.r.jensberg@uit.no eller på telefon: 93245177
- Veileder på prosjektet: Merete Anderssen (merete.anderssen@uit.no)
- Veileder på prosjektet: Natalia Mitrofanova (natalia.mitrofanova@uit.no)
- Vårt personvernombud: Joakim Bakkevold, email: personvernombud@uit.no

Hvis du har spørsmål knyttet til Personvern tjenester sin vurdering av prosjektet, kan du ta kontakt med:

- Personvern tjenester på epost (personverntjenester@sikt.no) eller på telefon: 53 21 15 00.

Med vennlig hilsen

Helene Ruud Jensberg

Doktorgradsstipendiat ved UIT Norges arktiske universitet

Hva heter barnet? (Fullt navn) *

Barnets skole og trinn *

Foresattes navn (Fullt) *

Dagens dato *

Samtykker du til å fylle ut et spørreskjema om barnets språkbakgrunn/språksituasjon? *

- Ja
- Nei / jeg vil trekke tilbake mitt samtykke

Samtykker du til at barnet kan delta i tester av setningsstruktur i klasserommet? *

Barnet kan fremdeles delta uten samtykke, men bruker da et kodenavn.

- Ja
- Nei / jeg vil trekke tilbake mitt samtykke

Samtykker du til at barnet kan delta i språklige tester der barnet blir filmet? *

Eventuell videoopptak vil fokusere på læringsmaterialet som blir brukt i forsøket, ikke på barnet. Videoopptak vil lagres på en sikker server og vil ikke deles med noen utenfor prosjektet.

- Ja
- Nei / jeg vil trekke tilbake mitt samtykke

Samtykker du til at barnet kan delta i språklige tester der det tas lydopptak? *

Lydopptak vil lagres på en sikker server og vil ikke deles med noen utenfor prosjektet.

- Ja
- Nei / jeg vil trekke tilbake mitt samtykke

Samtykker du til at barnet deltar i undervisningsopplegg der barnet observeres og det tas notater? *

- Ja
- Nei / jeg vil trekke tilbake mitt samtykke

Samtykker du til at anonymisert data basert på barnet lagres etter prosjektslutt for å brukes i videre/annen forskning? *

Anonymisert data er data som ikke skal kunne knyttes tilbake til deltageren.

- Ja
- Nei / jeg vil trekke tilbake mitt samtykke

2. Questionnaire



Engelsk utenfor skolen

Navn

Skole

Klasse

Når er du født?

Hvor gammel er du?

Hvor mye engelsk møter du?

Kryss av på hvor mange minutter du gjør aktiviteten **daglig på engelsk**.

Ser på TV uten teksting

- Jeg gjør ikke dette
- Under 30 minutter
- 30-60 minutter
- 1 time til 1 time og 30 minutter
- 1 time og 30 minutter til 2 timer
- Mer enn 2 to timer

Ser på engelsk TV med teksting på norsk/annet språk enn engelsk.

- Jeg gjør ikke dette
- Under 30 minutter
- 30-60 minutter
- 1 time til 1 time og 30 minutter
- 1 time og 30 minutter til 2 timer
- Mer enn 2 to timer

Hører på engelsk musikk

- Jeg gjør ikke dette
- Under 30 minutter
- 30-60 minutter
- 1 time til 1 time og 30 minutter
- 1 time og 30 minutter til 2 timer
- Mer enn 2 to timer

Leser engelske bøker, blader, tegneserier.

- Jeg gjør ikke dette
- Under 30 minutter
- 30-60 minutter
- 1 time til 1 time og 30 minutter
- 1 time og 30 minutter til 2 timer
- Mer enn 2 to timer

Gamer på engelsk

- Jeg gjør ikke dette
- Under 30 minutter
- 30-60 minutter
- 1 time til 1 time og 30 minutter
- 1 time og 30 minutter til 2 timer
- Mer enn 2 to timer

Youtube

- Jeg gjør ikke dette
- Under 30 minutter
- 30-60 minutter
- 1 time til 1 time og 30 minutter
- 1 time og 30 minutter til 2 timer
- Mer enn 2 to timer

Sosiale medier (tiktok, facebook, instagram og lignende).

- Jeg gjør ikke dette
- Under 30 minutter
- 30-60 minutter
- 1 time til 1 time og 30 minutter
- 1 time og 30 minutter til 2 timer
- Mer enn 2 to timer

Snakker engelsk

- Jeg gjør ikke dette
- Under 30 minutter
- 30-60 minutter
- 1 time til 1 time og 30 minutter
- 1 time og 30 minutter til 2 timer
- Mer enn 2 to timer

Gamer du?

PC, playstation, xbox, nintendo, mobil osv.

- Ja
- Nei

Hva gamer du? Skriv det spillet du spiller mest.

Dette elementet vises kun dersom alternativet «Ja» er valgt i spørsmålet «Gamer du?»

Gamer du sammen med noen?

Dette elementet vises kun dersom alternativet «Ja» er valgt i spørsmålet «Gamer du?»

- Ja
- Nei

Hvilke språk bruker du mest når du gamer?

Dette elementet vises kun dersom alternativet «Ja» er valgt i spørsmålet «Gamer du?»

- Mest norsk
- Mest engelsk
- Like mye norsk og engelsk

Hva med hjemmespråket (norsk eller andre språk du kan)?

Kryss av på hvor mange minutter du gjør aktiviteten **daglig på hjemmespråket**.

Ser på TV

- Jeg gjør ikke dette
- Under 30 minutter
- 30-60 minutter
- 1 time til 1 time og 30 minutter
- 1 time og 30 minutter til 2 timer
- Mer enn 2 to timer

Hører på musikk

- Jeg gjør ikke dette
- Under 30 minutter
- 30-60 minutter
- 1 time til 1 time og 30 minutter
- 1 time og 30 minutter til 2 timer
- Mer enn 2 to timer

Leser bøker, blader, tegneserier.

- Jeg gjør ikke dette
- Under 30 minutter
- 30-60 minutter
- 1 time til 1 time og 30 minutter
- 1 time og 30 minutter til 2 timer
- Mer enn 2 to timer

Gamer

- Jeg gjør ikke dette
- Under 30 minutter
- 30-60 minutter
- 1 time til 1 time og 30 minutter
- 1 time og 30 minutter til 2 timer
- Mer enn 2 to timer

Youtube

- Jeg gjør ikke dette
- Under 30 minutter
- 30-60 minutter
- 1 time til 1 time og 30 minutter

1 time og 30 minutter til 2 timer

Mer enn 2 to timer

Sosiale medier (tiktok, facebook, instagram og lignende).

Jeg gjør ikke dette

Under 30 minutter

30-60 minutter

1 time til 1 time og 30 minutter

1 time og 30 minutter til 2 timer

Mer enn 2 to timer

Når begynte du å lære engelsk?

Hva er dine to yndlingsfag på skolen?

Snakker du av og til engelsk utenfor engelsktimene på skolen?

