MULTIPLE INTELLIGENCES IN THE CLASSROOM

"Every student can learn, just not on the same day, or the same way." George Evans

It's not HOW smart you are, but HOW you are smart.

Bachelor Thesis

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PREFACE

This research paper was carried out as a final assessment for a Bachelor Degree Programme in English at Fontys University of Applied Sciences in Sittard. The paper aims to explore the effects of including adapted activities in an English lesson based on the concept of the Multiple Intelligences theory. The subject of this research is largely Howard Gardner's theory of Multiple Intelligences and the applicability of the intelligences into the English-speaking classroom.

My interest for Gardner's theory was sparked in my second year during my Psycholinguistics course. When I heard of the theory, I thought the theory essentially provides a great answer to dealing with the many pupils we face each day as teachers. Gardner and many other educators have supported the theory and claimed that adapting the theory into lessons will provide motivated students and better results. Therefore I wanted to further research the theory and what it can offer to the English as a second language classroom.

This research has been carried out at Trevianum SG, a secondary school in Sittard with havo, atheneum, and gymnasium classes. I carried out this research with two havo-2 classes for a period of four weeks.

The results of this thesis seem generally positive: the class that received adapted activites based on the most common intelligence scored higher marks. However, this research was carried out for a period of four weeks of adapted activities with two havo-2 classes. It would therefore be interesting to conduct a follow-up research on a larger scale with several parallel classes in order to find more trustworthy and reliable results.

This research did not go without help and support. I would therefore like to thank my two supervisors, Joep Brassée and Jacqueline van Mil, for allowing me to carry out this research in their classes. Also I would like to thank my thesis supervisor Hannie Lucassen for aiding me throughout this process and giving me clear feedback.

I can confirm that this thesis is an original piece of work. I only used the sources listed in the bibliography and webliography.

Devon Beunen
Sittard, 10 May 2015

SUMMARY

The aim of this thesis is to establish whether or not Howard Gardner's Multiple Intelligence Theory can be used as an effective tool to increase pupils' marks for grammar and vocabulary. This research was carried out at Trevianum SG in Sittard, a havo-vwo-gymnasium school, where I am currently rounding off my graduation traineeship. In my classes, there are remarkable differences in motivation and language proficiency in English for each pupil.

In the theoretical part of this research paper, the multiple intelligences theory and the criticism to the theory are discussed. Additionally, some tips on introducing the intelligences to a lesson are set out. In order to establish whether or not the multiple intelligences theory is an effective tool to increase pupils' marks, I present a set of lesson materials used in a four-week period based on the most common intelligence type. According to Howard Gardner, who coined the theory in 1983, people have at least seven different intelligences, which develop separately. My hypothesis is that the use of at least one activity based on the most common intelligence type in a classroom will benefit the pupils' marks for grammar and vocabulary. I will compare the results of the class that has received adapted instruction and the class who received regular instruction for those four weeks.

The practical part of my research consists of a set of adapted lesson materials based on the most common intelligence type: bodily-kinaesthetic. The results of the research show that the class who received adapted instruction scored remarkably higher on their written test than the class who received regular instruction. Furthermore, the class who received adapted instruction seemed to be more motivated and they were more satisfied with their mark and the previous lessons. Although a more extensive and elaborate research is needed to validate the results further, I think that I can deduce from my results that the Multiple Intelligences theory is a useful tool in increasing pupils' marks and motivation in the English-speaking classroom.

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INTRODUCTION

1.1 School context

This research is based on Howard Gardner's Multiple Intelligences theory and how the theory conveys to the English as a second language classroom. My research will take place at Trevianum SG in Sittard, a secondary school for havo, vwo and gymnasium students. Two of my havo-2 classes will act as my research groups. Both groups differ greatly in pupils' motivation and level of language proficiency. Howard Gardner's theory of Multiple Intelligences is often presented as an answer to standardised testing and modern coursebooks, which seem focused on acquiring language through written texts. Therefore, I would like to find out whether a different approach in teaching material, one that is based on the most common intelligence type in a class, will increase learners' marks, as the theory would suggest.

1.2 The incentive for my thesis question

I first heard of the MI theory in my Psycholinguistics course during my second year at Fontys University and I was immediately convinced that this theory seemed like a perfect answer to the various types of student we encounter in our teaching career. I had always been intrigued in how far the theory is psychology and to what extent the theory can be explained by science. In his book *Frames of Mind* (1983), Gardner states there is a set of multiple intelligences that we humans "have the full range of intelligences; that is what makes us human beings, cognitively speaking." (p.23) I am positive that all teachers can come up with examples of lively pupils that cannot sit still and seem bored with the lessons we have spent so much time preparing for. Howard Gardner's theory seems to be an answer to this complication: "Anything that is worth teaching can be presented in many different ways. These multiple ways can make use of our multiple intelligences." This led me to my research question of how the adapted multiple intelligences theory in my own English as a second language classroom can lead to an increase in pupils' marks.

PERSONAL QUALITIES NOT MEASURED BY STANDARDISED TESTS

Creativity
Critical Thinking
Resilience
Motivation
Persistence
Curiosity
Question Asking
Humour
Endurance
Reliability
Enthusiasm
Civil-Mindedness
Self-Awareness
Self-Discipline
Empathy
Leadership
Compassion
Courage
Sense of Beauty
Sense of Wonder
Resourcefulness
Spontaneity
Humility

1.3 Research goal and research questions

> *"I want my children to understand the world, but not just because the world is fascinating and the human mind is curious. I want them to understand it so that they will be positioned to make it a better place. Knowledge is not the same as morality, but we need to understand if we are to avoid past mistakes and move in productive directions. An important part of that understanding is knowing who we are and what we can do… Ultimately, we must synthesize our understandings for ourselves. The performance of understanding that try matters are the ones we carry out as human beings in an imperfect world which we can affect for good or for ill."* (Gardner, Multiple Intelligences, 2006)

My goal for this research is to find out whether an adapted lesson plan based on the multiple intelligences theory will can benefit students with supposed different intelligences. My main thesis question, therefore, will be:

Do pupils benefit from an adapted grammar approach based on the Multiple Intelligences Theory?

My sub questions are:

1. What is the MI theory?
2. What are the main guidelines for each intelligence that can be adapted in the classroom?
3. What are the main criticisms of the Multiple Intelligences Theory?
4. Do the results the class who did work with the MI theory differ from the class who received my regular lessons?

Before I start my research, it is important to gather as much information about the theory and the intelligences. Furthermore, it is equally important to look at possible criticisms to the theory since it was presented in 1983. Additionally, tips on how to adapt the intelligences to the classroom will be given.

For my research, I want to test the theory with my two HAVO2 classes. The theory will be explained to both classes and both classes will take a Multiple Intelligences test to find out in which intelligence they have the highest score. Drawing from these results, I will pick the class with the most common and most frequent intelligence type as my research group. This means that for a period of time I will include one activity based on this intelligence in each lesson for a period of four weeks. The other group will be my control group. This group will receive regular instruction from the coursebook *Solutions Elementary*. The question that I want answered is whether there is a difference in the marks between the class that received adapted activities based on the most common intelligence type and the class that received regular instruction based on the coursebook. I will compare the findings of my control group with the findings of my practice group.

1.4 Relevance for the school

This subject is relevant for the school and for my own career as well since nowadays teaching is all about life-long learning. The Multiple Intelligences theory is a theory that can be adapted to any classroom, according to Gardner: "Anything that is worth teaching can be presented in many different ways. These multiple ways can make use of our multiple intelligences." (Gardner, Frames of Mind, 2011) If my research findings are positive I will

exchange these findings with my colleagues at Trevianum SG and my fellow classmates at Fontys University. I feel as if often the fear of losing control of the classroom is the main reason why teachers try not to divert too much from their standard way of teaching. If the results of this research are positive, I think this research could be seen as a reason to explore the Multiple Intelligences theory and how it can be used in your classroom.

1.5 Relevance for my own professional development

The relevance for my own professional development in this research means that I will have to explore the variations and possibilities in teaching. As I shall have to create the adapted activities based on the most common intelligence type myself, I am forced to be critical of my own teaching and what I offer the students. Even if the results of this research will be indiscernible, I will still benefit from learning about differentiating and how the theory can be applied to the classroom. I am positive that I will expand my own teaching tools for the English-speaking classroom. Furthermore, this theory is often used and explained to pupils when they exclaim that they "are not smart enough" for the subject of English. In this respect, I think the theory can have a positive effect on learners' expectations of their own abilities.

LITERATURE RESEARCH

2.1 Description of the search for literature

The main subject that will be reviewed in the literature research is that of the Multiple Intelligences theory and its criticisms. Both the accolades and the criticism to this theory are useful for my research, as educators have experimented with the theory in various researches since the theory was presented in 1983 and this has led to different conclusions, as I will explain in the literature research. My first choice as the most fundamental literature that I used for this research is the revised vision Howard Gardner's *Multiple Intelligences* (2008). In his latest version, he explains his intelligences theory and accounts for some criticism, elaborating on the theory from various points of view.

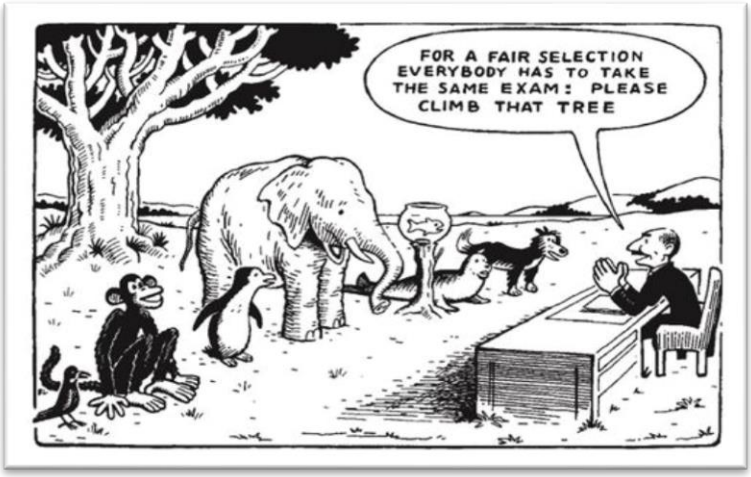
Furthermore, I looked into *Practical Intelligence: Nature and Origins of Competence in the Everyday World* (1986) by Richard K. Wagner and Robert J. Steinberg and *Multiple Intelligences in the Classroom* by Thomas Armstrong (2008) which give very practical tips to the intelligences and how these can be applied in the classroom. For more background information on Gardner and the intelligences, I searched for articles on the internet in which the theories are discussed.

2.2 The Multiple Intelligences

"Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid." From *The Rhythm of Life: Living Every Day with Passion and Purpose* (2004) by Matthew Kelly

One of the greatest thinkers of the 20th century, Albert Einstein, was not able to speak until he was four. Although Einstein had not been raised in a blue-collar household – his parents were a salesman and an engineer – he did not utter his first word until he turned four. In recent years, it has been claimed by professionals that Einstein suffered from dyslexia. Despite his apparent struggle with words, Einstein thrived as a scientist and investigator and became one of the most accomplished physicists the world has known.

The quote above is often wrongly attributed to Einstein, but it is applicable to him nonetheless. If Einstein had taken an average CITO-test[1] as a child, he most likely would not have been in the top 10 "smartest" students of the year. This is where Howard Gardner's theory of Multiple Intelligences seems to provide an answer: Gardner questions the idea that intelligence is a single entity that can be measured simply via tests (Smith, Howard Gardner, Multiple Intelligences and Education, 2008).



Source: *Scholasticadministrator*

[1] A CITO-test is a standardised test that pupils have to take at various points in their school career. This CITO-test is the standard in which pupils are compared to each other.

In order to give a complete image of the theory, these questions will be answered:
1. What is the MI theory?
2. What are the main guidelines for each intelligence that can be adapted in the classroom?
3. What are the main criticisms of the Multiple Intelligences Theory?

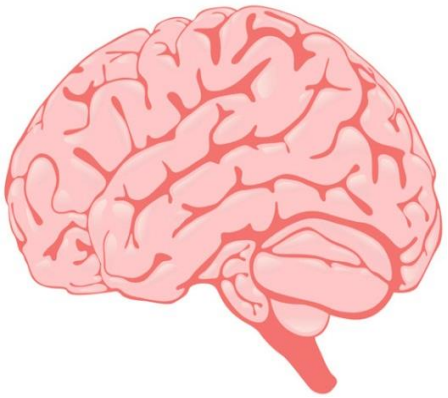
A WHAT IS THE MULTIPLE INTELLIGENCES THEORY?

The theory of there being a set of Multiple Intelligences rather than one fixed intelligence was coined by Howard Gardner in his book *Frames of Mind* (published in 1983). Gardner claims that the I.Q. test, established by Alfred Binet, is a tool that claims to make intelligence quantifiable by measuring it in numbers, but that it was an unjust tool. According to Gardner, this I.Q. test could not just 'measure' the intelligence of an individual in a number. Another version of the I.Q. test is the Scholastic Aptitude Test (or SATs, what we would call 'CITO' in the Netherlands) – a standardised test that students have to take at various points in their school career in order to measure their progress compared to other students. Both the SATs and the CITO-tests have received much criticism lately; it is said that these tests are unable to measure a student's full potential in a single standardised test. Gardner (Gardner, 2006) claims that the standard I.Q. test and SAT consists mostly of questions that relate to his theory of 'logical-mathematical intelligence' and the 'linguistic intelligence' – two intelligences that, according to Gardner, are valued the most in our Western society. He calls this preference for the logical-mathematical intelligence and the linguistic intelligence the 'mind of the future law professor society': the idea that our current society seems to value professions that include these two intelligences (such as a law professor) over professions that include other intelligences (for example a photographer). (Lynch, 2012)But what defines an intelligence? Gardner took evidence from studies, gifted individuals, brain-damaged patients, normal children and adults and 'idiots savants' and consequently created his theory. Gardner mentions in his book that our Western world values the vertical mind, measured in high IQ, but that his theory values the horizontal mind, measured in a set of skills and interests in different topics:

> *"To my mind, a human intellectual competence must entail a set of skills of problem solving — enabling the individual to resolve genuine problems or difficulties that he or she encounters and, when appropriate, to create an effective product — and must also entail the potential for finding or creating problems — and thereby laying the groundwork for the acquisition of new knowledge."*
> (Gardner, Multiple Intelligences, 2006)

Source: *Coach2Clarity.com*

Gardner sees the Multiple Intelligences theory as a handy tool to tackle learning difficulties. He states that every complex society has 100-200 occupations that evolve over time and that this phenomenon cannot merely be an accident, therefore it must be based on something. Gardner relates this phenomenon to the culturally constructed idea of knowledge and that it must have some affiliation between intelligences and how they develop. (Icels-educators, 2015)



> *"In the heyday of the psychometric and behaviourist eras, it was generally believed that intelligence was a single entity that was inherited; and that human beings – initially a blank slate – could be trained to learn anything, provided that it was presented in an appropriate way. Nowadays an increasing number of researchers believe precisely the opposite; that there exists a multitude of intelligences, quite independent of each other; that each intelligence has its own strengths and constraints; that the mind is far from unencumbered at birth; and that it is unexpectedly difficult to teach things that go against early 'naive' theories of that challenge the natural lines of force within an intelligence and its matching domains."* (Gardner, Multiple Intelligences, 2006)

The disputed question of what an intelligence really entails still has no clear definition today. Gardner questioned the idea that intelligence is a single entity which can be measured simply via IQ tests that give the results in a two- or three-number digit. (Smith, Howard Gardner and Multiple Intelligences, 2002) In his book *Multiple Intelligences*, Gardner claims there to be eight 'signs' of an intelligence. Gardner used these eight signs to identify his list of multiple intelligences. These signs shall be briefly addressed below. (Gardner, Frames of Mind, 2011)

1-Potential isolation by brain damage

Gardner researched individuals who suffered from brain damage, be it by illness or accidents. Gardner found that some damaged regions of the brain had impact on a certain intelligence while the other intelligences remained intact. An example of this phenomenon is that of a young man whose left frontal lobe (Broca's area – the area for producing language) was impaired. The young man could not speak but he could still do math (logical intelligence) and reflect on feelings (intrapersonal intelligence). Gardner claims that there are eight relatively autonomous areas in the brain that connect to each intelligence and that the intelligences develop separately from each other.

2-Existence of idiot savants, prodigies, and other exceptional individuals

Gardner researched people who contained the extremes in the intelligence spectrum and concluded that some people have high intelligences in some areas when the other areas score relatively low. An example of this phenomenon is that of Kim Peek, whose life story inspired the film *Rain Man*. Kim Peek was an autistic savant who had a very high logical mathematical intelligence but a low quality of the 'personal intelligences'.

3-Core operation(s)

Gardner found that there are more information-processing operations for several kinds of input. An example of this is our sensitivity to pitch and tones as an aspect of the musical intelligence and our sensitivity of the movements of others as an aspect of our bodily intelligence.

4-Developmental history of an intelligence

Gardner found that normal and gifted individuals possess an intelligence of which the development is unpredictable. Intelligence will not develop in isolation: it develops in a culture. Each intelligence has its own developmental trajectory with peaks and gradations. An example of this are several people who have become famous at a later age, like Toni Morrison, who wrote her first novel at age 39.

5-Evolution theory

Gardner says that the eight intelligences are deeply linked to the human evolution. An example of this phenomenon is spatial intelligence: Gardner links this intelligence to the cave paintings in Lascaux and even to insects orienting themselves towards flowers. Gardner links musical intelligence to ancient instruments found by archaeologists and even birds that sing their songs. Furthermore, Gardner claims that certain intelligences were more important during a certain period of time. A good example is bodily-kinaesthetic intelligence in hunter-gatherer societies. Gardner predicts that certain intelligences will become more important in the future. Likewise, some intelligences would become less important in the future.

6- Experimental tests: Psychological Tasks

According to Gardner, the intelligences can work separately: human beings can possess selective abilities of these intelligences. An example of this phenomenon is a person who is very good at reading but who cannot transfer this skill to his logical-mathematical intelligence.

7- Experimental examinations: Psychometric Findings

Gardner claims that psychological testing – such as IQ tests – can be helpful as to assess one intelligence to another. Although Gardner is no proponent of standardised testing, he suggests that many of the standardised tests in school possess the qualities of all the multiple intelligences. An example of this are the series of qualities children in primary education should possess: reading skills, vocabulary (linguistic intelligence), mathematics (logical intelligence), arranging pictures (viseo-spatial intelligence) and body skills (bodily-kinaesthetic intelligence). However, Gardner mentions that the three personal intelligences are hardly present in our schools.

8-Psychometric findings: Encoding In A Symbol System

Gardner says that the ability of an intelligence is to naturally lean towards a symbolic system. An example of these kinds of systems is the alphabet for linguistic intelligence, numbers for logical-mathematical intelligence, and pictures for viseo-spatial intelligence. Although an intelligence can exist without this set of measurements (such as the personal intelligences), a symbol of human intelligence is their need for a symbolic system that can be measured.

> *"It is of the utmost importance that we recognize and nurture all of the varied human intelligences, and all of the combinations of intelligences. We are all so different largely because we all have different combinations of intelligences. If we recognize this, I think we will have at least a better chance of dealing appropriately with the many problems that we face in the world."*
> Howard Gardner (Gardner, Frames of Mind, 2011)

What struck Gardner in investigating this theory further is that our I.Q. test or SAT would not explain the geniuses that are Charles Darwin or Mozart, who were both experts in their field and very famous names even today. In this book *Frames of Mind*, Gardner coined his theory of seven main intelligences. (Armstrong, Multiple Intelligences in the Classroom, 2009)

However, he added that this was a provisional list and he never rejected the idea of there being more possible intelligences. He later added two intelligences – the naturalistic intelligence and the existential intelligence - but the legitimacy of these can be disputed, as will be explained below.

The natural intelligence scores well on the eight criteria for an intelligence (listed above). The naturalist intelligence explains the intelligence of Charles Darwin or Geermat Vermij, a Dutch naturalist who is blind but depends on his sense of touch. However, the naturalist intelligence is not very prominent in our current developed society. Howard Gardner claims that young children can easily make distinctions in the naturalist intelligence so he does not want to disregard this intelligence entirely. Furthermore, he claims that our entire consumer culture is based on the naturalist intelligence, and that it is this intelligence that explains why we are drawn to one pair of shoes rather than another. More examples in the naturalist intelligence regarding learning styles are not given.

The spiritual, or existential intelligence, is less straightforward according to Gardner, as people have different views on religion and spirituality. There are some who claim that spirituality does not exist and others who claim that spirituality is the highest achievement in human beings. Gardner spent the last 20 years trying to define spiritual intelligence but has slowly let go of this possible intelligence, his argument being that an intelligence should not be related to an individual's phenomenological experience. What makes this intelligence even more ambiguous is that for many individuals spirituality and their religion is not allegiant. Gardner thought this was too tricky, and perhaps too personal, to dig into: "This requirement makes me uncomfortable and takes us far from the initial set of criteria for an intelligence." (Gardner, Multiple Intelligences, 2006) Gardner concluded this topic by stating that if this intelligence would qualify, it would have to be an *existential* rather than *spiritual* intelligence, but perhaps we are then looking into emotional intelligence, which is an entirely different part in intelligences.

To conclude this speculation, Gardner referred to his multiple intelligences as the '8 ½ intelligences, acknowledging a degree of validity for the naturalist intelligence and the existential intelligence. However, in my research I will leave out the existential intelligence and the naturalistic intelligence as they were added later and as their validity is not yet conclusive.

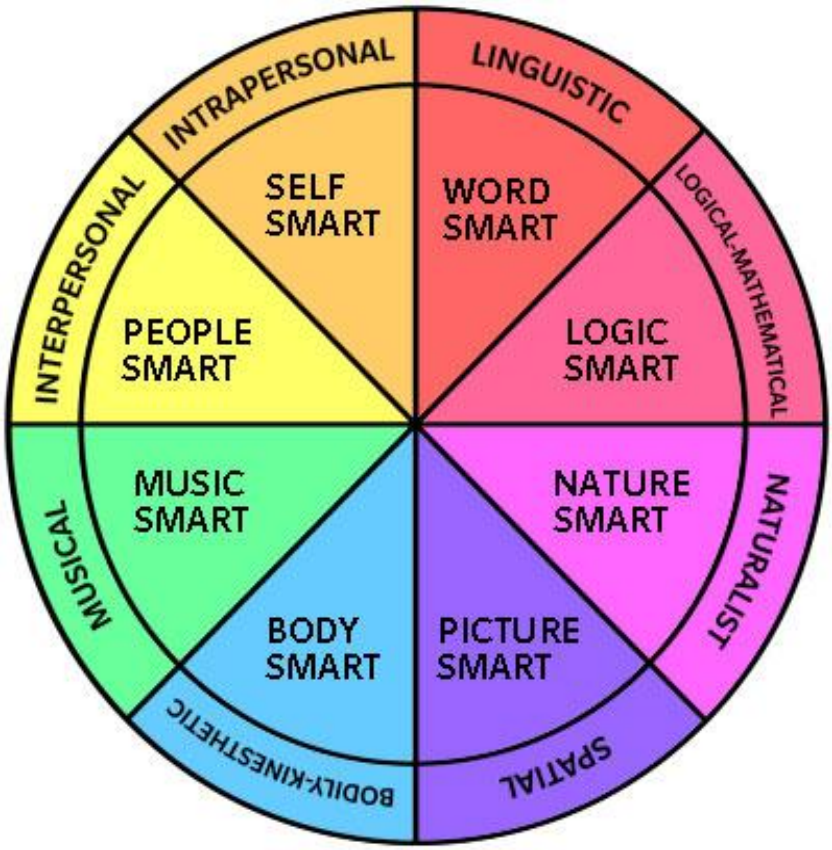


Photo: Questgarden

B What are the Main guidelines for each intelligence that can be adapted in the classroom

"If the only tool you have is a hammer, everything around you looks like a nail." Abraham Maslow

Learning difficulties such as dyslexia and ADHD are often seen as the main struggles in young learners. The MI theory focuses not on these difficulties but rather on the strengths of a learner. If a child is diagnosed with dyslexia, then what fun is there in classes which focus heavily on reading academic texts? Jamie Oliver is a world-famous chef who suffers from dyslexia. He read his first book when he was 39. And yet, as a highly talented cook he has built a brand that is worth several million pounds.

The existential intelligence and the natural intelligence will be left out in this research, as these were added later by Gardner and as their validity is not yet conclusive. The naturalist intelligence is too difficult to adapt to the classroom, and the spiritual intelligence is perhaps too controversial to adapt to the classroom, depending on the different opinions on spirituality and religion. A list of tools for teachers will be provided below for each intelligence, so that guidelines can be used by teachers to adapt these intelligences in their lessons. These strategies are very general and taken from *Multiple Intelligences in the Classroom*. (Armstrong, 2009)

For my research, I will only look at the first seven, but in the text below I will refer to the last two briefly. Gardner sees the linguistic intelligence and the logic-mathematical intelligence as the two intelligences that are most qualified in school. The musical intelligence, the body-

kinaesthetic intelligence and the viseo-spatial intelligence are the intelligences linked to the arts whereas the interpersonal and intrapersonal are the personal intelligences. (Smith, Howard Gardner, Multiple Intelligences and Education, 2008) These intelligences do not work separately but are used at the same time; they complement each other in problem-solving skills. Furthermore, Gardner says these intelligences are amoral: they are neither good nor bad. The intelligences can be put to constructive use or destructive use, depending on one's choice. A very unceremonious example of this is the linguistic intelligence and the love of words found in both Martin Luther King, who used it to inspire actions for equality amongst black people in the Civil Rights Movement, and Joseph Goebbels, who used it to spark disparity and hate amongst the German Empire during the Second World War.

1-Musical intelligence → music smart

Musical intelligence is the capacity to seek out patterns (e.g. discerning pitch, rhythm, timbre, tone in music). People with this intelligence enjoy music and often uses patterns to remember things. Often these learners prefer auditory information, which makes them good foreign language learners. These learners are good at pronunciation and prefer to remember things in patterns. Gardner stated that there might be a connection between musical intelligence and mathematical intelligence as both intelligences "are made out of patterns".

Examples: musician, singer, songwriter, performer, music teacher, instrument maker, music critic, DJ, voice coach, entertainer
Subjects in school: Music class, foreign languages
Famous examples: Mozart, Bach, Ray Charles, Michael Jackson, Madonna, John Lennon

2-Bodily-kinaesthetic intelligence → body smart

Bodily-kinaesthetic intelligence is the capacity to manipulate objects and use a variety of physical skills. People with this intelligence are good at timing and perfection of skills through mind-body union. Often these learners enjoy sports, dancing, and crafts. These learners prefer hands-on experiences (touching, feeling, doing) and to move around. Gardner noted that children who have ADHD are often correlated to this intelligence. Because these learners often enjoy sports, they enjoy competitions and games as well.

Examples: sportsmen, surgeons, mechanic, craftsperson, coach, dancer, hairdresser, magician, dentist, actor, soldier, landscaper
Subjects in school: P.E., technique
Famous examples: Charlie Chaplin, Michael Jordan, David Beckham

3-Logical-mathematical intelligence → number smart / reasoning smart

Logical-mathematical intelligence is the capacity to carry out mathematical operations. It focuses on connections to use abstract thought and inductive and deductive thinking patterns. Often these

learners are interested in patterns, categories, and relationships. They are often good at strategy games, working with numbers, and enjoy experiments. These learners have a better understanding of *how things work* rather than *how things look*. They have a good eye for detail and prefer to work organised. Gardner noted that children who have dyslexia are often correlated to this intelligence.
Examples: mathematicians, scientists, detectives, accountant, air traffic controller, computer programmer, astronaut, researcher, computer game designer, banker, inventor, engineer
Subjects in school: Mathematics, science, biology
Famous examples: Albert Einstein, Isaac Newton, Neil DeGrasse Tyson, Bill Nye

4-Linguistic intelligence → word smart

Linguistic intelligence is the ability to think in words and use language to express complex meanings or thoughts. It allows us to understand the meaning of words and meta-linguistic skills. Often these learners enjoy reading, poetry, and crossword puzzles. People with this intelligence are also good at languages and have a good understanding of the rules and functions of languages. These learners can express themselves clearly, due to their large vocabulary. These learners think in words rather than in pictures. They are often good listeners and storytellers. They like to quote TV shows or books and remember these quotes easily.
Examples: writers, talkshow host/public speaker, poet, journalist, librarian, salesperson, lawyer
Subjects in school: Languages, foreign languages, and to a certain degree also History, Geography and Biology, as it contains a lot of reading
Famous examples: Maya Angelou, J.K. Rowling, William Shakespeare, Winston Churchill

5-Viseo-spatial intelligence → picture smart

Spatial intelligence is the ability to think in three dimensions. This intelligence allows us to visualise the world accurately and modify our surroundings based on our perceptions with our spatial judgement and reasoning. Often these learners are more interested in how things look rather than how things work and are good at creative design. These learners enjoy jigsaw puzzles or mazes and enjoy drawing. These learners think in pictures rather than in words. They have a tendency to daydream a lot.
Examples: painter, artist, architect, engineer, fashion designer, sailors, pilots, sculptors, architect, graphic designer, cartoonist, photographer, surgeon
Subjects in school: Art and design
Famous examples: Alexander McQueen, Pablo Picasso, Frank Lloyd Wright

6-Intrapersonal intelligence → self smart

Intrapersonal intelligence is the ability to understand oneself and one's thoughts and feelings and to use this knowledge in planning one's life. Often these learners are very self-aware and have a need to understand themselves (their feelings, fears, motivations). These learners tend to be shy. They work well with deadlines and have high intrinsic motivation. These learners know how they feel

and know how they will possibly react in the future.
Examples: writers, psychologist, philosopher, spiritual leaders, actor, artist, counsellor, social worker, teacher, biographer
Subjects in school: Psychology, languages
Famous examples: Eleanor Roosevelt, Plato, Jean Piaget

7-INTERPERSONAL INTELLIGENCE → PEOPLE SMART

Interpersonal intelligence is the ability to understand and interact effectively with others. This intelligence focuses on verbal and non-verbal communication to notice distinctions between others, sensitivity to the moods of others. This intelligence benefits from being able to see things from different perspectives. Often these learners are leaders among their peers and good at communicating. These learners enjoy working with others and helping others. These learners are often social and enjoy being a part of a club and playing in a team. However, they might be susceptible to peer pressure as well. These learners might be good at deducting body language.
Examples: leader, teacher, social worker, actor, politician, manager, interviewer, therapist, criminologist, psychologist, counsellor, waiter/waitress, doctor, nurse
Subjects in school: Social studies
Famous examples: Mahatma Gandhi, Mother Teresa, Oprah Winfrey

8-NATURALIST INTELLIGENCE → NATURE SMART

Naturalist intelligence is the ability to discriminate among living things – plants, animals – and having a sensitivity to the natural world. This ability was more prominent in our evolutionary past as hunters, gatherers and farmers, but it continues to be important in certain professions. Often these learners enjoy being outside and enjoy categorising things. It can be speculated that our consumer society exploits this naturalist intelligence, which can be mobilized in the discrimination among cars, jam flavours, sneakers, etc. These learners might be vegetarians and/or opposed to pollution and litter.
Examples: botanist, chef, farmer, veterinarian, archaeologist, biologist
Subjects in school: Biology
Famous examples: Charles Darwin, Jamie Oliver

9-EXISTENTIAL INTELLIGENCE

Existential intelligence is the capacity to tackle deep questions about life and human existence.
Examples: philosopher, spiritual leader
Famous examples: Deepak Chopra, Dalai Lama

As I have now explained each intelligence briefly, I will look deeper into 'hands-on' tips for each intelligence that can be adapted to the classroom. (Armstrong, 2009)

1-MUSICAL INTELLIGENCE → MUSIC SMART

Musical intelligence.

- Rhythms, songs, raps, chants: Put whatever it is you teach in a rhythmic format. This also includes, in some way, pattern drills. Pattern drills were part of the Audio-lingual method in grammar teaching, based on the behaviourist theory that believed humans could be trained through reinforcement. Musical learners are more prone to remembering certain rhythmic structures. (Lightbrown & Spada, 2013)
- Discographies: Songs can be picked out to illustrate the themes you are discussing in class. These songs can be a great introduction to a lesson and can provide different perspectives into the theme.
- Super memory music: Experiment with the influence of classical music on the learners. In a research done by Rose in 1987, learners learn better when they are being put in a relaxed atmosphere with classical music playing whilst the teacher is giving them input.
- Musical concepts: The concept of music can be conveyed whilst expressing cosines and ellipses or other mathematical items.
- Mood music: Music has a great influence on emotions and teachers can deliberately pick out music that influences the learners.

Pay attention to:

- Does the teacher use his or her voice as an instrument and with variation?
- Does the environment promote learning: background noise, silence, environmental sounds).

How to get the learners' attention:

- Clap a short rhythmic phase and let them clap it back.