Ja

Nei

Hvis du har kontakt med folk som snakker engelsk, hvor, når, og med hvem?

På ferie

Dette elementet vises kun dersom alternativet «Ja» er valgt i spørsmålet «Snakker du av og til engelsk utenfor engelsktimene på skolen?»

Ja

Nei

På ferie: Med hvem og hvor ofte?

Dette elementet vises kun dersom alternativet «Ja» er valgt i spørsmålet «På ferie»

Hjemme

Dette elementet vises kun dersom alternativet «Ja» er valgt i spørsmålet «Snakker du av og til engelsk utenfor engelsktimene på skolen?»

Ja

Nei

Hjemme: Med hvem og hvor ofte?

Dette elementet vises kun dersom alternativet «Ja» er valgt i spørsmålet «Hjemme»

I andre situasjoner?

Dette elementet vises kun dersom alternativet «Ja» er valgt i spørsmålet «Snakker du av og til engelsk utenfor engelsktimene på skolen?»

Ja

Nei

I andre situasjoner: Med hvem og hvor ofte?

Dette elementet vises kun dersom alternativet «Ja» er valgt i spørsmålet «I andre situasjoner?»

Synes du det er gøy å lære engelsk?

Ja

Nei

Jeg synes det er gøy å lære engelsk...

i dette skjemaet skal dere svare på hvordan det er mest spennende eller gøy å lære engelsk. Nedenfor

er en rekke eksempler på måter dere kan lære engelsk. Marker det alternativet som er riktig for deg.
Jeg synes det er gøy å lære engelsk...

...på skolen: lesing

- Helt uenig
- Litt uenig
- Litt enig
- Helt enig

...på skolen: oppgaveløsning

- Helt uenig
- Litt uenig
- Litt enig
- Helt enig

...på skolen: snakke engelsk med andre i klassen

- Helt uenig
- Litt uenig
- Litt enig
- Helt enig

...hjemme: lekser der man må skrive

- Helt uenig
- Litt uenig
- Litt enig
- Helt enig

...hjemme: lekser der man skal snakke

- Helt uenig
- Litt uenig
- Litt enig
- Helt enig

...hjemme: se på videoer (YouTube eller film for eksempel)

- Helt uenig
- Litt uenig
- Litt enig
- Helt enig

...hjemme: snakke engelsk som ikke er lekser (for eksempel mens man spiller eller med venner)

- Helt uenig
- Litt uenig
- Litt enig
- Helt enig

Jeg lærer nye ting i engelsktimene.

Ja, alltid.
Ja, av og til.
Nei, ikke så ofte.
Nei, aldri.

Jeg synes engelsktimene på skolen er

Veldig lette.
Ganske lette.
Ganske vanskelige.
Veldig vanskelige.

Synes du engelsk er et interessant/morsomt/spennende språk?

Ja
Nei

jeg ønsker å lære engelsk for...

I dette skjemaet skal dere svare på hvorfor dere ønsker å lære engelsk. Nedenfor er en rekke påstander om hvorfor du ønsker å lære engelsk. Marker det alternativet som er riktig for deg. **Jeg ønsker å lære engelsk for...**

... for å kunne snakke med venner som snakker engelsk

Helt uenig
Litt uenig
Litt enig
Helt enig

...for å bli kjent med nye mennesker som snakker engelsk

Helt uenig
Litt uenig
Litt enig
Helt enig

...for å kunne snakke bedre engelsk i klasserommet

Helt uenig
Litt uenig
Litt enig
Helt enig

...for å kunne se på engelsk tv og videoer (for eksempel YouTube) uten å trenge undertekster

Helt uenig
Litt uenig
Litt enig
Helt enig

...for å spille videospill på engelsk

Helt uenig

Litt uenig

Litt enig

Helt enig

...for å kunne lese engelske tekster

Helt uenig

Litt uenig

Litt enig

Helt enig

... for å gjøre det bra i engelskfaget på skolen

Helt uenig

Litt uenig

Litt enig

Helt enig

...fordi det gjør meg glad å lære nye ting og språk

Helt uenig

Litt uenig

Litt enig

Helt enig

Leter du av og til etter muligheter til å bruke engelsk?

Ja

Nei

Hvilket språk snakker du med mor?

Hvilket språk snakker du med far?

Hvilket språk snakker du med søsken (bror/søster?)

Hvilket språk snakker du med venner?

Jeg er

Gutt

Jente

Annet/vil ikke oppgi

Hvor mange søsken (bror/søster) har du?

Hvor gamle er dine søsken (bror/søstre)?

3. Proficiency test

Training Plate



1



2

CUP



3



4

A

1

Set 1



1



2

DRINKING



3

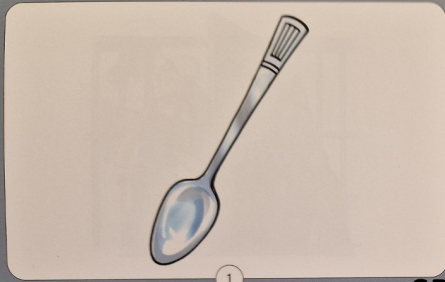


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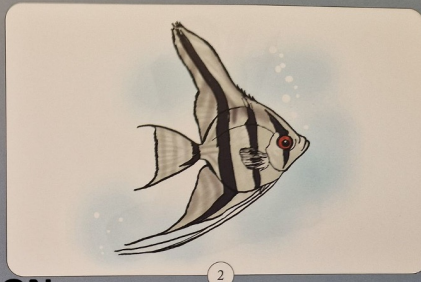
7

2

Set 1



1

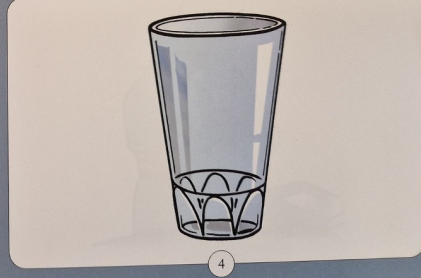


2

SPOON



3



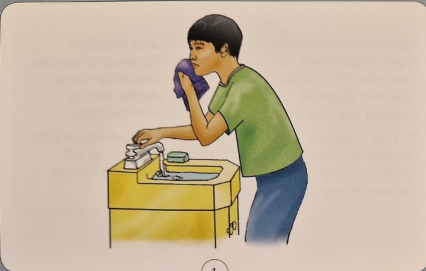
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5

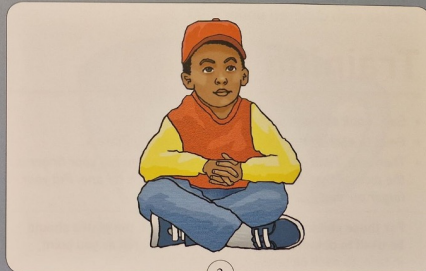


3

Training Plate

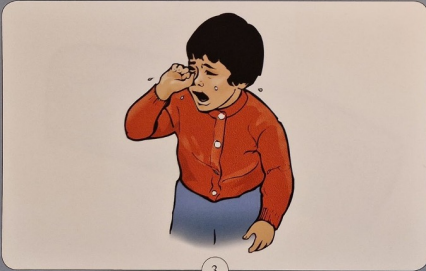


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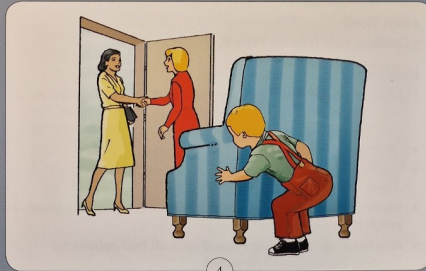