How to explain class rules:

- The rules are set to a song (written by student) or have each song be associated to a relevant song (e.g. 'Have respect for others' set to *R.E.S.P.E.C.T.* by Aretha Franklin).

How to form groups:

- Think of songs that have to do with the subject and write them on the board. The teacher will whisper a song to a learner and the learners start singing and thus they will find their group mate.

2-BODILY-KINAESTHETIC INTELLIGENCE → BODY SMART

Bodily-kinaesthetic intelligence.

- Body answers: Learners show their answer by using their body. A simple way is by raising your hand if you understand. This can be varied and it can be adapted in a teaching presentation or lecture.
- Classroom theatre: Let learners enact the material by dramatizing or role-playing. These can be very helpful as warm-up activities.
- Kinaesthetic concepts: Games with kinaesthetic background trigger kinaesthetic learners' attention. Think of charades or pantomimes. This can also be used for the Total Physical Response in language teaching, where learners listen and respond with physical movements. Grammar is not being taught explicitly but vocabulary and phrasal verbs are useful to be taught in the Total Physical Response. This grammar teaching method is based on first language learning and the interactions between parent and child. (Asher, 2011) (Lightbrown & Spada, 2013)
- Hands-on thinking: Learners should have the opportunity to learn by manipulating objects or making things with their hands.
- Body maps: Let learners use their body as a device in which they can show their knowledge. For example: If your body was Italy, where is Florence located?

Pay attention to:

- Are learners allowed to move with some exercises?
- Are there materials in the classroom that allow learners to have a hands-on experience?

How to get the learners' attention:
- Express yourself via body language and let other students mirror your gestures.

How to explain class rules:
- Each 'rule' has a specific gesture.

How to form groups:
- Let learners hop on one foot and form groups with people who also hop on their right foot or left foot.

3-LOGICAL-MATHEMATICAL INTELLIGENCE → NUMBER SMART / REASONING SMART

Logical-mathematical intelligence.
- Calculations and quantifications: Working with numbers outside of mathematics and science classes can motivate logical learners. Learners may benefit from looking up the number of lives lost in wars or populations of countries.
- Classifications and categorisations: The logical mind prefers to categorise items. This works particularly well after a brainstorm session, so students can categorise these things, 'take the odd one out'. This also includes diagrams, time lines, 5W-questions, and mind-maps (which often correlate to spatial intelligence as well).
- Socratic questioning: In a Socratic questioning circle, the teacher questions the students' perspective rather than providing knowledge. Students share their statements and the teacher is a guiding figure.
- Heuristics: Heuristics refers to a method of solving problems. Examples of heuristics are trial and error, drawing a picture if you find something difficult to understand, working backward with a problem (assuming you have a solution and seeing what you can derive from that) and coming up with a concrete example when the problem is abstract.
- Science thinking: Science can be found in almost any subject in school, e.g. science fiction stories in English, overpopulation in Geography, the greenhouse effect in Biology, or the atom bomb in History.

Pay attention to:
- Do students have opportunities to work on long-term projects without being interrupted?
- Is there some consistency in school days?

How to get the learners' attention:
- Use a stopwatch to keep track of time being wasted.

How to explain class rules:
- Rules are numbered and referred to by number.

How to form groups:
- When given a signal, students will raise 1-5 fingers. The fingers that match will be put together in a group.

4-LINGUISTIC INTELLIGENCE → WORD SMART

Linguistic intelligence.
- Storytelling → Storytelling can be used for entertainment purposes but it can also be applied in mathematics and science classes to explain difficult concepts in a different way.
- Brainstorming/mindmaps → As Lev Vygotsky said, "A thought is like a cloud shredding a shower of words." For brainstorming to work effectively, pupils need to feel safe in their environment. A general rule is that every idea counts.
- Tape recording: Tape recording can be useful in practising pronunciation in foreign language classes. Learners can use these tape recorders to talk out loud about the problems they come across in learning. Tape recording can be used as a warming-up activity for writing.

- Journal Writing: This can be adapted to many lessons: e.g. “Write about your day today” or “Write about your life as a priest in the 1600s”, “Write down how you solved this problem”, VV so on. Learners with a high intrapersonal intelligence will enjoy this method as well. More intelligences can be incorporated when drawings, sketches, photos are allowed.
- Publishing: Instead of letting learners hand something in and grade it and throw it away, students write something that is published or distributed to a school paper or a children’s magazine. You can even create magazines in class like this.

Pay attention to:
- The language that you use should be adapted ‘teacher talk’ (not too difficult and not too easy)
- Are students exposed to the written language (books, posters, videos, novels, newspapers)?

How to get the learners’ attention:
- Write the words “*Silence, please!*” on the blackboard.

How to explain class rules:
- Rules are written and hung around the classroom.

How to form groups:
- Let learners form groups based on a vowel sound in their first name.

5-VISEO-SPATIAL INTELLIGENCE → PICTURE SMART

Viseo-spatial intelligence.
- Visualisation: Let students close their eyes and picture whatever is being studied (‘mental picture’).
- Colour cues: Spatial learners are often sensitive to colour and can benefit greatly from mind-maps, as long as the colours are used to categorise. Teachers can adapt their teaching presentation by using colours to mark certain material, emphasise patterns.
- Picture metaphors: Gardner claimed in his book *Frames of Mind* that children are excellent at discovering metaphors: making connections between two items. “Take the odd one out” with pictures can provide a nice speaking exercise in languages.
- Idea sketching: Learners are asked to draw or sketch the idea or theme that is being taught. Of course, this is not the time to pay attention to neatness and realism, but rather the correctness and connections that are being drawn.
- Graphic symbols: Teachers should support their explanation with drawings and graphic symbols as to trigger a spatial learner’s attention.

Pay attention to:
- How the classroom is organised (you may want to adapt this for different methods.)
- Is the room ‘attractively’ decorated, or boring? Is the classroom visually interesting: posters, art, cartoons?

How to get the learners’ attention:
- Put a photo of an attentive classroom on the board.

How to explain class rules:
- Write graphic symbols next to the rules of what to do and what not to do.

How to form groups:
- Let learners form groups based on the same colour clothing.

6-INTRAPERSONAL INTELLIGENCE → SELF SMART

Intrapersonal intelligence.
- One-minute reflection periods: Students should have regular timeouts during discussions or project work. One-minute reflection periods allow students to rethink what they have been a part of.
- Personal connections: Intrapersonal learners might find it difficult to see the

necessity of a subject when it is not linked to their world. To them, it can be very useful to link the subject to their world and their future.
- Choice time: Giving learners a fair choice makes their responsibility-picking skill grow. These choices may be very small in nature, but they give learners the feeling of autonomy.
- Feeling-toned moments: Humans have a very emotional brain and tend to remember the emotional moments the best. It is therefore noted that very few classrooms had experiences of true feeling (excitement, anger, joy, caring) – most of the time the information was passed on in a neutral way. Teachers should be aware of their enthusiasm and their learners' emotions.
- Goal-setting sessions: Intrapersonal learners are very good at setting realistic goals for themselves. These goals may be short-term ("Which three things do you want to learn today?") or long-term ("What do you want to do 5 years from now?")

Pay attention to:
- Do learners get the opportunity to work independently?
- Do learners feel safe enough to share their feelings or inner life with the classroom?
- Are learners exposed to positive praise to heighten their self-concept?

How to get the learners' attention:
- Start teaching anyway and let students take charge of their own behaviour – and give them feedback afterwards.

How to explain class rules:
- Learners make their own rules at the beginning of the school year.

7-INTERPERSONAL INTELLIGENCE → PEOPLE SMART

Interpersonal intelligence.

- Peer sharing: Sharing information, a question, share knowledge with a peer, think of 'think-pair-share' – this can be applied to many work forms. Peer sharing benefits cooperative learning and these periods of sharing can be short or extended. Part of peer sharing can also be peer tutoring.
- People sculptures: Let students represent a physical idea or concept, e.g. forming letters or holding up letters in language class.
- Cooperative groups: Let students work together in groups, e.g. presentations. This is very useful as a variety of intelligences comes together in a group. If there are groups at work, we should be aware of giving students a set of tasks in which their input can be measured.
- Board games: Board games are useful to learn in an informal setting, as long as students are working on the subject matter.
- Simulations: Simulations can be quick and improvisational: let students act out a situation, e.g. a situation in a story.

Pay attention to:
- The atmosphere in the classroom: is it a safe, pedagogical setting?
- Do the learners have opportunities to interact in positive ways (group work, cooperative learning, peer teaching, discussions) or are they 'isolated' from one another?

How to get the learners' attention:
- Tell a learner: "It's time to begin the lesson – so pass it on" and wait while the message is passed around the room.

How to explain class rules:
- A group of 4 learners are responsible for a rule and how the communicate it to the rest of the class.

1.1

MI Theory Summary Chart

Intelligence	Core Components	Symbol Systems	High End-States	Neurological Systems (Primary Areas)	Developmental Factors	Ways that Cultures Value	Evolutionary Origins	Presence in Other Species	Historical Factors (Relative to Current U.S. Status)
Linguistic	Sensitivity to the sounds, structure, meanings, and functions of words and language	Phonetic languages (e.g., English)	Writer, orator (e.g., Virginia Woolf, Martin Luther King Jr.)	Left temporal and frontal lobes (e.g., Broca's/ Wernicke's areas)	"Explodes" in early childhood; remains robust until old age	Oral histories, storytelling, literature	Written notations found dating to 30,000 years ago	Apes' ability to name	Oral transmission more important before printing press
Logical-Mathematical	Sensitivity to, and capacity to discern, logical or numerical patterns; ability to handle long chains of reasoning	Computer languages (e.g., Basic)	Scientist, mathematician (e.g., Madame Curie, Blaise Pascal)	Left frontal and right parietal lobes	Peaks in adolescence and early adulthood; higher math insights decline after age 40	Scientific discoveries, mathematical theories, counting and classification systems	Early number systems and calendars found	Bees calculate distances through their dances	More important with influence of computers
Spatial	Capacity to perceive the visual-spatial world accurately and to perform transformations on one's initial perceptions	Ideographic languages (e.g., Chinese)	Artist, architect (e.g., Frida Kahlo, I. M. Pei)	Posterior regions of right hemisphere	Topological thinking in early childhood gives way to Euclidean paradigm around age 9–10; artistic eye stays robust into old age	Artistic works, navigational systems, architectural designs, inventions	Cave drawings	Territorial instinct of several species	More important with advent of video and other visual technologies
Bodily-Kinesthetic	Ability to control one's body movements and to handle objects skillfully	Sign languages, Braille*	Athlete, dancer, sculptor (e.g., Martha Graham, Auguste Rodin)	Cerebellum, basal ganglia, motor cortex	Varies depending upon component (strength, flexibility) or domain (gymnastics, baseball, mime)	Crafts, athletic performances, dramatic works, dance forms, sculpture	Evidence of early tool use	Tool use of primates, anteaters, and other species	Was more important in agrarian period
Musical	Ability to produce and appreciate rhythm, pitch, and timbre; appreciation of the forms of musical expressiveness	Musical notational systems, Morse Code	Composer, performer (e.g., Stevie Wonder, Midori)	Right temporal lobe	Earliest intelligence to develop; prodigies often go through developmental crisis	Musical compositions, performances, recordings	Evidence of musical instruments back to Stone Age	Bird song	Was more important during oral culture, when communication was more musical in nature
Interpersonal	Capacity to discern and respond appropriately to the moods, temperaments, motivations, and desires of other people	Social cues (e.g., gestures and facial expressions)	Counselor, political leader (e.g., Carl Rogers, Nelson Mandela)	Frontal lobes, temporal lobe (especially right hemisphere), limbic system	Attachment/ bonding during first 3 years critical	Political documents, social institutions	Communal living groups required for hunting/ gathering	Maternal bonding observed in primates and other species	More important with increase in service economy
Intrapersonal	Access to one's own "feeling" life and the ability to discriminate among one's emotions; knowledge of one's own strengths and weaknesses	Symbols of the self (e.g., in dreams and artwork)	Psychotherapist, religious leader (e.g., Sigmund Freud, the Buddha)	Frontal lobes, parietal lobes, limbic system	Formation of boundary between "self" and "other" during first 3 years critical	Religious systems, psychological theories, rites of passage	Early evidence of religious life	Chimpanzees can locate self in mirror; apes experience fear	Continues to be important with increasingly complex society requiring choice-making
Naturalist	Expertise in distinguishing among members of a species; recognizing the existence of other neighboring species; and charting out the relations, formally or informally, among several species	Species classification systems (e.g., Linnaeus), habitat maps	Naturalist, biologist, animal activist (e.g., Charles Darwin, E. O. Wilson, Jane Goodall)	Areas of left parietal lobe important for discriminating "living" from "nonliving" things	Shows up dramatically in some young children; schooling or experience increases formal or informal expertise	Folk taxonomies, herbal lore, hunting rituals, animal spirit mythologies	Early hunting tools reveal understanding of other species	Hunting instinct in innumerable species to discriminate between prey and nonprey	Was more important during agrarian period; then fell out of favor during industrial expansion; now "earth-smarts" are more important than ever to preserve endangered ecosystems

*Recent research suggests that many sign languages, such as American Sign Language, have a strongly linguistic basis as well (see, for example, Sacks, 1990).

Source: *Ascd.org*

C WHAT ARE THE MAIN CRITICISMS OF THE MULTIPLE INTELLIGENCES THEORY?

The Multiple Intelligences theory has received mixed reviews from educators and psychologists since the theory was introduced in 1986. Several educators have responded positively to the theory. Mindy Kornhaber responded favourably to the theory and identified a number of reasons why this theory is accepted by many teachers:

> *"... the theory validates educators' everyday experience: students think and learn in many different ways. It also provides educators with a conceptual framework for organizing and reflecting on curriculum assessment and pedagogical practices. In turn, this reflection has led many educators to develop new approaches that might better meet the needs of the range of learners in their classrooms."*
> (Kornhaber, 2001)

Although initially the theory was being revered in the field of education, Gardner received much criticism from educators and psychologists since he published *Frames of Mind*. Many scholars disagreed on the use of the term intelligence and claimed that intelligence was only linked to academic problem-solving skills. (Gardner, Frames of Mind, 2011) In an attempt to be critical of his own work, Gardner tried to consider the possible criticism to his theory in his revised version of *Multiple Intelligences*:

> *"At first blush, this diagnosis would appear to sound a death knell for formal education. It is hard to teach one intelligence; what if there are seven? It is hard to enough to teach even when anything can be taught; what to do if there are distinct limits and strong constraints on human cognition and learning?"*
> (Gardner, Multiple Intelligences, 2006)

However, as a reply to psychologists claiming the theory is not 'scientific' enough, Gardner claims that psychology should not necessarily dictate education. Still, the main criticism of the theory according to John White (White, 1998) is that there are many issues surrounding Gardner's criteria for an intelligence: why, after all, are these criteria particularly relevant? Gardner himself agreed that subjective judgement is involved to a certain degree. Robert Sternberg (Sternberg, 1996) was not convinced by Howard Gardner's musical intelligence and bodily-kinaesthetic intelligence as he considered them to be talents rather than intelligences. Sternberg based this on his idea that an intelligence needs to be adapted to life demands.

Gardner was aware of the criticism from the press: "the kind of criticisms that I take seriously (...) I am very interested in discussions of the particular criteria that I've put forth, and the extent to which particular candidate intelligences do, or do not, meet these criteria." These particular candidates must fit a range of criteria, most particularly "the ability to resolve 'genuine problems or difficulties' within certain cultural settings". He says to have looked deeper at certain areas of criticism: "Analysis of the possible cultural biases in the list also interests me. Empirical evidence on the relationship, or lack of relationship, among different candidate intelligences is central to my concerns. And of course, I'd like to know how constant or changing are an individual's configuration of intelligences over a lifetime." (Gardner, Multiple Intelligences, 2006)

Another common criticism of Gardner's theory is that his standards for intelligences are based more on his own statements rather than acquired research. Gardner says that he had thought about defining tests for each intelligence to ensure an intelligence-fair test, but *"I believe this can only be accomplished if someone developed several measures for each intelligence and then made sure that people were comfortable in dealing with the materials and methods used to measure each intelligence."* (Gardner, Multiple Intelligences, 2006) It should also be noted that Gardner was not a proponent of testing altogether, as it led to "labelling and stigmatisation". (Gardner, Multiple Intelligences, 2006)

Notably, Gardner revised his theory in 1999, broaching the subject of two possible intelligence. The first intelligence would otherwise not explain the intelligence of Charles Darwin: the naturalist intelligence. A person with a high naturalist intelligence has a core capacity "to recognise instances and members of a species. There is also the evolutionary history of survival often depending on recognising conspecifics and on avoiding predators." (Gardner, Multiple Intelligences, 2006) Gardner even suggests that we are directly dependent on this intelligence and that our "entire consumer culture is based on [the naturalist intelligence]" when we select our consumer choices.