2

CRYING



3



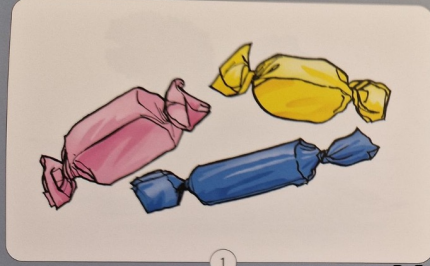
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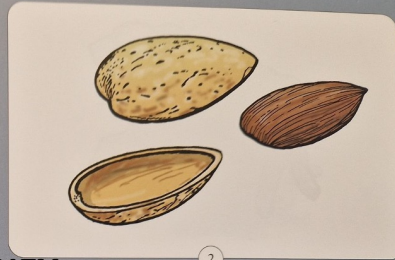


4

Set 1



1



2

MONEY



3



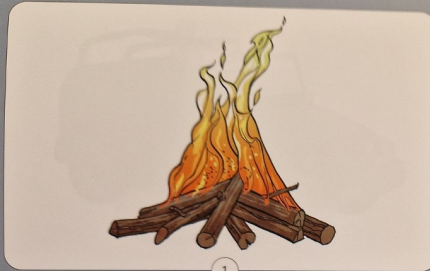
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12



5

Set 2

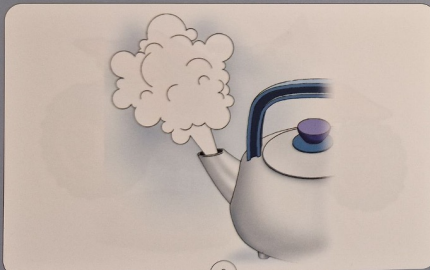


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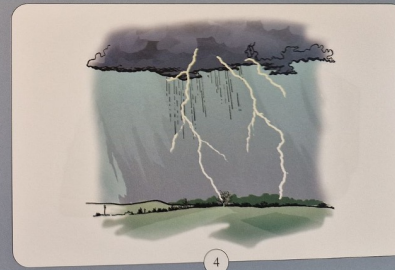


2

FIRE



3



4

14

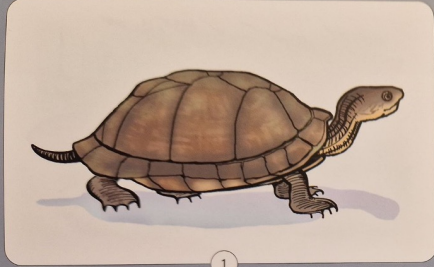


6

SET 14 (1)

Set 2

152 ↑



1



2

TOAD



3



4

16



7

Set 2

SET 14 (1)

154

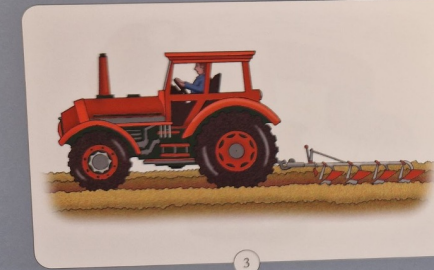


1



2

FARMER



3



4

18

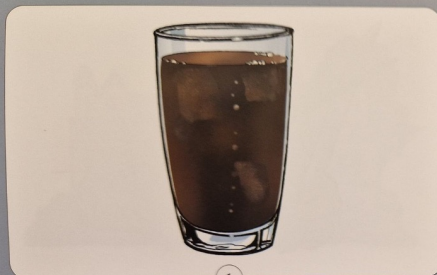


8

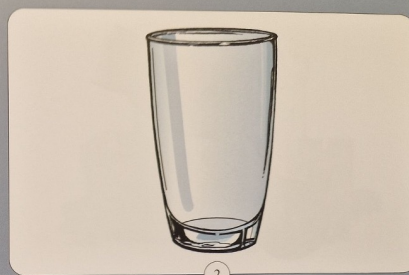
SET 14 (1)

Set 2

147

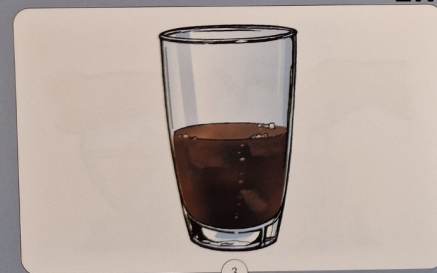


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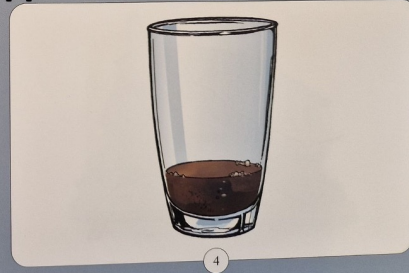