Gardner nominated a ninth candidate to the list of intelligences: the existential intelligence. The motive for this intelligence is that human beings "ponder the most fundamental questions of existence". However, Gardner hesitated to call this 'the ninth intelligence' as it did not fit his original description of intelligences. It might be possible that there are certain regions in the brain – the inferotemporal lobe – that are particularly crucial for these life questions. For this reason, Gardner decided to henceforth talk about the "8 ½ intelligences".

> "…how multiple intelligences are brought to bear upon everyday kinds of situations that people in a variety of different pursuits encounter. They argue that any unitary notion of intelligence fails to do justice both to the range of abilities people bring to bear on their everyday activities, and to the structure of intelligent cognition as it presumably exists in some form in their head."
> (Wagner & Steinberg, 1986)

Furthermore, Gardner contemplated adding another theory, a pedagogical intelligence – "the ability to teach others" – but has not done so because systematic study is needed before it could be added to the list of intelligences. Several critics have suggested some intelligences for the list: emotional intelligence, spiritual intelligence, sexual intelligence, attention intelligence. Gardner, however, sticks to his 8½ intelligences, but predicts that in time with the development of our society, the list of intelligences will only grow. (Gardner, Frames of Mind, 2011)

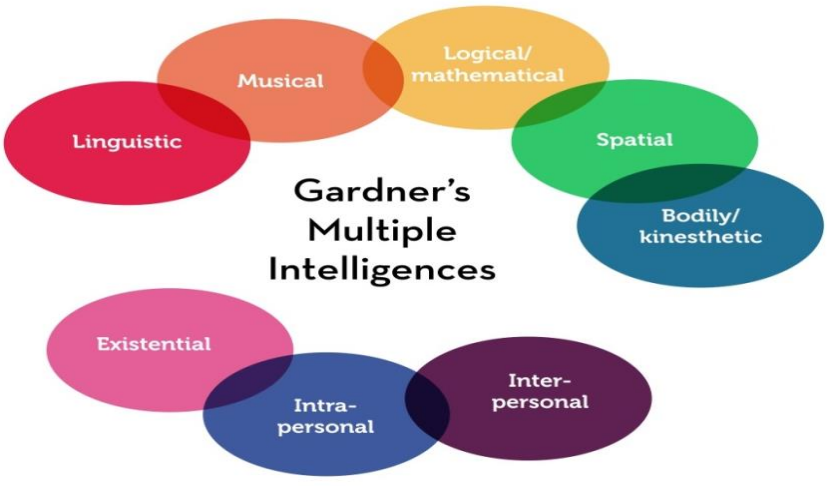
Lastly, Gardner is positive about differentiating via the MI theory: "For a long time I was sceptical that MI ideas can be useful in mastering a foreign language—but I've been impressed by the numerous teachers of foreign languages who claim success using MI approaches for both motivational and conceptual purposes."

Intelligence	Subjects	Supplementary Program	Extracurricular Activities
Linguistic	Reading Language arts Literature English History Most foreign languages Speech	Creative writing lab Communication skills	Debate School newspaper Yearbook Language clubs Honor society
Logical-Mathematical	Sciences Mathematics Economics	Thinking skills Computer programming	Science clubs Honor society
Spatial	Shop Drafting Art	Visual-thinking lab Architecture club Animation Computer-assisted design	Photography club Audiovisual staff Chess club
Bodily-Kinesthetic	Physical education	Theater games Martial arts Walking program	Sports teams Drama Cheerleading
Musical	Music	Orff Schulwerk programs Kodaly method Suzuki training	Band Orchestra Chorus
Interpersonal	Social Sciences	Social skills training Prevention programs (e.g., drugs) Diversity training Counseling	Glee club Student government
Intrapersonal	Psychology	Self-esteem development programs Counseling	Special-interest clubs
Naturalist	Biology Zoology Botany Ecology	Ecological awareness in other school subjects Gardening program Camping trips	Future Farmers of America Future Homemakers of America Naturalist clubs (e.g., gardening, bird watching)

Picture: From *Multiple Intelligences in the Classroom* (2000) by Thomas Armstrong

Altogether, Howard Gardner's Multiple Intelligences theory gives us teachers a new approach to look at our lessons. Gardner says that all seven intelligences are needed to live life well and so a holistic approach to the intelligences gives learners extended opportunities to work on a topic rather than the mainstream linguistic approach or logic approach in our classes.

This theoretical research claims that despite certain criticisms, the theory has generally been positively accepted by educators and psychologists. The supporters of the theory believe in its adaptability to the classroom in order to reap positive results in learners' motivation and results. Therefore I want to test the theory myself in a small-scale experiment in which I will present an adapted activity based on the most common intelligence in a classroom for a period of four weeks. At the end of this four week period, I want to find out whether the results between my research group, the group who received adapted activities, and my control group, the group who received standard activities, differ. In this research I hope to find out whether Howard Gardner's Multiple Intelligence theory does lead to positive learners' results in the English as a second language classroom.



An overview of the intelligences where the Existential Intelligence, Intrapersonal Intelligence and Interpersonal intelligence are set apart. They are also collectively called the 'personal intelligences' whereas the other intelligences are linked to the intelligences used in everyday life. Source: *Learningtech.org*

RESEARCH PROCEDURE AND DATA ANALYSIS METHOD

3.1 Research procedure

In order to find out whether adapting the multiple intelligences theory to a class has a positive influence on pupils' results, at least one multiple intelligence activity will be adapted into each lesson for four weeks in a havo 2 class. I will teach unit 6 of the course book *Solutions Elementary*. This unit is called "Going places". The grammar dealt with is Past Simple: 'be', 'can' and regular verbs.

For my H2D class (my test group) I shall include one multiple intelligence exercise in their lesson. In this case, it will be the bodily-kinaesthetic intelligence, as the pupils in H2D scored highest in the bodily-intelligence category.

For my H2F class (my control group) I shall continue teaching unit 6 of *Solutions* the basic way, meaning I shall focus mainly on book exercises.

For the legitimacy of this research, I want to point out that we must note that the bodily-kinaesthetic intelligence activities often have some interpersonal intelligence qualities as well. The activities that I put together are often a combination of movements and interaction. This may work out positively for my test group H2D, as they scored very high on the interpersonal intelligence as well as the bodily-kinaesthetic intelligence.

At the end of this four-week period, both classes will have a small written test on the matter we have discussed in the four weeks (Past Simple regular verbs + vocabulary). I shall look at the differences between the marks and carry out a survey on the pupils' experiences of the lessons of the past four weeks. Additionally, I will interview other English teachers on their experience with the theory.

3.2 Research group

My research groups will be two havo 2 classes: H2D and H2F. Both classes have 25 pupils. I am going to use H2D as my research group and H2F as my control group.

3.3 Research materials

To carry out this research, I am going to need adapted materials for my M.I. lessons. These adapted activities will be enclosed in the appendix. I am also going to measure these results with an S.O.[2] of the material we have discussed in class. Then I will carry out a survey in both classes on their experiences of the lessons of the past four weeks and their satisfaction with the marks and the lessons. Furthermore, I am also going to interview several teachers on their opinion on the M.I. theory. This interview is also added to the appendix.

[2] An S.O. is short for 'schriftelijke overhoring', a small written test

3.4 Data analysis method

At the end of this research, I want to be able to answer the following four questions:

1. What is the most common intelligence type in these two havo-2 classes?
2. Did the students with the common intelligence type score higher than the average after they have received the adapted lessons?
3. What do the students think of the adapted lessons and the theory?
4. What do the teachers think of the theory?
5. Is the MI theory a useful tool to gain better results?

Firstly, in order to find out what the most common intelligence type in both havo-2 classes is, the Multiple Intelligences test will be carried out in both classes. After I have received and measured the results of the pupils, I will determine which intelligence is the most common and that is the intelligence I will use for my adapted activities in the class which has scored the highest on this intelligence.

Secondly, for the following four weeks I will change my lesson plan in my research group with at least one adapted activity based on the most common intelligence type. The control group will receive regular instruction based on the coursebook *Solutions Elementary*.

Thirdly, at the end of this four-week period, both classes will receive a small written test on the grammar and vocabulary that has been dealt with in class for those four weeks. I will measure the results of both classes and the individual students.

Fourthly, to determine the pupils' opinion on their marks and the adapted lessons, I will carry out a survey in both classes. This aims to measure whether the pupils were content with their adapted instruction and their marks.

Lastly, in order to gain a broader insight into how the theory is perceived by current teachers of English, I will interview several English teachers at Trevianum SG on their opinion on and experience with the theory.

FIELD RESEARCH RESULTS PART 1 – MI TEST RESULTS

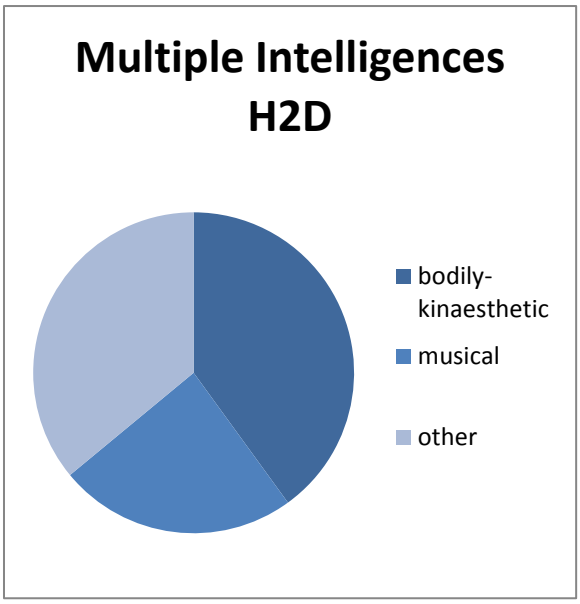
4.1 What is the most common intelligence type in these two havo-2 classes?

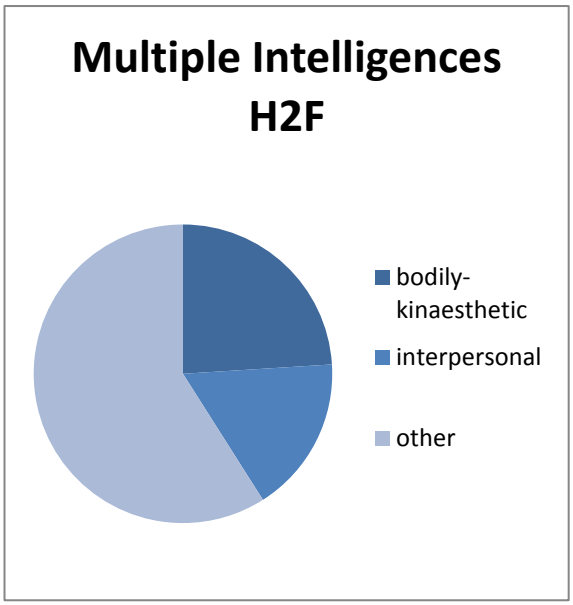
Firstly, I have collected the results of the MI test that I did with both classes. The test is in the appendix. Below are the results of this test; I will proceed my research with class H2D as they have scored very highly in the bodily-kinaesthetic intelligence category, namely 40% of H2d scored highest in the bodily-kinaesthetic intelligence compared to 24% of H2f.

H2D	*1st intelligence*	*2nd intelligence*	*7th and last intelligence*
S.B.	BK	LG	LM, IA, VS
T.B.	IR, LM	MU, VS, IA	LG, BK
C.C.	MU	BK, VS, IR	IA, LG
E.C.	MU	LG	VS, IR
D.D.	IR	LG, VS	IA
G.D.	BK	IR	LM
N.F.	LM, VS	LG	MU
K.G.	MU, VS	LG	IR
A.J.	BK	IR, IA	LG
I.J.	BK	VS, LG	LM, IA
G.K.	IR	LG, BK, VS, IA	MU
E.K.	MU	IR	LG, IA
L.K.	BK	LG, IR	VS
F.K.	VS, BK	IR	VS
E.L.	MU, VS	IR, IA	LG, BK
T.M.	IA, MU	LG	LM
S.M.	BK	LG, VS	LM, IR
E.M.	MU	IR, LG, BK	VS, IA
R.N.	BK, IR	IA	LG
I.P.	VS, BK	LG, IR, IA	LM, BK
F.S.	IA,	LG	LM
M.S.	IA	IR, LG, BK	LM
E.S.	BK, IR	IA	LM
F.T.	MU	IR, LG	VS
R.V.	LG, BK	IR	LM, BK
Highest score	**11x Bodily-Kinaesthetic intelligence – 1 = 10** **8x Musical intelligence – 2 = 6**		

H2F	*1st intelligence*	*2nd intelligence*	*7th and last intelligence*
M.A.	IA, LM	LG	MU
T.B.	IR	VS	LG, LM, IA
R.B.	VS	LM	LG
J.B.	BK	LG, LM, MU	IA
M.C.	IR	IA	MU, BK
F.D.	MU	IR	LM
G.D.	BK	VS, IA	LG, LM
D.D.	BK	IR	LM, IR
L.D.	LG	IA	LM
B.G.	BK	VS, IR	LM
V.H.	IR	VS	LM
J.H.	IR	BK	LG, IR

K.K.	VS	IR	LG
A.K.	IA	BK, MU	BK
J.K.	BK	IR	LM, MU, IA
P.L.	BK	MU, VS, IR	IA, LM
F.M.	BK	IR	LG, LM, MU, IA
L.O.	LG, IA	IR	LM
S.P.	BK	VS, MU	IA
S.S.	IR	LM	BK
R.S.	MU	LG, LM, BK, VS	IA
M.S.	LG, BK, VS	LM, MU	IA
D.V.	IR	MU, VS, IA	LM
M.V.	IA	VS	LG, LM, MU
D.W.	VS, IA	BK	LM
Highest score:	**9 x Bodily-Kinaesthetic Intelligence – 3 least favourite = 6 6x Interpersonal Intelligence – 2 least favourite = 4**		





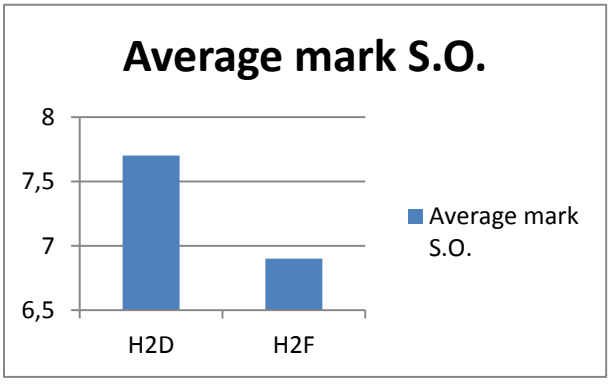
FIELD RESEARCH RESULTS PART 2 – THE SO RESULTS

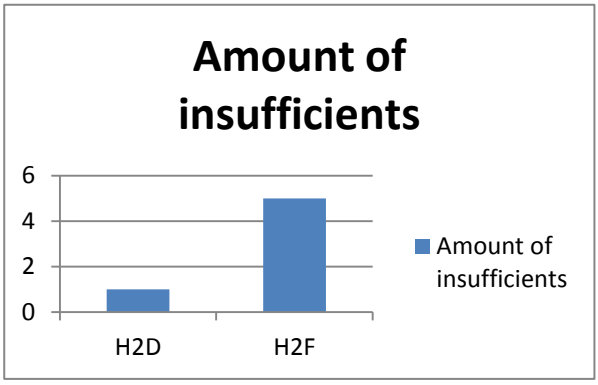
5.1 Did the students with the common intelligence type score higher than the average after they have received adapted lessons?

Firstly, to measure the success of my adapted instruction, both classes had an SO[3] on the grammar and vocabulary of unit 6, the unit we have covered in the past four weeks. The marks are posted below.