2

EMPTY



3



4

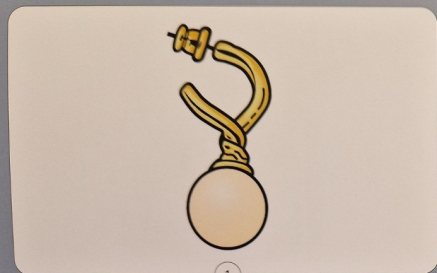
21



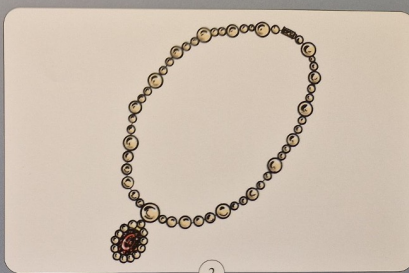
9

Set 4

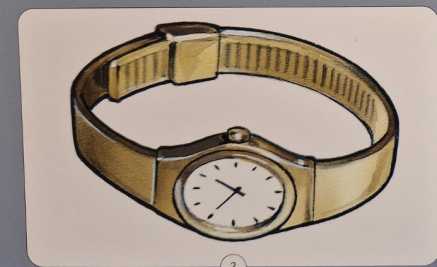
131



1



2



3



4

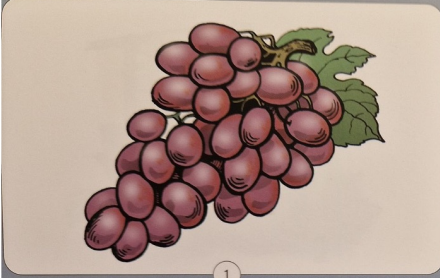
37



10

Set 4

129



1

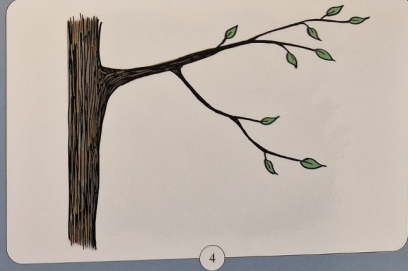


2

BRANCH



3



4

39

11

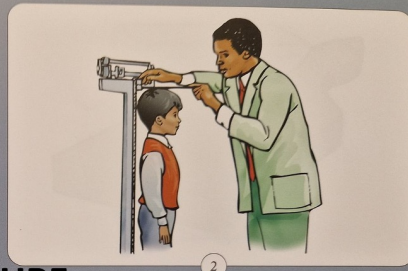


Set 5

115

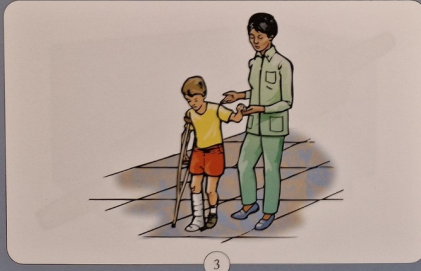


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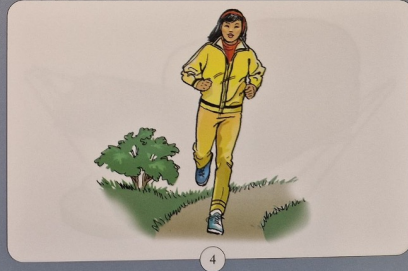


2

MEASURE



3



4

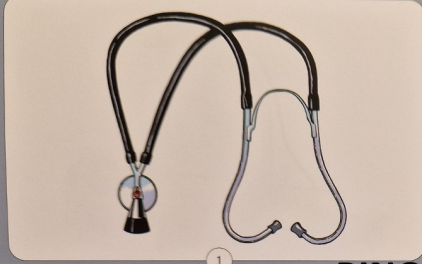
53

12

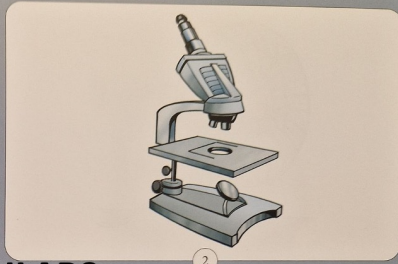


Set 5

114 ↑

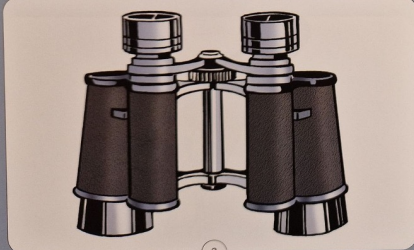


1



2

BINOCULARS



3



4

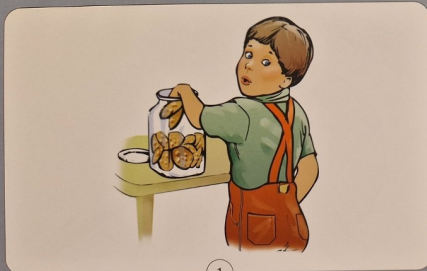
54



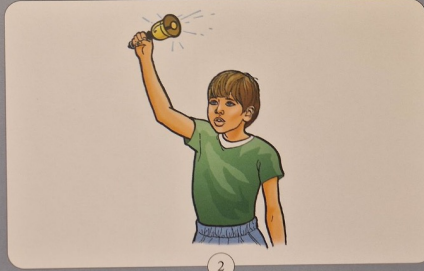
13

Set 6

107

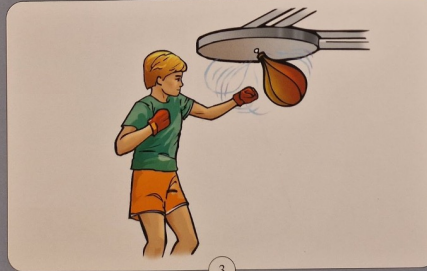


1



2

TEARING



3



4

61



14

Set 6

10



1



2

DIVING



3



4

66

15



Set 7

94

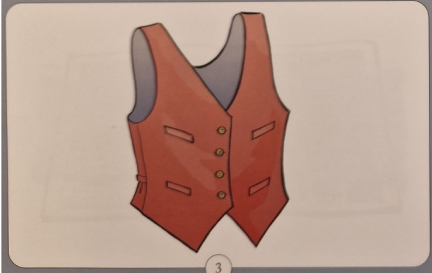


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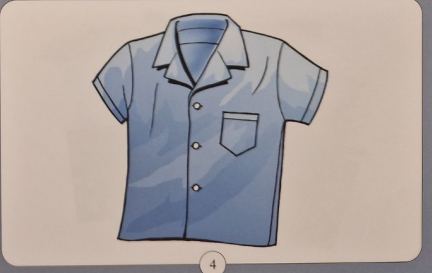


2

WAISTCOAT



3



4

74

16



Set 6

9

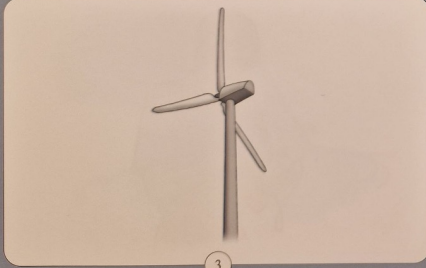


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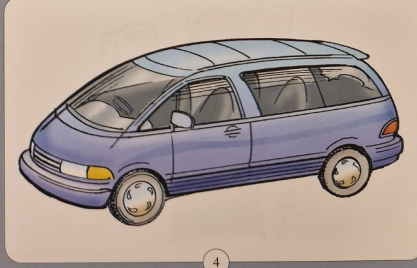