H2D	*Mark*
S.B.	7
T.B.	7
C.C.	6
E.C.	8
D.D.	9
G.D.	8.5
N.F.	6
K.G.	8
A.J.	8
I.J.	9
G.K.	8
E.K.	7
L.K.	7
F.K.	7
E.L.	9
T.M.	10
S.M.	8.5
E.M.	7
R.N.	5
I.P.	9
F.S.	7
M.S.	9.5
E.S.	6
F.T.	10
R.V.	7
Average	**7.7**

H2F	*Mark*
M.A.	8
T.B.	8
R.B.	7
J.B.	9
M.C.	8
F.D.	5
G.D.	9
D.D.	6
L.D.	10
B.G.	8
V.H.	6
J.H.	7
K.K.	5
A.K.	8
J.K.	3
P.L.	7
F.M.	7
L.O.	8
S.P.	8
S.S.	7
R.S.	1
M.S.	5
D.V.	5
M.V.	9
D.W.	6
Average	**6.8**





[3] An S.O. is short for 'schriftelijke overhoring', a small written test

One insufficient has been scored in the research group H2d, whereas five insufficient marks have been scored by the control group H2f. The group average differs by almost an entire mark. It would be too optimistic, however, to directly assume the difference is caused by my adapted activities. There are two factors that are also of possible influence in the difference between the averages.

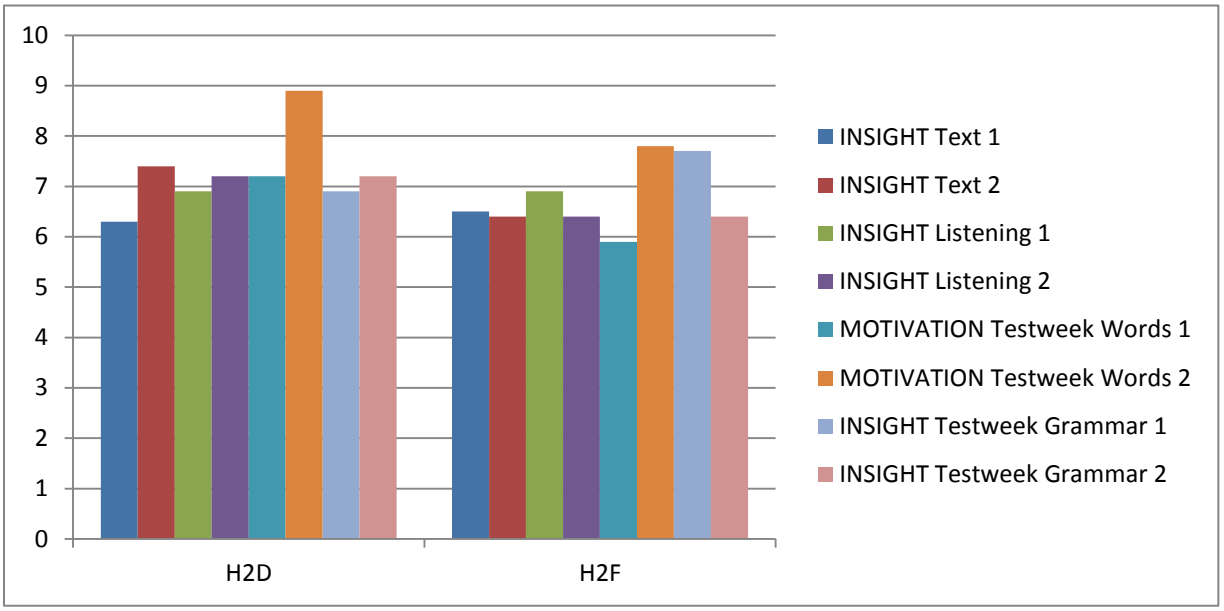
Firstly, the novelty effect may be in play: the tendency for performance to initially improve when a new technique is instituted, not because of the improvement of this technique but because of the interest in this technique. It is possible that the motivation of H2d increased as their lessons became more varied, and is it possible that four weeks were just enough to increase this motivation.

Secondly, in my own personal opinion, the research group H2d has much higher motivation than that of the control group H2f. Then, in return, I think H2f is a group with more competence in the language, but less motivation. I shall compare the averages of these groups by looking at the previous marks of this school year. In the first trimester, the control group H2f scored higher on works that had to do with insight. Especially in the second trimester, the research group H2d scored higher on works that had to do with motivation.

	Text 1	Words 1	Listening 1	Testweek words 1	Testweek gram 1	Text 2	Listening 2	Testweek words 2	Testweek gram 2
H2D	6.3	9.3	6.9	7.2	6.9	7.1	7.2	8.9	7.2
H2F	6.5	9.8	6.9	5.9	7.7	6.4	6.8	7.8	6.4
	I	***M***	***I***	***M***	***I***	***I***	***I***	***M***	***I***

I = *insight; works that can be made sufficiently with advanced knowledge of the language and its structures*

M = *motivation; works that can be made 100% correctly by studying by heart*



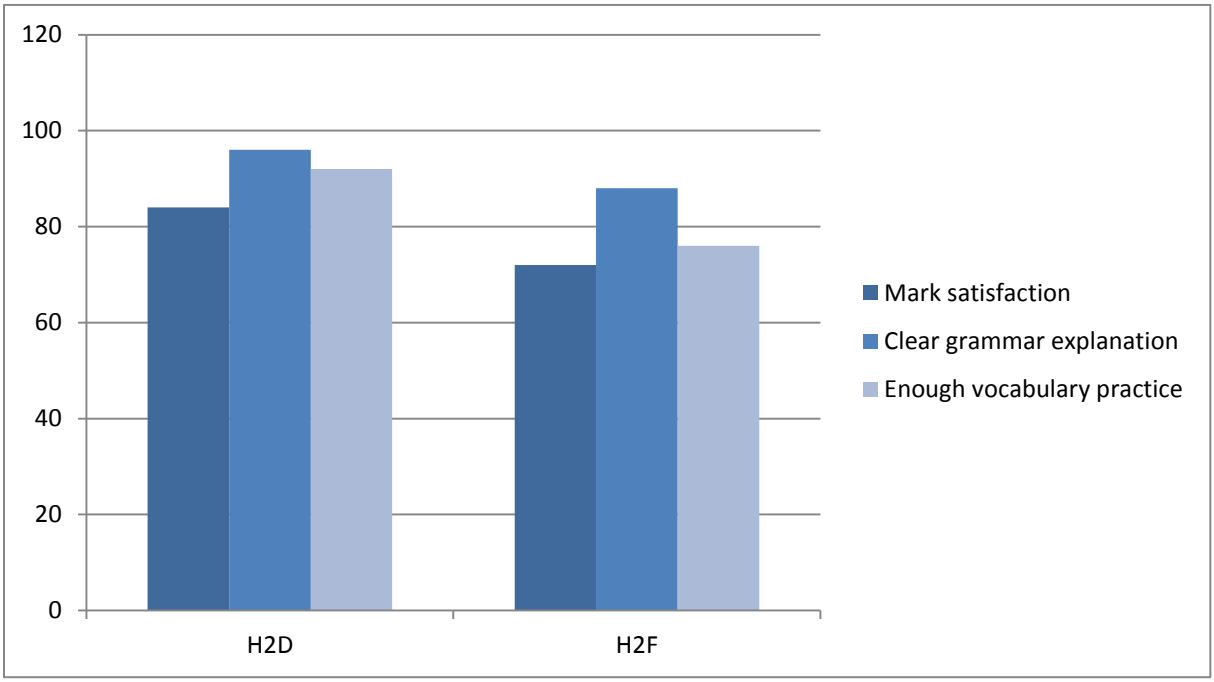
All in all, when I look at my relationship with the classes, I had expected there to be a slight difference in marks between the two classes, the better mark belonging to H2d the research group. But a difference of almost a whole mark might be an indication that the students did benefit from the adapted instruction.

FIELD RESEARCH RESULTS PART 3 – SURVEY STUDENTS

6.1 What do the students think of the adapted lessons and the theory?

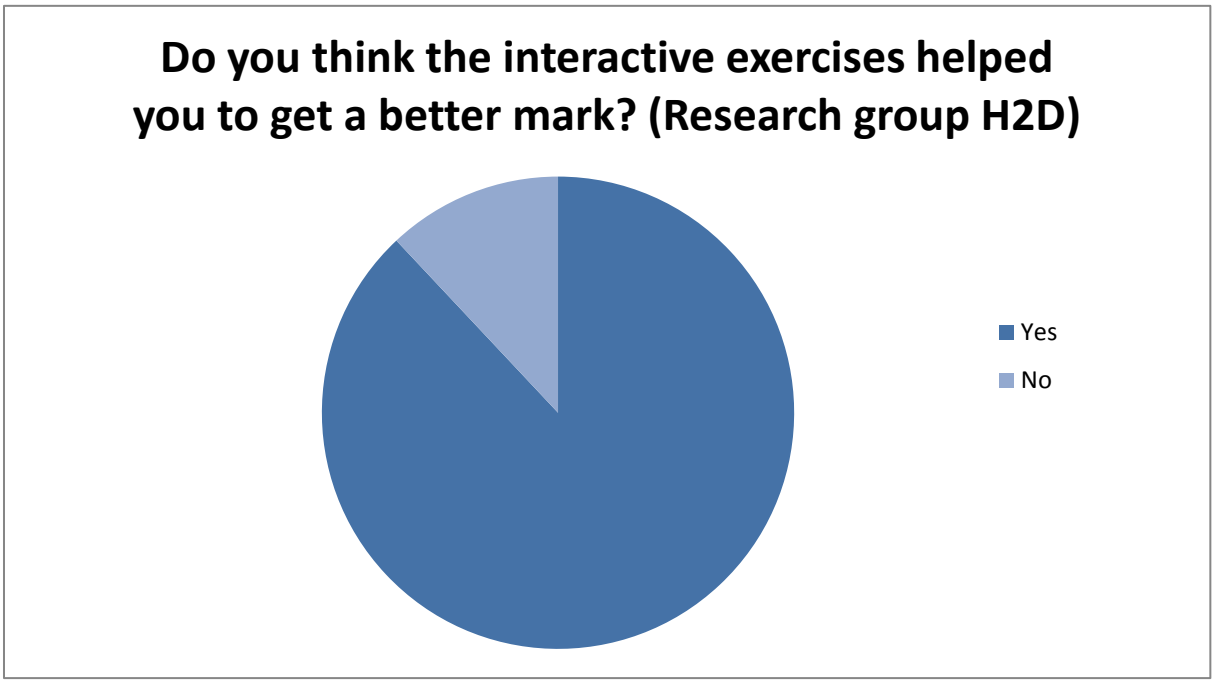
Secondly, I asked both groups to fill in my survey. I asked my control group H2f some questions on their marks. I asked the research group H2d questions on their marks and on their motivation.

GRADES	H2D	H2F
Mark: were they satisfied?	YES - 84% (21/25) → Expected a higher mark: 16% 4 students → Expected a lower mark: 8% 2 students	YES - 72% (18/25) → Expected a higher mark: 20% 5 students → Expected a lower mark: 20% 5 students
Grammar: clear explanation?	YES – 96% (24/25)	YES – 88% (22/25)
Vocabulary: enough practice in class?	YES – 92% (23/25)	YES – 76% (19/25)



MOTIVATION	H2D	H2F
Moving in a lesson: fun	"fun" 72% → 18 students "fun, but we had to get used to it/sometimes awkward" → 24% 6 students "not fun" 4% → 1 student	
'Regular' exercises or interactive activities → Why do you prefer regular	Regular exercises: 24% (6 students) Interactive activities: 76% (19 students) *- what we always do: 16% (1*	Regular exercises: 16% (4 students) Interactive activities: 84% (21 students)

exercises? → Why do you prefer interactive activities?	*student)* *- asked on the test: 66% (4 students)* *- I don't like to move around: 0%* *- I don't like group work: 16% (1 student)* *- other reasons: 0%* *- better than sitting still: 16% (3 students)* *- I get to talk to my class mates: 21% (4 students)* *- something different from what we usually do: 53% (10 students)* *- other reasons: 10% (2 students)* ** Fun exercises* ** Exercises are fun*	
Do you think the interactive exercises helped you to get a better mark?	YES: 88% / NO: 12% * Yes, I understand the grammar better now (3x) * Yes, the words were a lot easier to remember (4x)	



In general, H2d seems to give quite favourable feedback to the adapted instruction. Again, the seemingly increased motivation of H2d may be, at least partly, attributed to the novelty effect. Although I had expected *some* differences in the average marks between the groups, it is also affirming to see the positive feedback of the research group H2d.

In conclusion, H2d scored remarkably higher on both their average mark and their satisfaction with their mark and their lessons. Based on these results, this would mean that the adapted instructions based on the most common intelligence type have led to not only an increase in pupils' results but also an increase in the pupils' motivation.

FIELD RESEARCH RESULTS PART 4 – SURVEY TEACHERS

7.1 What do the teachers think of the theory?

Thirdly, I have gathered information from other English teachers. I handed out a survey to several teachers to ask them about their opinion on the Multiple Intelligences theory and how they adapt this to their lessons, or at least, in how far they are aware of this. The complete survey can be found in the appendix.

Onderzoek – Multiple Intelligences Theory in the classroom
Devon Beunen, Lerarenopleiding Engels

verbal-linguistic	*logic-mathematical*	*intrapersonal*	*interpersonal*
musical	*viseo-spatial*	*bodily-kinesthetic*	*naturalistic*

IN GENERAL

1. What is your opinion regarding the Multiple Intelligences Theory?

SW	JB	JM	PW	ER
Positive it is suitable with the learning styles theory	Positive but it is difficult to adapt the theory in a lesson	Positive	Positive	Positive but it is also a 'hype' at the moment

All teachers were positive about the theory. All teachers agreed that they were positive about the theory. Some teachers said that the disadvantage of the theory is that it is difficult to adapt into a lesson in our modern school system: if you were to do it, it would cost a lot of time.

THE LESSONS

2. Which intelligence type do you spend most time on during your lessons?

SW	JB	JM	PW	ER
verbal	verbal visual	verbal logic intrapersoonlijk	verbal	verbal intrapersoonlijk visual

All teachers agreed that the linguistic intelligence was most common in English lessons. Perhaps this only affirms that English coursebooks focus mainly on the verbal intelligence, which to some degree is of course logical, as we are dealing with a language. What I find important about this is that the visual and intrapersonal intelligence is named as well. The way I would interpret this is that there are many pictures and colours in lay-out that are used to make the coursebooks attractive. Also, most exercises in a coursebooks are solitary work, so I think in that respect the student spends more time working on their intrapersonal intelligence rather than their interpersonal intelligence.

3. Which intelligence do you think is most important for your students?

SW	JB	JM	PW	ER
not applicable; this is different per student	all of them	interpersonal verbal logic	musical verbal logic	musical visual

All teachers named the theories which they thought were useful in general, not only in a

school environment.

4. Which intelligence type is not very commonly used in coursebooks, in your opinion?

SW	JB	JM	PW	ER
musical bodily-kinesthetic	musical naturalistic intrapersonal	naturalistic bodily-kinesthetic	bodily-kinesthetic	bodily-kinesthetic

All teachers generally agreed on the naturalistic intelligence being the least common. Some teachers emphasised the bodily-kinesthetic intelligence, saying that nowadays students have to sit still for far too long for long hours per day.

THE CLASSES

5. What do you think is the most common intelligence type(s) in the average classroom?

SW	JB	JM	PW	ER
verbal bodily-kinesthetic	verbal logic intrapersonal visual	musical bodily-kinaesthetic visual	verbal logic	verbal visual musical bodily-kinaesthetic

High scorers among the most common intelligence types are: linguistic, bodily-kinesthetic, logic, musical. What I found in my own research with my two havo-2 classes is that the musical and bodily-kinesthetic intelligence were very common.
One teacher, S.W., did a small research herself last year in which she did the Multiple Intelligences survey in two classes. In H4d (nature science class), the most frequent intelligences were the naturalistic and the logical-mathematic intelligence. In H2e (sport class) the most common intelligence type was the bodily-kinaesthetic intelligence.

6. What do you think is the least common intelligence type(s) in the average classroom?

SW	JB	JM	PW	ER
not applicable; this differs per student	logic naturalistic linguistic	interpersonal logic naturalistic	naturalistic	logic intrapersonal interpersonal naturalistic

Again, naturalistic is not very popular. The logic and interpersonal intelligence were named because these teachers claimed that in our society and in our school system the 'language subjects' (even subjects like History, Geography, and Biology) outweigh the 'number subjects' (Math, Science), ergo there is less time spent on the logical intelligence. Furthermore, those two teachers said that there should be paid more attention to collaboration in a classroom, as this interpersonal intelligence is a prerequisite for dealing with the world after a student graduates.

FINALLY

7. Wilt u meer aandacht besteden aan de verschillende intelligenties binnen een klaslokaal? Zo ja, hoe zou u dit onder aandacht willen brengen?

SW	JB	JM	PW	ER
-leerlingen bewust maken van theorie -bijbehorende leerstijl vaker toepassen in de les	-vak Engels linken aan veel alledaagse dingen: liedjes, videomateriaal, real-life communication	-theorie benoemen naar leerlingen -test doen met leerlingen -bewust zijn van leerstijlen	-wil wel, maar graag een studiemiddag waarin duidelijk wordt gemaakt hoe dit kan worden toegepast	-wil meer doen met muziek, interpersoonlijk, fysiek - nadeel: weinig tijd, moeilijk te plannen

All teachers agreed that there was something useful to take out of the theory. Not all teachers were equally enthusiastic; 2 teachers claimed they liked the idea but that it was perhaps a little bit too vague. However, the other 3 teachers said they enjoyed the categories in which the intelligences were put.
What is interesting here is that generally all teachers have some interest in the theory but that they do not know how to adapt the theory into their classrooms (for lack of time or lack of resources). Therefore, I would say the suggestion of having a 'study afternoon' about the M.I. theory would be useful for the English department.

In conclusion, all teachers have heard of the Multiple Intelligences theory and all teachers were positive about the theory. Claims were made that it was difficult to adapt the theory to all learners in a classroom. It was universally agreed upon that the most common intelligence type in English lessons and English coursebooks is the verbal intelligence, although most teachers said that besides the verbal intelligence, the musical intelligence and logical intelligence are important for young learners.

The most common intelligence types in an average secondary school classroom are the linguistic intelligence, bodily-kinaesthetic intelligence and the visual intelligence. According to these teachers, the least common intelligence in an average secondary school classroom are the logic intelligence and the interpersonal intelligence. In general, all interviewed teachers agreed that the theory can be used positively but that they find it difficult to adapt the theory into their lessons, mostly due to a lack of time.

RESEARCH QUESTION

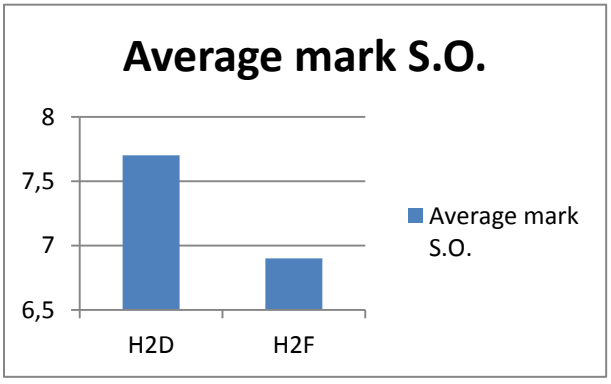
8.1 Is the MI theory a useful tool to gain better results?

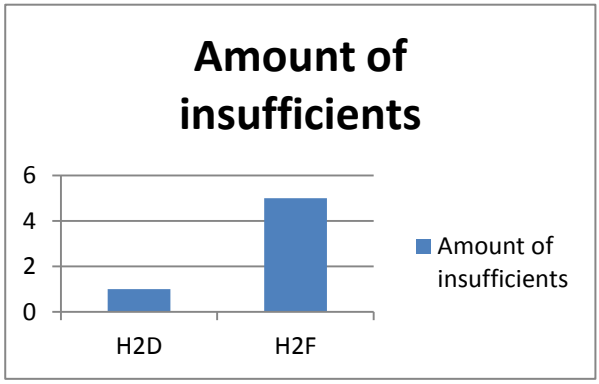
I have adapted my lessons for four weeks in the H2d classroom while H2f received regular instruction from the coursebook. In my research I expect to see a result in the difference between the two classes.

H2D	*Mark*
S.B.	7
T.B.	7
C.C.	6
E.C.	8
D.D.	9
G.D.	8.5
N.F.	6
K.G.	8
A.J.	8
I.J.	9
G.K.	8
E.K.	7
L.K.	7
F.K.	7
E.L.	9
T.M.	10
S.M.	8.5
E.M.	7
R.N.	5
I.P.	9
F.S.	7
M.S.	9.5
E.S.	6
F.T.	10
R.V.	7
Average	**7.7**

H2F	*Mark*
M.A.	8
T.B.	8
R.B.	7
J.B.	9
M.C.	8
F.D.	5
G.D.	9
D.D.	6
L.D.	10
B.G.	8
V.H.	6
J.H.	7
K.K.	5
A.K.	8
J.K.	3
P.L.	7
F.M.	7
L.O.	8
S.P.	8
S.S.	7
R.S.	1
M.S.	5
D.V.	5
M.V.	9
D.W.	6
Average	**6.8**

If we take a look at the marks, it is evident that H2d scored remarkably higher than H2f, with almost one whole mark as a difference. Furthermore, the H2d class had only one insufficient, whereas H2f had six insufficient marks. According to this result, the answer is obvious: H2d, who received adapted lessons, also scored remarkably higher on the test. However, there are more factors to be aware of in this research.

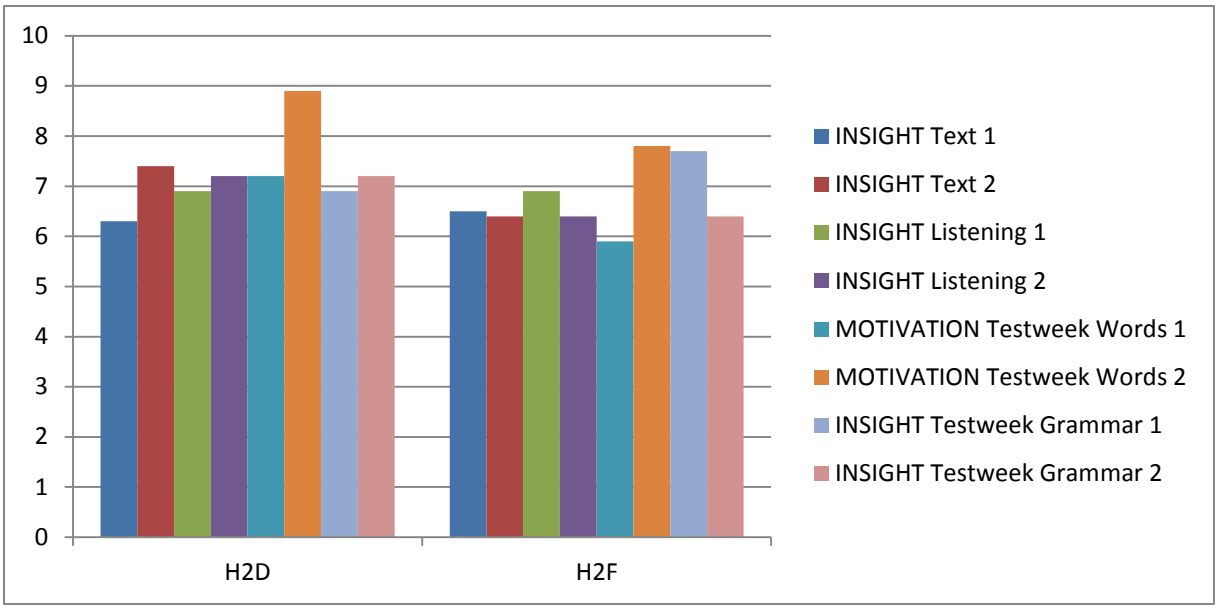




Firstly, in order to place these marks against a broader background, I would like to compare these marks to the other marks that the class has received during the school year.

	Text 1	Words 1	Listening 1	Testweek words 1	Testweek gram 1	Text 2	Listening 2	Testweek words 2	Testweek gram 2
H2D	6.3	9.3	6.9	7.2	6.9	7.1	7.2	8.9	7.2
H2F	6.5	9.8	6.9	5.9	7.7	6.4	6.8	7.8	6.4
	I	***M***	***I***	***M***	***I***	***I***	***I***	***M***	***I***

In general, we could say that H2d is slightly better at works that have to do with *motivation* (studying for words) whereas H2f is slightly better at works that have to do with *insight*. This difference can be dismissed if we look at the last few grades of the trimester, though.



Secondly, I would like to look at the individual students who scored highest for the bodily-kinaesthetic intelligence. I would like to compare their marks for this SO to the other marks they have scored in the year.

H2d SO M.I.	Text 1	Words 1	Listening 1	Testweek words 1	Testweek gram 1	Text 2	Listening 2	Testweek words 2	Testweek gram 2
S.B 7	***5.5***	***10***	***7.2***	***8***	***5.7***	***6.1***	***6***	***8.7***	***5.5***
G.D.8.5	6	10	8	8	8.4	7.2	7	9.3	9.1
A.J. 8	***5***	***9.3***	***7.6***	***2***	***5.4***	***8.3***	***8***	***6.3***	***6.7***
I.J.9	6	9.3	8.4	8.7	8.6	8.3	9.5	10	8.5
L.K. 7	6.5	10	8	9	6.6	8.9	9	10	6.7
F.K. 5	4	10	2.8	8	2.7	3.9	5	9.3	4.3
S.M.8.5	8	10	9.6	6	7.7	9.4	8.5	9.7	7
R.N. 5	6	10	6	5	5.3	5.5	6	8.7	5.5
I.P. 9	6.5	10	5.2	8.7	6.1	6.1	6	8.7	7.9
E.S. 6	7	8.7	7.2	7.7	5.9	7	7.5	7.7	6.7

H2f SO M.I.	Text 1	Words 1	Listening 1	Testweek words 1	Testweek gram 1	Text 2	Listening 2	Testweek words 2	Testweek gram 2
J.B. 9	***6***	***10***	***6.8***	***6***	***7.3***	***5.5***	***6.5***	***6.7***	***6.2***
G.D. 9	7.5	10	4.4	6	6.6	7.2	5.5	10	8.8
D.D. 6	***8***	***9.3***	***8***	***2.3***	***6.3***	***7.2***	***6.5***	***4.3***	***4.8***
B.G. 8	7	10	5.2	6	6.9	8.1	8.5	8	7.3
J.K. 3	5	10	6.8	9	5.6	4.2	1.8	9.3	4.8
P.L. 7	6.5	10	7.6	9.3	8.7	7.2	7.5	10	5.5

F.M. 7	7	10	8	3.3	6	8.3	7.5	8.3	7.1
S.P. 8	***8***	***10***	***1.8***	***9***	***5.1***	***4.4***	***8.5***	***9.3***	***3.6***
M.S. 5	6.5	10	6.8	8.7	7.4	8.9	8	8.7	6.1

The S.O. was a combination of vocabulary and grammar. Therefore I think it would be logical to look at these students' marks for the test week and compare this to the mark that they scored on their S.O. In this case, only two students would have scored remarkably better on their S.O, and thus have benefited from the instruction. In H2d this would be S.B. and A.J. In H2f, the class who received regular instruction, also two students scored remarkably higher than the averages in their test weeks: J.B. and D.D. In this case, it is unsure whether the M.I. theory really has that much of an effect on the research group H2d in comparison with the control group H2f.

CONCLUSION

9.1 Answers to my research questions

My goal for this research is to find out whether small, economical differences in a lesson plan can benefit students with supposed different intelligences. My main thesis question for this research was:

Do pupils benefit from an adapted grammar approach based on the Multiple Intelligences Theory?

My sub questions are:

1. What is the most common intelligence type in these two havo-2 classes?
2. Did the students with the common intelligence type score higher than the average after the adapted lessons?
3. What do the students think of the adapted lessons and the theory?
4. What do the teachers think of the theory?
5. Is the MI theory a useful tool to gain better results?

At the start of this research, information on the Multiple Intelligences theory has been collected from various sources, most notably Gardner's revised version of his book *Multiple Intelligences*, in which he added two possible extra intelligences and considered the criticism to his theory. In order to gain a broader perspective on the theory, several articles and websites have proved to give useful information on the theory and related researches from different perspectives.

The MI theory in short is a psychological theory coined by Howard Gardner who claims that intelligence is not fixed and not easily measured by a standardised test such as the IQ test. What drove Gardner in his research were the geniuses of Albert Einstein or Charles Darwin who would not score particularly well on a modern day IQ test, even though history has agreed that these two men were remarkable in their field. Therefore Gardner assumed that intelligence must be of a broader spectrum, and eventually he coined the term 'multiple intelligences': there are several intelligences and we humans possess them all but in different measures – this is what makes us human, according to him.

Gardner vows for these intelligences to be adapted into the field of education. According to him, this would lead to better results and more successful children. "*For a long time I was sceptical that MI ideas can be useful in mastering a foreign language—but I've been impressed by the numerous teachers of foreign languages who claim success using MI approaches for both motivational and conceptual purposes.*" (Gardner, Multiple Intelligences, 2006)

Firstly, the most common intelligence type in both classes was the bodily-kinaesthetic intelligence. However, there were more students in H2d that scored the highest on the bodily intelligence than in H2f, so I chose H2d to be my research group and H2f to be my control group.

Secondly, if we look at the results it becomes clear that the research group H2d scored almost an entire mark higher than the control group H2f. However, if we then compare these marks

to the individual students who have scored highest on the bodily-kinaesthetic intelligence, we see little difference. It is unclear whether the adapted lessons have led to significant difference in their marks altogether.

Thirdly, the students themselves have filled in a survey on the M.I. theory and their adapted lessons. According to this survey, H2d was more satisfied with the grammar instruction, vocabulary practice, and their own mark than H2f was. In terms of motivation, it seems that the M.I. theory does show significant change, although motivation is more difficult to measure than numbers and marks.

Fourthly, if we then look at the opinion of the teachers, it suggests that all teachers are enthusiastic about the theory and the idea of what the theory can do. However, half of these teachers also said that they find it difficult to adapt the theory into the classroom and that this can often take much time. In order to yield more results, it could be an idea to discuss this theory with the English department so as to find out how we can adapt the multiple intelligences in an economical way into the classroom.

In conclusion: to answer the question of whether the multiple intelligences theory is a useful tool to gain better results in a classroom, the answer would be a simple but small 'yes'. In my research, the marks were significantly higher in the research group than in my control group, but if we would place these marks against the broader background of the classes' previous averages or students' individual marks, there does not seem to be so much of a difference. However, in terms of motivation, the research group were remarkably more satisfied with the lessons (the grammar explanation, the vocabulary practise, moving around) and their own mark than H2f was. This could have something to do with the novelty effect, but the conclusion I draw from this is that there is definitely a change, albeit small, and it is worth working out further.

7.2 Recommendations and interpretation of the results related to the literature research

As I have said before, I think we must be careful to draw direct conclusions from this research. After all, it was only a small research with two classes for four weeks' time. If the novelty effect is indeed true, the research should have been much longer and also with more classes. However, I do think that the difference between the SO marks shows a change, and that this change must mean something. Therefore, I would give my support to the theory as it was adapted into this research. If I should ever carry out the same research but with more classes for a longer time, I am convinced to find some results, especially in the students' motivation.

What I find the strongest aspect of the theory is that the theory is the perfect answer to struggling students. I definitely think that my outlook on my lessons and the coursebooks that I use has become a lot broader. Most importantly, I think it has become easier for me to point out the strong points of a student and to also look at this student as more than just a person in a classroom: this student has a whole life besides those three English lessons in a week. In this respect, I would most definitely suggest small researches with this MI theory to colleagues.

For those who are interested in the MI theory, I would suggest Howard Gardner's most

famous books on the theory: (Gardner, Frames of Mind, 2011) and (Gardner, Multiple Intelligences, 2006). For those who are already familiar with the theory but still remain unsure of how to easily adapt the intelligence within the classroom, I would suggest Thomas Armstrong's *Multiple Intelligences In The Classroom* (Armstrong, 2009), a handbook for the MI theory with very applicable tips.

7.3 Final note – results for the school practice

On a final note, I would like to point out the results for the school practice. I have carried out this research at my internship school, Trevianum SG in Sittard. In my research I have found significant change in results and motivation between my research group and my control group. In order to gain more trustworthy results, I would suggest another research with more classes and for a longer period of time, so we can find out how much the changes in marks and motivation have to do with the adapted lessons. What we can take away from my research is that the theory increases learners' motivation and that it does set out changes in marks.

7.4 Weak points in the research and room for improvement in further research

As mentioned before, the weak points in this research are three things. Firstly, I have only carried out the research with two classes. In this case, we do not know how much coincidence has to do with the results. Secondly, I have only carried out the research for four weeks. It is possible that four weeks is not long enough to gather significant results or that four weeks is simply long enough before the students get bored of the new approach. Thirdly, the increase in motivation may be attributed to the novelty effect.

7.5 Suggestions for further research

If the factors above are true, it would be sensible to carry out another research in which the research groups receive adapted lessons but only for a longer period of time and perhaps with more research and control groups to compare.