2

VEHICLE



3



4

70

17

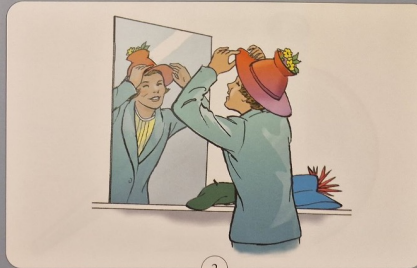


Set 7

87

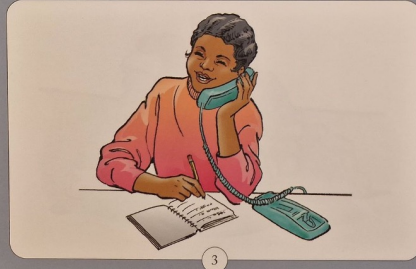


1



2

GROOMING



3



4

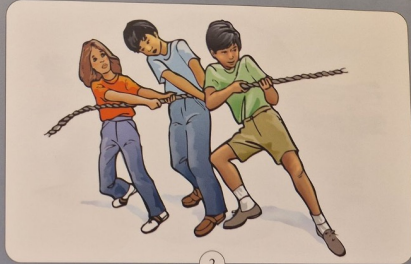
81

18





1

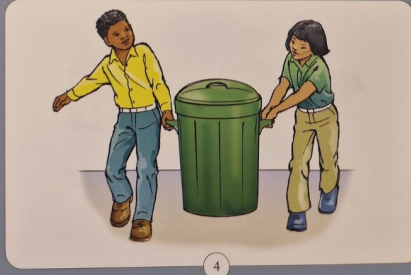


2

TUGGING



3



4

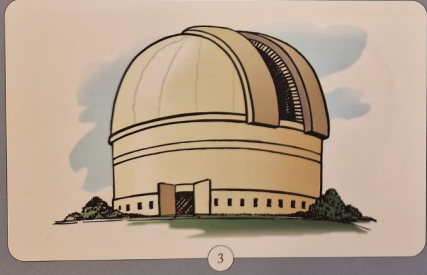


1



2

HIVE



3



4

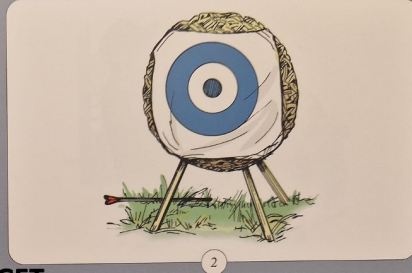


Set 5

118

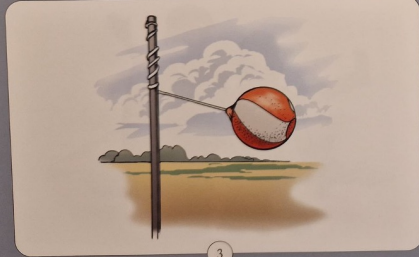


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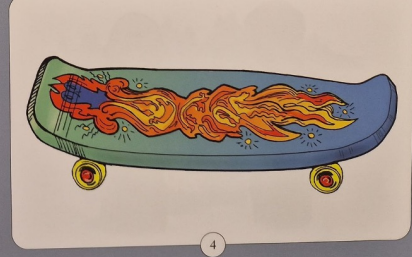


2

TARGET



3



4

50

21



Set 5

117



1



2

DELIVERING



3



4

51

22



4. Knitted RMarkdown of RScript

Rmarkdown masters

2024-04- 27

```
# Code to load data
data <- readxl:: read_xlsx("/Users/zebastianbbo/Documents/master project/data/q&vocabulary .xlsx")

#This is the R Code for ran for this study. Majority of the data formatting was conducted in Excel.

#installing and running packages
library(tidyverse)

## -- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
## v dplyr 1.1.4 v readr 2.1.5
## v forcats 1.0.0 v stringr 1.5.1
## v ggplot2 3.5.0 v tibble 3.2.1
## v lubridate 1.9.3 v tidyr 1.3.1
## v purrr 1.0.2
## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag() masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors

library(dplyr)
library(readxl)
library(ggplot2)
library(car)

## Loading required package: carData
##
## Attaching package: 'car'
##
## The following object is masked from 'package:dplyr':
##
## recode
##
## The following object is masked from 'package:purrr':
##
## some

library(lme4)

## Loading required package: Matrix
##
## Attaching package: 'Matrix'
##
```

```

## The following objects are masked from 'package:tidyr':
##
##   expand, pack, unpack

library(sjPlot)
library(ggplot2)
library(ggeffects)

#formatting the ordering of categorical questions
data%Meth_reading <- factor(data%Meth_reading,
                           levels = c("Helt uenig", "Litt uenig",
                                       "Litt enig", "Helt enig"))
data%Meth_Tasks <- factor(data%Meth_Tasks,
                          levels = c("Helt uenig", "Litt uenig",
                                       "Litt enig", "Helt enig"))
data%Meth_speak <- factor(data%Meth_speak,
                          levels = c("Helt uenig", "Litt uenig",
                                       "Litt enig", "Helt enig"))
data%Meth_Home_SpeakFree <- factor(data%Meth_Home_SpeakFree,
                                   levels = c("Helt uenig", "Litt uenig", "
                                               Litt enig", "Helt enig"))
data%Meth_Home_Video <- factor(data%Meth_Home_Video,
                               levels = c("Helt uenig", "Litt uenig",
                                             "Litt enig", "Helt enig"))
data%Meth_homework_speak <- factor(data%Meth_homework_speak,
                                   levels = c("Helt uenig", "Litt uenig",
                                               "Litt enig", "Helt enig"))
data%Meth_Homework_Write <- factor(data%Meth_Homework_Write,
                                   levels = c("Helt uenig", "Litt uenig",
                                               "Litt enig", "Helt enig"))
data%Motivation_talkwFriend <- factor(data%Motivation_talkwFriend,
                                      levels = c("Helt uenig", "Litt uenig",
                                                  "Litt enig", "Helt enig"))
data%Motivation_New_Ppl <- factor(data%Motivation_New_Ppl,
                                   levels = c("Helt uenig", "Litt uenig",
                                               "Litt enig", "Helt enig"))
data%Motivation_EnglishClass_Speak <- factor(data%Motivation_EnglishClass_Speak,
                                              levels = c("Helt uenig", "Litt uenig",
                                                        "Litt enig", "Helt enig"))
data%Motivation_Video <- factor(data%Motivation_Video,
                                 levels = c("Helt uenig", "Litt uenig",
                                             "Litt enig", "Helt enig"))
data%Motivation_Gaming <- factor(data%Motivation_Gaming,
                                  levels = c("Helt uenig", "Litt uenig",
                                              "Litt enig", "Helt enig"))
data%Motivation_Reading <- factor(data%Motivation_Reading,
                                  levels = c("Helt uenig", "Litt uenig",
                                              "Litt enig", "Helt enig"))
data%Motivation_EngClass_Gen <- factor(data%Motivation_EngClass_Gen,
                                       levels = c("Helt uenig", "Litt uenig",
                                                  "Litt enig", "Helt enig"))
data%Motivation_Happy <- factor(data%Motivation_Happy,