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APPENDICES

Appendix 1: The Multiple Intelligences Test

Multiple Intelligences Test - based on Howard Gardner's MI Model

more info at businessballs.com

(young people's version - see businessballs.com for adults and self-calculating versions)

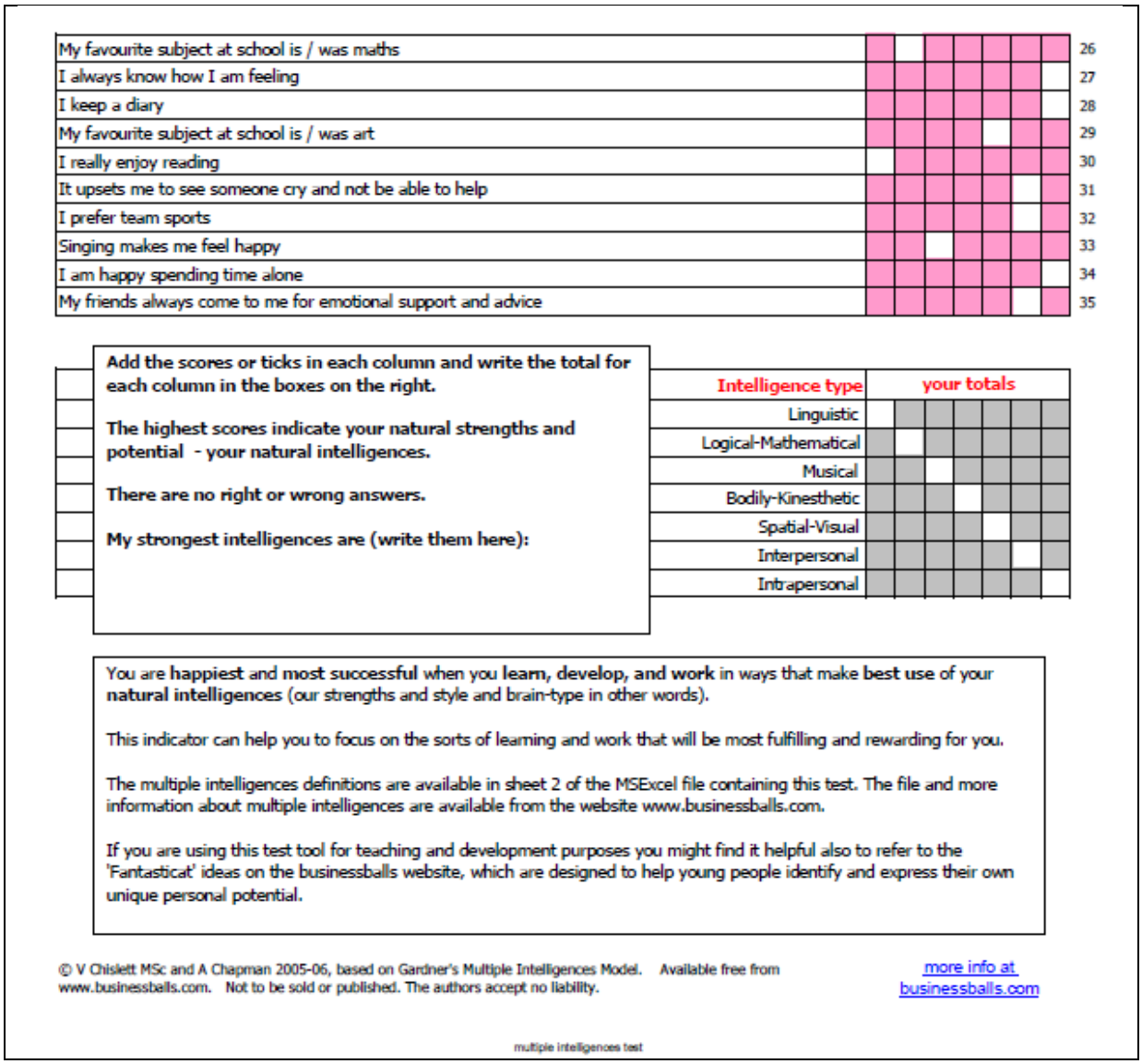
Score the statements: 1 = Mostly Disagree, 2 = Slightly Disagree, 3 = Slightly Agree, 4 = Mostly Agree.

Alternatively for speed or ease - tick the box if the statement is more true for you than not. This is page 1 of 2.

Longer manual and self-calculating versions for people over 16 years of age are available free from businessballs.com.

Score or tick the statements in the white-out boxes only	Score	
I can play a musical instrument	■	1
I often have a song or piece of music in my head	■	2
I find it easy to make up stories	■	3
I have always been physically well co-ordinated (run, jump, balance, etc)	■	4
Music is very important to me	■	5
I am a good liar (if I want to be)	■	6
I play a sport or dance	■	7
I am a very social person and like being with other people	■	8
I find graphs, charts and diagrams easy to understand	■	9
I find it easy to remember quotes or phrases or poems or song lyrics	■	10
I can always recognise places that I have been before, even when I was very young	■	11
When I am concentrating I tend to doodle	■	12
I find mental arithmetic easy (sums in my head)	■	13
At school one of my favourite subjects is / was English	■	14
I like to think through a problem carefully, considering all the consequences	■	15
I love adrenaline sports and scary rides	■	16
I enjoy individual sports best	■	17
I find it easy to remember telephone numbers	■	18
I set myself goals and plans for the future	■	19
I can tell easily whether someone likes me or dislikes me	■	20
To learn something new, I need to just get on and try it	■	21
I often see clear images when I close my eyes	■	22
I don't use my fingers when I count	■	23
At school I love / loved music lessons	■	24
I find ball games easy and enjoyable	■	25

multiple intelligences test



My favourite subject at school is / was maths								26
I always know how I am feeling								27
I keep a diary								28
My favourite subject at school is / was art								29
I really enjoy reading								30
It upsets me to see someone cry and not be able to help								31
I prefer team sports								32
Singing makes me feel happy								33
I am happy spending time alone								34
My friends always come to me for emotional support and advice								35

Add the scores or ticks in each column and write the total for each column in the boxes on the right.

The highest scores indicate your natural strengths and potential - your natural intelligences.

There are no right or wrong answers.

My strongest intelligences are (write them here):

Intelligence type	your totals						
Linguistic							
Logical-Mathematical							
Musical							
Bodily-Kinesthetic							
Spatial-Visual							
Interpersonal							
Intrapersonal							

You are **happiest** and **most successful** when you **learn, develop, and work** in ways that make **best use** of your **natural intelligences** (our strengths and style and brain-type in other words).

This indicator can help you to focus on the sorts of learning and work that will be most fulfilling and rewarding for you.

The multiple intelligences definitions are available in sheet 2 of the MSExcel file containing this test. The file and more information about multiple intelligences are available from the website www.businessballs.com.

If you are using this test tool for teaching and development purposes you might find it helpful also to refer to the 'Fantasticat' ideas on the businessballs website, which are designed to help young people identify and express their own unique personal potential.

more info at businessballs.com

multiple intelligences test

Appendix 2: SO on Multiple Intelligences

SO H2: Solutions Unit 6 – Past Simple regular verbs V1	**SO H2: Solutions Unit 6 – Past Simple regular verbs V2**
Grammar 1. Yesterday, I _____ (be) at the library. 2. Brad _____ (plan) a birthday party for his best friend last month. 3. My parents _____ (be) fans of Elvis Presley when they were young. 4. Mrs. Jones _____ (reply) to my email an hour ago. 5. I _____ (hate) broccoli when I was young, but now I love it.	*Grammar* 1. Yesterday, I _____ (be) at the library. 2. Brad _____ (plan) a birthday party for his best friend last month. 3. My parents _____ (be) fans of Elvis Presley when they were young. 4. Mrs. Jones _____ (reply) to my email an hour ago. 5. I _____ (hate) broccoli when I was young, but now I love it.

6. Jake _____ (not, watch) a film last weekend. 7. I _____ (can, not) my homework because I forgot my books at home. 8. Kate _____ (tidy) her bedroom yesterday afternoon. 9. _____ she _____ (study) French at university? 10. They _____ (move) to France in 2005. *Vocabulary* 1. You got a 10 for your test! What a fantastic **achievement**. _____ 2. You can send a letter at the **post office**. _____ 3. Sydney has a large **harbour** with many boats. _____ 4. I have to go to the bathroom. It's **urgent**. _____ 5. You have to be quiet; you should **whisper**. _____ 6. I want to buy a **stamp** at the post office. _____ 7. I am very **nervous** for this test. _____ 8. Do you **notice** anything about my hair? I dyed it brown. _____ 9. Can I **borrow** your book? I forgot mine. _____ 10. I want to **order** a pizza online. _____	6. Jake _____ (not, watch) a film last weekend. 7. I _____ (can, not) my homework because I forgot my books at home. 8. Kate _____ (tidy) her bedroom yesterday afternoon. 9. _____ she _____ (study) French at university? 10. They _____ (move) to France in 2005. *Vocabulary* 1. I bought a **cheap** car from Marktplaats.nl _____ 2. A **parrot** is an exotic bird. _____ 3. I can't **decide** whether I want coffee or tea. _____ 4. In my **experience**, kids love all types of candy. _____ 5. Do you **notice** anything about my hair? I dyed it black. _____ 6. I feel a lot of **sympathy** for those poor people in Ukraine. _____ 7. You got a 10 for your test! What a fantastic **achievement.** _____ 8. Don't **worry**; I will be on time for the train tomorrow. _____ 9. I love to **spend** time with friends. _____ 10. My iPhone is broken. Can you **repair** it? _____

Appendix 3: Survey H2d and H2f

H2D

Jullie hebben de afgelopen paar weken lessen gehad bij Engels over hoofdstuk 6. Voor hoofdstuk 6 hebben jullie ook woordjes en grammatica moeten leren. Hier hebben jullie ook een SO'tje over gehad (wat de meesten van jullie prima hebben gemaakt! ☺)
Ik heb in de Engels lessen een andere aanpak geprobeerd, namelijk veel meer gericht op bewegen en het interactief bezig. Ik wil namelijk onderzoeken of een andere aanpak in de Engels lessen een positief effect heeft op jullie cijfers of jullie motivatie. Hiervoor zou ik het fijn vinden als jullie de onderstaande vragen invullen.

Cijfers

1. Was je tevreden met je cijfer? ☑ ja ☑ nee

2. Was je cijfer hoger of lager dan gedacht? ☑ hoger ☑ lager ☑ hetzelfde

3. Was de grammatica uitleg duidelijk? ☑ ja ☑ nee – zo niet, leg uit:

_____

4. Hebben we in de les voldoende geoefend met de woordjes? ☑ ja ☑ nee – leg uit:

_____

Motivatie

1. Wat vind je ervan om in de les soms op te staan van je stoel tijdens activiteiten?

_____

2. Wat heb jij liever: gewoon opgaven maken of 'beweeglijke' activiteiten?
☑ opgaven (ga verder met vraag 3) ☑ beweeglijke activiteiten (ga verder met vraag 4)

3. Waarom vind je opgaven maken fijner?
☑ opgaven maken is wat we altijd doen
☑ zo krijgen we het ook op het proefwerk gevraagd
☑ ik vind het niet fijn op om te staan in de klas
☑ groepswerk vind ik minder leuk
☑ anders, namelijk: _____

4. Waarom vind jij beweeglijke activiteiten fijner?
☑ beter dan stilzitten
☑ praten met klasgenootjes
☑ is eens wat anders
☑ anders, namelijk: _____

5. Tot slot: denk je dat je een beter of juist slechter cijfer hebt gehaald nu dat we enkele weken andere lessen met beweeglijkere en interactievere lessen hebben gehad? Kies en licht toe.
☑ beter cijfer ☑ slechter cijfer

_____

_____

_____

Thanks! ☺

H2F

We hebben de afgelopen vier weken hoofdstuk 6 ('Going places') behandeld van het Engels boek. Hier hebben jullie ook een SO'tje over gehad, dit ging over de woorden en grammatica van dat hoofdstuk. Over de lessen van de afgelopen vier weken heb ik een paar

vragen.

Cijfers
1. Was je tevreden met je cijfer? ☑ ja ☑ nee

2. Was je cijfer hoger of lager dan gedacht? ☑ hoger ☑ lager ☑ hetzelfde

3. Was de grammatica uitleg duidelijk? ☑ ja ☑ nee – zo niet, leg uit:

_____

4. Hebben we in de les voldoende geoefend met de woordjes? ☑ ja ☑ nee – leg uit:

_____

Motivatie
5. Wat heb jij liever: gewoon opgaven maken of 'beweeglijke' activiteiten?
☑ opgaven ☑ beweeglijke activiteiten

Thanks! ☺

Appendix 4 – Lesson 1: directions (vocabulary)

For this grammar item, my control group, H2F, received regular instruction and exercises from the book *Solutions Elementary*.
For this grammar item, my practice group, H2D, received adapted instruction.

This was the first lesson of the new chapter (unit 6). This unit was titled 'Going places' and the first lesson was all about places in town. The class had already seen the word list of the places in town in an earlier listening exercise, so now I made cards with activities on them. In groups of 4, I let students work for 5 minutes on this activity.

Students are put in groups of 4. Students get a set of 15 cards with activities, i.e. *watching a film (cinema), posting a letter (post office), walking the dog (park)*. One person from the group will act out one activity, then another person will act out the other activity. Those who have to guess what activity it is, have to write down the activity *and* the location that belongs to this activity. (The person who acts this out can give the affirmation that the location is correct.) When a group is finished, they hand in their list of activities + places and work on other exercises which are on the board.

Appendix 5 – Lesson 2: directions (grammar)

For this grammar item, my control group, H2F, received regular instruction and exercises from the book *Solutions Elementary*.
For this grammar item, my practice group, H2D, received adapted instruction.

The grammar of this chapter were the directions. This was the lesson following the lesson about places in town. In class, I did one listening exercise in which the phrases to give directions were mentioned. I asked the students to pick them out and write them down.

Then, I named some tables by putting a paper with a place on it, for example: 'cinema' or

'town hall' or 'post office'. I let the students work in pairs, and each student got two 'tasks', for example:
Start out at the Post Office. You need to direct your partner to the cinema.
Start out at the park. You need to direct your partner to the art gallery.

I picked one student to help me demonstrate, sort of Total Physical Response-like. The rest of the class sits down. We then switch around the exercise. I ask the rest of the class whether they understand, and they do.

I write on the board:
1) Work in pairs
2) Read your task
3) Have you directed your partner to the correct spot? Ask your partner what they can do in this place (e.g. "What can you buy at the post office?" "Stamps")
4) Switch around!

Students got 8 minutes to complete the task and then I asked for feedback. Surprisingly, it worked quite well.

Appendix 6 - Lesson 3: was/were (grammar)

For this grammar item, my control group, H2F, received regular instruction and exercises from the book *Solutions Elementary*.
For this grammar item, my practice group, H2D, received adapted instruction.

All students received a post it. On this post it, students are asked to write the exact *location* of what they were doing Sunday afternoon (yesterday afternoon). I draw an arrow on the board, ranging from 'close to home' to 'far away from home'. Students then get a minute to put their post its near this arrow. Some of these post its will be the same of course, e.g. 'in my bedroom' or 'at home'. The students go back to their seats and I will ask the students were they were and what they did, slipping some "where were you yesterday, Dylan?" and "so where were Rosalie and Dylan yesterday?" questions in – these answers (the answers of the class) I will write on the board as I ask the students about their day. After about 4 minutes of asking students, I am drawing attention to these sentences:
Dylan was at home.
Rosalie was at home.
Selena was in Roermond.
Ian was at his grandmother's.
Rosalie and Dylan were at home.
It is then very easy to let students pick out the rule themselves: what are the verbs in these sentences; translate these verbs; from what base verb are these verbs; how many forms are there; when do we use these forms.

Appendix 7 - Lesson 4: could

For this grammar item, my control group, H2F, received regular instruction and exercises from the book *Solutions Elementary*.
For this grammar item, my practice group, H2D, received adapted instruction.

To introduce this topic, I showed the class a clip from The Ellen DeGeneres Show in which a 3-year-old boy sings along to Nicki Minaj. The class loved this, of course, and for a minute I went on about the boy being merely three years old and being able to sing and rap. I ask the class whether they could sing or rap at age three, or whether they could walk at age one. The

class then receive a table with questions on it. The class gets 7 minutes to ask these questions in English to their classmates. Their goal is to find one person for every item, and they can't talk Dutch or fill in the same person twice. At the end of this activity, we review this exercise in class and talk about the students' 'talents' when they were young. I write down short sentences on the board as we do so, for example:
Giuliano could rap at age 13.
Stefan and Genc could count in a different language at age 8.
Evelien could play an instrument when she was 9.
I then ask students what 'could' means, and what the present simple form of 'could' is. Students then look at the form of these sentences: how many verbs; what verb stays the same; what follows after this verb? It is then very simple to let students set the 'formula' for *could* in Past Simple: could + base verb.