```



```

        levels = c("Helt uenig", "Litt uenig",
                  "Litt enig", "Helt enig"))
data$OpinionEngCl <- factor(data$OpinionEngCl,
                           levels = c("Veldig vanskelige.", "Ganske vanskelige.",
                                       "Ganske lette.", "Veldig lette."))
data$Learning_Eng_Class <- factor(data$Learning_Eng_Class,
                                  levels = c("aldri.", "ikke så ofte.",
                                              "av og til.", "alltid."))

#creating numeric alternatives to statements for analysis purposes
data$Meth_reading_numeric <- as.numeric(data$Meth_reading)
data$Meth_Tasks_numeric <- as.numeric(data$Meth_Tasks)
data$Meth_speak_numeric <- as.numeric(data$Meth_speak)
data$Meth_Home_SpeakFree_numeric <- as.numeric(data$Meth_Home_SpeakFree)
data$Meth_Home_Video_numeric <- as.numeric(data$Meth_Home_Video)
data$Meth_homework_speak_numeric <- as.numeric(data$Meth_homework_speak)
data$Meth_Homework_Write_numeric <- as.numeric(data$Meth_Homework_Write)
data$Motivation_talkwFriend_numeric <- as.numeric(data$Motivation_talkwFriend)
data$Motivation_New_Ppl_numeric <- as.numeric(data$Motivation_New_Ppl)
data$Motivation_EnglishClass_Speak_numeric <- as.numeric(data$Motivation_EnglishClass_Speak)
data$Motivation_Video_numeric <- as.numeric(data$Motivation_Video)
data$Motivation_Gaming_numeric <- as.numeric(data$Motivation_Gaming)
data$Motivation_Reading_numeric <- as.numeric(data$Motivation_Reading)
data$Motivation_EngClass_Gen_numeric <- as.numeric(data$Motivation_EngClass_Gen)
data$Motivation_Happy_numeric <- as.numeric(data$Motivation_Happy)
data$OpinionEngCl_numeric <- as.numeric(data$OpinionEngCl)
data$Learning_Eng_Class_numeric <- as.numeric(data$Learning_Eng_Class)

#creating numeric alternatives to which class the pupils attended
data$Group <- factor(data$Group,
                    levels = c("S4", "BK5", "S5"))
data$Group_numeric <- as.numeric(data$Group)

#creating new variables for the aggregate scores used in the GLMM
data$preference_production_oral <- rowMeans(data[, c("Meth_speak_numeric",
                                                    "Meth_Home_SpeakFree_numeric",
                                                    "Meth_homework_speak_numeric")], na.rm = TRUE)
data$preference_production_written <- rowMeans(data[, c("Meth_Tasks_numeric",
                                                       "Meth_Homework_Write_numeric")], na.rm = TRUE)
data$preference_comprehension_oral <- data$Meth_Home_Video_numeric
data$preference_comprehension_written <- data$Meth_reading_numeric
data$intrinsic_motivation <- data$Motivation_Happy_numeric
data$extrinsic_motivation <- rowMeans(data[, c("Motivation_talkwFriend_numeric",
                                              "Motivation_EnglishClass_Speak_numeric",
                                              "Motivation_EngClass_Gen_numeric")], na.rm = TRUE)
data$identification_extrinsic_motivation <- rowMeans (data[, c("Motivation_New_Ppl_numeric",
                                                            "Motivation_Video_numeric",
                                                            "Motivation_Gaming_numeric",
                                                            "Motivation_Reading_numeric")],
                                                  na.rm = TRUE)

#converting proficiency data to long format, merging with the other data matrix for analysis
data_proficiency <-

```

```

readxl::read_xlsx("/Users/zebastianbbo/Documents/master project/data/dataset vocab test .xlsx")
data_proficiency_long <-pivot_longer(data_proficiency,
                                   cols = starts_with("Word"),
                                   names_to = "task_name",
                                   values_to = "score")
data_long_merged <- left_join(data_proficiency_long, data, by = "Participant")

#encountered an issue where the merged data created 300 extra rows of NA
#fixed this by deleting all rows with empty columns on variable "participant"
data_long_merged_fixed <- data_long_merged[!is.na(data_long_merged$Participant), ]

# creating the model used for analysis
model <- glmer(score ~ preference_production_oral + preference_production_written +
               preference_comprehension_written + preference_comprehension_oral +
               intrinsic_motivation + extrinsic_motivation +
               identification_extrinsic_motivation + OtherLangNorEng +
               (1 | Group.x: Participant) +(1 | task_name),
               data = data_long_merged_fixed,
               family = binomial)

## Warning in checkConv(attr(opt, "derivs"), opt$par, ctrl = control$checkConv, :
## Model failed to converge with max|grad| = 0.00438207 (tol = 0.002, component 1)

#Summary of model for analysis
summary(model)

## Generalized linear mixed model fit by maximum likelihood (Laplace
## Approximation) [glmerMod]
## Family: binomial ( logit )
## Formula: score ~ preference_production_oral + preference_production_written +
## preference_comprehension_written + preference_comprehension_oral +
## intrinsic_motivation + extrinsic_motivation + identification_extrinsic_motivation +
## OtherLangNorEng + (1 | Group.x:Participant) + (1 | task_name)
## Data: data_long_merged_fixed
##
##      AIC      BIC   logLik deviance df.resid
##  965.4   1018.0  -471.7   943.4     869
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -5.6397 -0.6340  0.3043  0.5773  3.0858
##
## Random effects:
##  Groups          Name          Variance Std.Dev.
##  Group.x:Participant (Intercept) 0.9042  0.9509
##  task_name          (Intercept) 1.3537  1.1635
## Number of obs: 880, groups: Group.x:Participant, 44; task_name, 20
##
## Fixed effects:
##              Estimate Std. Error z value Pr(>|z|)
## (Intercept)    -0.29343    1.09244  -0.269  0.78824

```

```

## preference_production_oral      0.79062    0.29300    2.698    0.00697 **
## preference_production_written    0.31194    0.27892    1.118    0.26341
## preference_comprehension_written -0.16514    0.24823   -0.665    0.50587
## preference_comprehension_oral   -0.05587    0.24428   -0.229    0.81910
## intrinsic_motivation            -0.10554    0.21977   -0.480    0.63105
## extrinsic_motivation            -1.04984    0.33497   -3.134    0.00172 **
## identification_extrinsic_motivation 0.73232    0.35558    2.059    0.03945 *
## OtherLangNorEng                 0.08722    0.51639    0.169    0.86588
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##              (Intr) prfrnc_prdctn_r prfrnc_prdctn_w prfrnc_cmprhnsn_w
## prfrnc_prdctn_r    0.021
## prfrnc_prdctn_w   -0.004  0.157
## prfrnc_cmprhnsn_w -0.265 -0.379          -0.480
## prfrnc_cmprhnsn_r -0.354  0.066          -0.147          -0.169
## intrnsc_mtv       -0.062 -0.436          -0.363           0.149
## extrnsc_mtv       -0.199 -0.508          -0.360           0.334
## idntfctn_x        -0.272  0.049           0.188          -0.003
## OthrLngNrEn       -0.318 -0.010          -0.228           0.042
##
## prfrnc_cmprhnsn_r intrn_extrn_idnt__
## prfrnc_prdctn_r
## prfrnc_prdctn_w
## prfrnc_cmprhnsn_w
## prfrnc_cmprhnsn_r
## intrnsc_mtv       -0.078
## extrnsc_mtv       0.161           0.133
## idntfctn_x        -0.409          -0.124 -0.516
## OthrLngNrEn       0.394           0.086  0.151 -0.116
## optimizer (Nelder_Mead) convergence code: 0 (OK)
## Model failed to converge with max|grad| = 0.00438207 (tol = 0.002, component 1)

```

```
tab_model(model, transform = NULL)
```

```

score
Predictors
Log-Odds
CI
P
(Intercept)
-0.29
-2.43 - 1.85
0.788
preference_productionoral
0.79
0.22 - 1.36

```

0.007
preference productionwritten
0.31
-0.23 – 0.86
0.263
preference comprehensionwritten
-0.17
-0.65 – 0.32
0.506
preference comprehensionoral
-0.06
-0.53 – 0.42
0.819
intrinsic motivation
-0.11
-0.54 – 0.33
0.631
extrinsic motivation
-1.05
-1.71 – -0.39
0.002
identification extrinsicmotivation
0.73
0.04 – 1.43
0.039
OtherLangNorEng
0.09
-0.92 – 1.10
0.866
Random Effects
2
3.29
00 Group.x:Participant
0.90
00 task_name
1.35

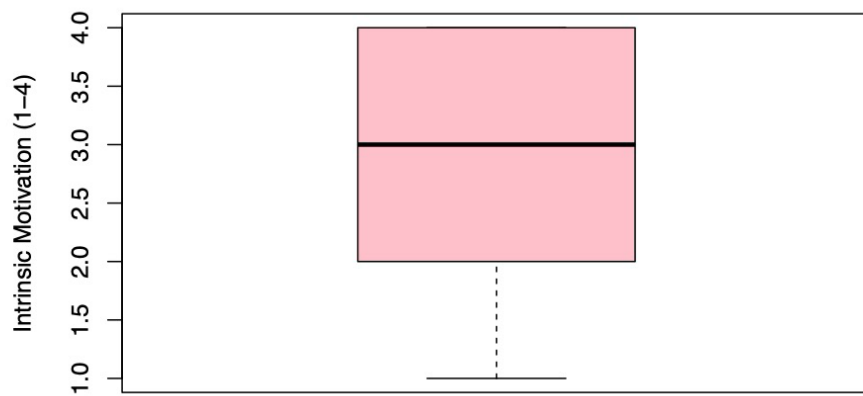
ICC
0.41
N Group.x
3
N Participant
44
N task_name
20
Observations
880
Marginal R2 / Conditional R2
0.073 / 0.450

```
#Studying intrinsic motivation to understand why it is not significant  
summary(data_long_merged_fixed$intrinsic_motivation)
```

```
##   Min. 1st Qu.  Median    Mean 3rd Qu.   Max.     
##  1.000  2.000   3.000   2.864  4.000   4.000
```

```
boxplot(data$intrinsic_motivation, main="Boxplot of Intrinsic Motivation",  
        ylab="Intrinsic Motivation (1-4)", col="pink")
```

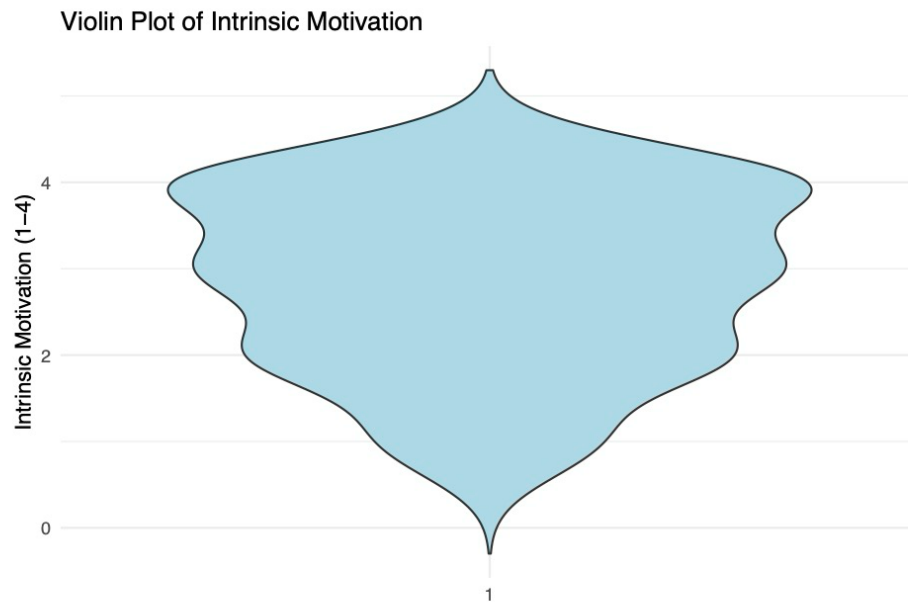
Boxplot of Intrinsic Motivation



```

ggplot(data, aes(x=factor(1), y=intrinsic_motivation)) +
  geom_violin(trim=FALSE, fill="lightblue") +
  labs(title="Violin Plot of Intrinsic Motivation", y="Intrinsic Motivation (1-4)") +
  theme_minimal() +
  xlab("")

```



```

data$intrinsic_motivation_factor <- factor(data$intrinsic_motivation)
summary(data$intrinsic_motivation_factor)

```

```

## 1 2 3 4
## 5 11 13 15

```

#Plotting the significant variables in the model

```

pr0 <- predict_response(model, "preference_production_oral [1,2,3,4]", margin="empirical")
predict_response(model, "preference_production_oral [1,2,3,4]", margin="empirical")

```

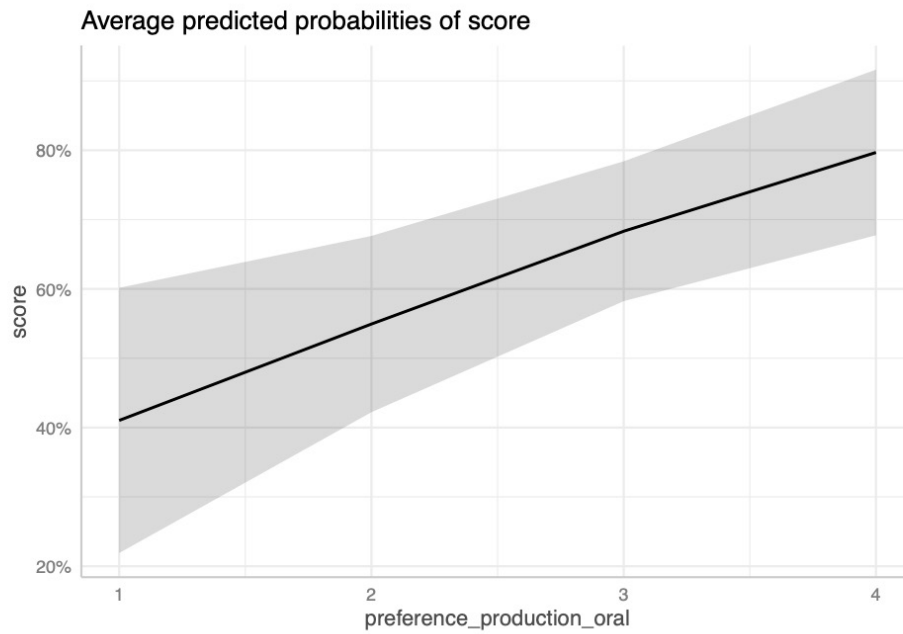
```

## # Average predicted probabilities of score
##
## preference_production_oral | Predicted | 95% CI
## -----|-----|-----
## 1 | 0.41 | 0.22, 0.60
## 2 | 0.55 | 0.42, 0.68
## 3 | 0.68 | 0.58, 0.78
## 4 | 0.80 | 0.68, 0.92