Find someone who...

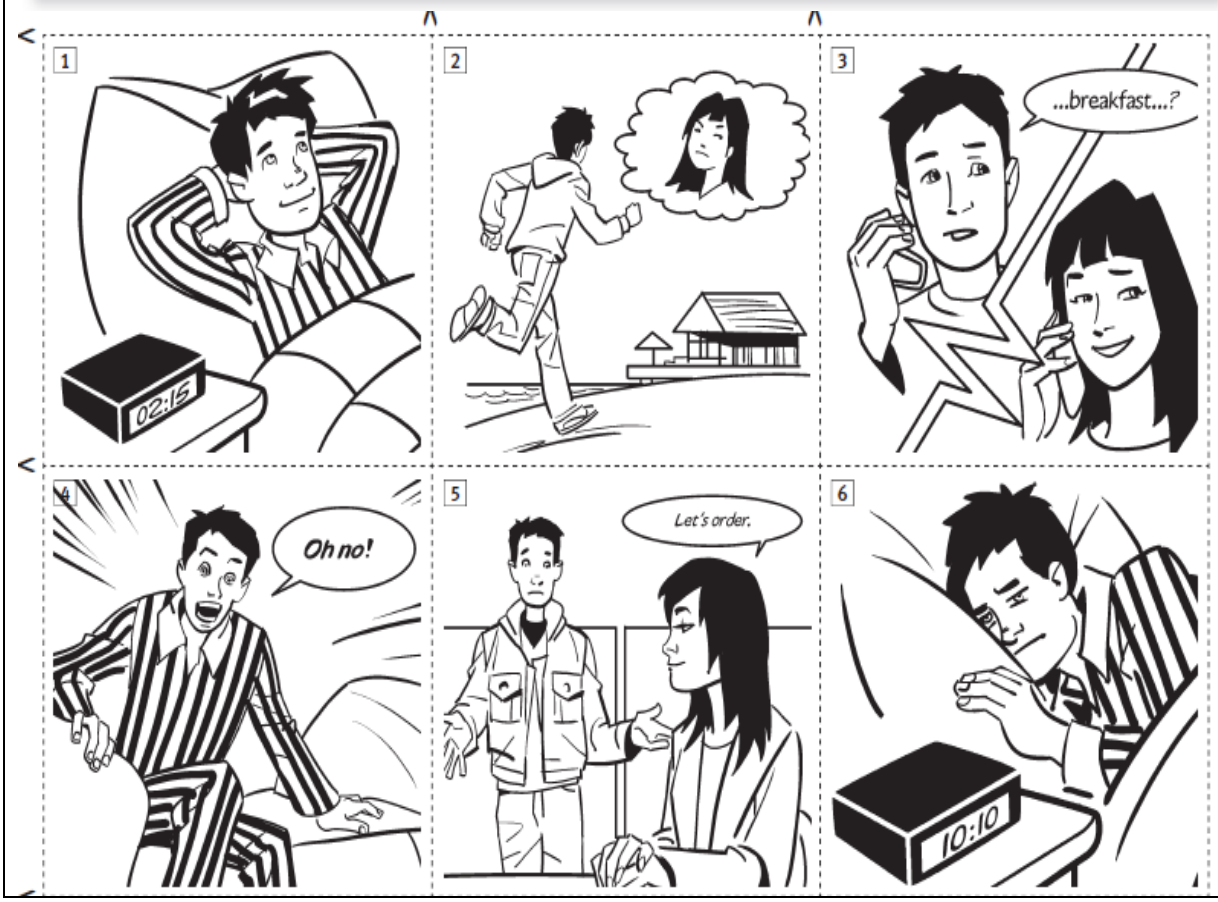
...could speak more than one language when he/she was 5.	...could write short stories when he/she was 7.	...could walk when he/she was 1.
...could play an instrument when he/she was 9.	...could play a sport at age 8.	...could cook something at age 10.
...could count in a different language at age 8.	...could climb trees at age 9.	...could swim when he/she was 5.
...could bake something at age 7.	...could rap when he/she was 13.	...could cycle when he/she was 4.

Appendix 8 - Lesson 5: story in right order (vocabulary)

For this grammar item, my control group, H2F, received regular instruction and exercises from the book *Solutions Elementary*. This class got the same text as H2D, but they filled in the right order for the items on their own.
For this grammar item, my practice group, H2D, received adapted instruction.

For this activity, I put a picture of a boy and a girl on the screen. I tell the students their names: Freddie and Ruby. I ask the students about their relationships, who they are, what they think (some students just like to be heard, so this can be quite fun, as long as this doesn't take too long). Then I tell students that they can guess the story for themselves.
Students work in pairs and they all receive 9 pictures. The pictures are about Freddie and Ruby and they tell a story, but they aren't in the right order. Students have to discuss with their neighbour how the story went – and what really happened – and put them in the right order.
After 6 minutes, I let the fastest group describe their order (I have checked the order in which they put the pictures in before) and describe the picture and what happens in the picture. For example:
The first picture in the story is picture 3. In this picture, Freddie asks Ruby whether she wants to have breakfast with him.
I then read aloud the original version of the story (as seen below) and draw attention to certain words, for example: *"'so he decided to ask her out to a café...' what's a café?"*

Freddie really liked Ruby, a girl in his class, so he decided to ask her out to a café. He was very nervous when he phoned her. When Ruby answered the phone, Freddie whispered, 'Hi Ruby. It's Freddie. Would you like to meet me for breakfast on Saturday morning?' When Ruby replied, 'Yes, I'd love to!' Freddie was very surprised and happy. They arranged to meet at the Beach Café at ten o'clock.
On Friday night, Freddie couldn't sleep. He wasn't tired because he was so excited about the date. When he opened his eyes the next morning and looked at his clock, it was ten past ten. 'Oh no!' he shouted and jumped out of bed. He dressed and cleaned his teeth quickly, then hurried to the café. He was really worried because he imagined that Ruby was very angry with him. But when he arrived and explained how sorry he was, Ruby just smiled and replied 'Let's order breakfast. I'm so hungry!'



Appendix 9 - Lesson 6: vocabulary

For this grammar item, my control group, H2F, received a word search puzzle.

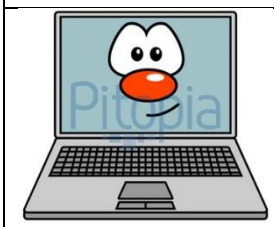
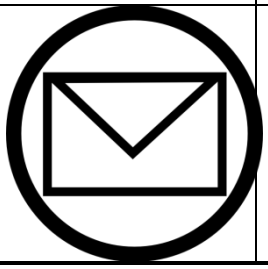
For this grammar item, my practice group, H2D, received adapted instruction.

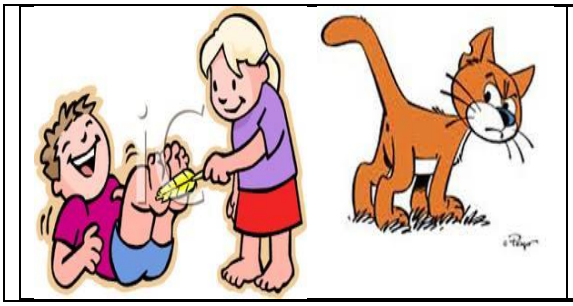
To practise the first set of vocabulary that the students needed to study, I played 'living memory' with the students. This means that students are put in two groups – half of this group will stay in the classroom and the other half will go outside and get a word. When these students come back, the students that have received a word can only say 'yes' or 'no'. The other students have to ask questions *about* the words, for example: *Are you a thing? Are you a location? Are you a food? Are you a drink?*

Appendix 10 - Lesson 7: past simple regular verbs

For this grammar item, my control group, H2F, received regular instruction and exercises from the book *Solutions Elementary*.
For this grammar item, my practice group, H2D, received adapted instruction.

To start this activity, I asked the pupils what they did in the weekend. I wrote down some verbs on the board and I put them in two different rows (regular, irregular) but I don't pay any attention to them just yet. I then divide the class in two and hand out the pieces with text. This group will go outside and look at the text; if they don't understand a word they should ask their classmates. The other group will receive a picture. I will give them their instruction, which is to describe their activity to the other person. Only when the person with the picture has described the picture correctly can the person with the text show them their text. If the students have got a match, they have to write down their sentence on the right part of the board. So after a couple of minutes, the right board looked like:
played a computer
baked a cake
visited Amsterdam
From this point, it is easy to look at the verbs and ask what is similar (+ed). I can then look back to the verbs that I wrote down in the beginning (which were both regular and irregular) and also briefly explain the irregular verbs – or at least, tell them they exist, even though they will have to learn these only 2 chapters hence.

played a computer game	watched a movie	talked to a friend	cooked spaghetti
baked a cake	played basketbal	phoned my mum	listened to music
visited Amsterdam	replied to emails	hurried to get my train	walked the Kennedymars
tickled my brother	petted my cat	walked my dog	chatted on my computer
			
			
			



Appendix 11 - Lesson 8: vocabulary

For this grammar item, my control group, H2F, received a puzzle with word definitions.

For this grammar item, my practice group, H2D, received adapted instruction.

I wrote down several words from the second amount of words on a piece of paper. I used a wheel with three categories: draw the word, describe the word, act it out (http://www.classtools.net/random-name-picker/99_RAZ5ZU, password: MI). Students then have to guess the word and write it down. At the end of the 10 words, we will look at the spelling as if it were a small test (i.e. one letter wrong is half a mistake, more than two letters wrong is a whole mistake) so that students get an idea of what the test will be like.

Appendix 12 - Lesson 9: asking for information (vocabulary)

For this grammar item, my control group, H2F, received regular instruction and exercises from the book *Solutions Elementary*.
For this grammar item, my practice group, H2D, received adapted instruction.

I introduced this activity by showing the students a video of 'The Top 10 Tourist Attractions In London'. Students had to write down a table in their notebooks with 10 empty spaces and 5 categories: nature – building – shopping – museum – royal. From this point, I can ask the students what they've gathered on the London Zoo and the Tower of London from the video. I first let the students brainstorm which questions you need in order to ask for information. This takes about three minutes, and we discuss in class. I then let them work in pairs and give them the instruction: ask for information, do so only in English, and write down the information you need. When you're finished, write down the questions you used in your notebook. We look back on the questions used in class and correct the spelling if needed.

A You are a clerk at London Zoo. Student B phones you to ask some questions. Use the information below to answer the questions.

LONDON ZOO

Opening times: 10 a.m. – 6 p.m.
Last entry: 5 p.m.
Prices: Adults: £17.60
Children: £13.70 Students: £16.10
Location: In Regent's Park

B You want to visit the Tower of London. Phone Student B and ask for some information. Complete the notes below.

Tower of London
Opening times?
Last entry?
Prices?
Adults: £
Children: £
Students: £
Where?

Appendix 13 - Lesson 10: past simple regular verbs – negatives and questions (grammar)

For this grammar item, my control group, H2F, received regular instruction and exercises from the book *Solutions Elementary*.
For this grammar item, my practice group, H2D, received adapted instruction.

With negative and question sentences, it is really about the grammar. Students get paired up and receive a set of three possible sentences on pieces of paper. They have to jumble these up to create three sentences – questions and/or negatives. Example:
Did – does – she – watch – watched – a film ?
I – walked – not – walk – did – Kennedymars.
She – listen – listened – did – not – to – Madonna.
I give students 2 minutes to turn these sentences into a correct sentence. Of course, they do not know anything just yet, but I want them to think about the *did…watch/did…watched* before they are given the formula. After these two minutes, I ask the students who thinks they've got a completely right sentence (i.e. 'who's figured it out?') I write down the sentence on the board, and ask for more sentences. I write the negatives on the left and the questions on the right. I then ask for the formula: what word do we always use; what comes after this word → did + base verb. Students get the chance to correct their sentences to put them in the right order now they are given the formula. Before I let them off with their own exercises, I ask the students for the positive sentence version of two or three examples, that I put beside the negative and question sentences.

Appendix 14 - Lesson 11: past simple regular verbs (review)

For this grammar item, my control group, H2F, received regular instruction and exercises from the book *Solutions Elementary*.
For this grammar item, my practice group, H2D, received adapted instruction.

This was the last lesson before both classes had their SO on the grammar and vocabulary. This is a review exercise on Past Simple. Students got to work in groups of three. Every group got a dice and a timer (their phone). Students have to answer within 30 seconds to make their answer count. The rest of their group members have to check whether the answer is right, because if the answer isn't right, the student won't move up the squares. The winner received a sweet.

START →	the house you lived in when you were a child →	the last time you walked over 5 km →	a town/city that you visited in the last month →	the last time you played a video game ↓
the drink you always order in a restaurant →	the last person you phoned →	the last movie you watched →	the last time you hurried for something ↓	the last person you were annoyed with ↓
the last time you talked for 3 minutes straight ↑	the last time you stopped sleeping for something →	THE END!	the last thing you texted↓	the last person who replied to your texts ↓
the last dish you cooked ↑	the last time you had to whisper ↑	the last person you tickled←	the last time you planned a party ←	the last time you borrowed something from someone ↓
the last thing you really needed↑	the last song you listened to ←	your age when you first cycled to school alone ←	the first time you dyed your hair, what colour was it? ←	the last language you counted in ←

Appendix 15 - Interview with other teachers

Onderzoek – Multiple Intelligences Theory in the classroom
Devon Beunen, Lerarenopleiding Engels

verbaal-linguistisch	*logisch-mathematisch*	*intrapersoonlijk*	*interpersoonlijk*
muzikaal-ritmisch	*visueel-ruimtelijk*	*lichamelijk-kinesthetisch*	*naturalistisch-ecologisch*

ALGEMEEN
1. Hoe staat u tegenover de Meervoudige Intelligenties theorie, positief of negatief?

DE LESSEN
2. Aan welke intelligenties worden aandacht aan in besteed in uw methode?
3. Aan welke intelligenties besteed u de meeste aandacht aan in uw lessen?
4. Aan welke intelligenties zou u meer aandacht aan willen besteden?

DE KLASSEN
5. Wat zijn de voornaamste intelligenties volgens u in een gemiddeld klaslokaal?
6. Wat zijn de minst voorkomende intelligenties volgens u in een gemiddeld klaslokaal?

ALGEMEEN
7. Wilt u meer aandacht besteden aan de verschillende intelligenties binnen een klaslokaal? Zo ja, hoe zou u dit onder aandacht willen brengen?

Appendix 16 – Reflection

Now that my research has come to an end, I must say that the task of writing this research was not as difficult as I had initially expected. At the beginning of my research, I felt overwhelmed by the amount of documents I had to go through before I could even start. Luckily, at the end of this research it seems that I had overlooked the writing process. Once I had a clear planning of what I wanted to do and what I was going to do, the research was much easier to write because my materials were present.

Also, I am glad I have settled on a topic that I am interested in, as this has made the whole process feel less like homework. Reading and writing about the possibilities of the Multiple Intelligences Theory is something that I feel has taught me a lot about my own teaching and the teaching that I aim for. I had always been interested in the theory as the theory seems like a perfect answer to difficult students and learning difficulties, but always wondered how the theory would apply to the teaching practice.

Besides that, what I have also learnt in my research process is that creating my own materials for the adapted lessons made me critical of what quality I want to offer my pupils. I think this research has increased my knowledge on the multiple intelligences and their adaptability. With this knowledge, I feel as though I have gained so many didactic tricks that I can use in my teaching in the future.

Moreover, a positive side-effect of my research has been the generally favourable feedback of my pupils. I admit that I do look at pupils in a different way; I have seen a pupils with low language ability enjoy the lesson thanks to a difference in activity in which he or she could now move around.

Because of my adapted instructions, I had to look for suitable materials which I could present to class. This meant that I had to let go of my traditional teaching that was mostly based on the coursebook. What I have learnt from this experience is that looking for different approaches to English teaching benefits not only the pupils' motivation, but also my own. Not only has the process of creating these activities made me critical, I also had to let go of my traditional teaching method to allow different approaches. Generally, the feedback of the pupils has been positive, which leads me to trying out more different approaches in the rest of the school year.

Furthermore, whereas this research has yielded positive results, further research is needed to prove the theory. As I am also following a Master's Degree course, I hope to continue this research in the future.