```

8

```
plot(pr0)
```

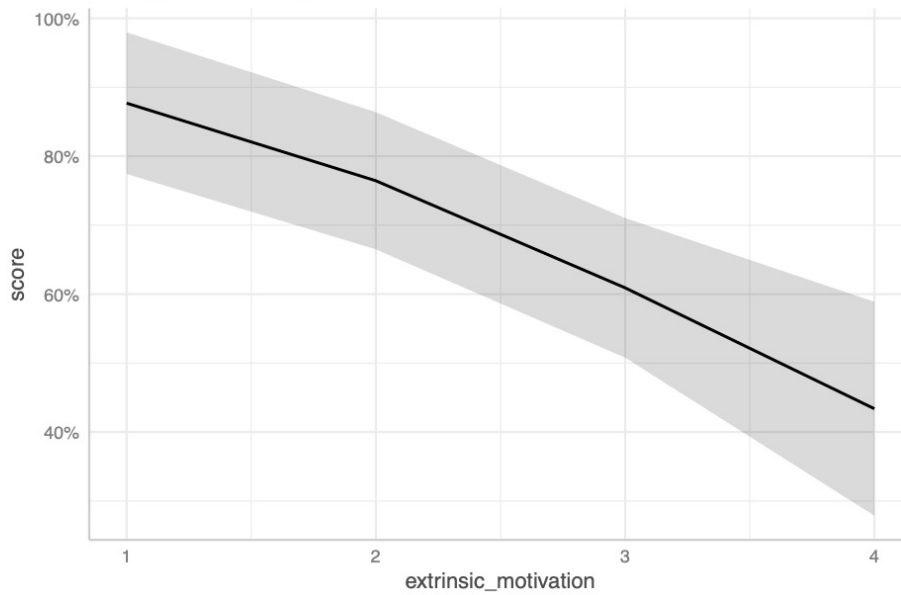


```
pr1 <- predict_response(model, "extrinsic_motivation [1,2,3,4]", margin="empirical")  
predict_response(model, "extrinsic_motivation [1,2,3,4]", margin="empirical")
```

```
## # Average predicted probabilities of score  
##  
## extrinsic_motivation | Predicted | 95% CI  
## -----  
## 1 | 0.88 | 0.77, 0.98  
## 2 | 0.76 | 0.66, 0.86  
## 3 | 0.61 | 0.51, 0.71  
## 4 | 0.43 | 0.28, 0.59
```

```
plot(pr1)
```

Average predicted probabilities of score

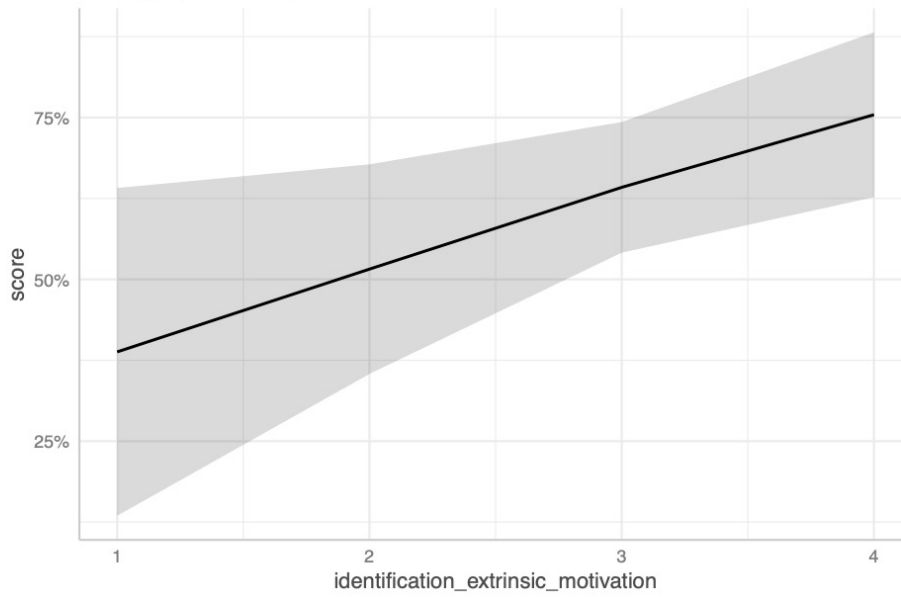


```
pr2 <- predict_response(model, "identification_extrinsic_motivation [1,2,3,4]", margin="empirical")
predict_response(model, "identification_extrinsic_motivation [1,2,3,4]", margin="empirical")
```

```
## # Average predicted probabilities of score
##
## identification_extrinsic_motivation | Predicted | 95% CI
## -----|-----|-----
## 1 | 0.39 | 0.13, 0.64
## 2 | 0.52 | 0.35, 0.68
## 3 | 0.64 | 0.54, 0.74
## 4 | 0.75 | 0.63, 0.88
```

```
plot(pr2)
```

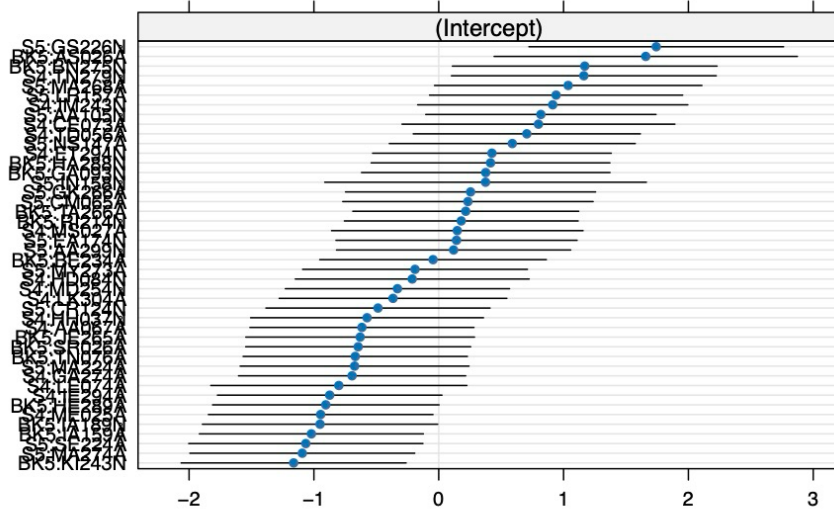

Average predicted probabilities of score



```
#Plotting caterpillar plots of the random effects to look for outliers  
lattice:dotplot(ranef(model, condVar=TRUE))
```

```
## $`Group.x:Participant`
```

Group.x:Participant



```
##  
## $task_name
```

task_name

