



How can the IB-PYP Learner Profile be applied to create a subject-specific approach for Physical Education?

Bachelor Thesis

by

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Abstract

This paper is exploring the potential of the subject of Physical Education for supporting students' overall development, the theoretical relation between the IB Learner Profile and PE as described in various IB-PYP documents, and aims to design a subject-specific approach of the Learner Profile for Physical Education.

This design-based research is based on collaborative work with focus groups of Grade 5 students, involving them in the design of their learning experiences, providing meaningful and relatable design outcomes. They are implementing their knowledge and experiences into the design on a prototype approach. This approach is discussed, analyzed and adapted collaboratively to produce a valuable final product.

Ideas are developed, analyzed and designed on how to implement the IB-PYP Learner Profile actively throughout PE. The final product, a subject-specific Learner Profile for PE is designed and further ideas on the LP's implementation are generated.

Key words: IB-PYP Learner Profile, subject-specific approach, Physical Education

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List of abbreviations

Abbreviation	Explanation
<i>DBR</i>	<i>Design-Based Research</i>
<i>IB</i>	<i>International Baccalaureate</i>
<i>LP</i>	<i>Learner Profile</i>
<i>MTPH</i>	<i>Making the PYP happen: a curriculum framework for international teacher education (2009)</i>
<i>PE</i>	<i>Physical Education</i>
<i>PESS</i>	<i>Primary Years Program – Physical Education scope and sequence (2003)</i>
<i>PSPE</i>	<i>Personal, social and physical education scope and sequence (2009)</i>
<i>PYP</i>	<i>Primary Years Program</i>

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Introduction

“Lack of activity destroys the good condition of every human being, while movement and methodical physical exercise save it and preserve it.” – Plato

Physical Education is more than running,

Physical Education is more than winning or losing,

Physical Education is more than just a school subject (PSPE, 2009).

Physical Education is physical development.

Physical Education is personal development.

Physical Education is supporting the development of the whole child (Heroic Staff, 2018).

Physical Education provides students of any age group with practical, relatable and fun learning opportunities in which physical, social, emotional and cognitive abilities are discovered, challenged and improved.

This research analyses the potential of Physical Education for supporting character education through the active implementation of the IB Learner Profile. As the IB states in their Personal, social and physical education scope and sequence (2009): “Physical Education in a PYP school should be more than just student participation in sports and games. Its purpose should be to develop a combination of transferable skills promoting physical, intellectual, emotional and social development (...)” (p.1).

At the heart of the IB-PYP and this research lays the Learner Profile. The LP is a set of 10 attributes or character traits. With the LP at heart “The International

Baccalaureate® aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect” (IB, 2005-2019).

Inquirers	They develop their natural curiosity. They acquire the skills necessary to conduct inquiry and research and show independence in learning. They actively enjoy learning and this love of learning will be sustained throughout their lives.
Knowledgeable	They explore concepts, ideas and issues that have local and global significance. In so doing, they acquire in-depth knowledge and develop understanding across a broad and balanced range of disciplines.
Thinkers	They exercise initiative in applying thinking skills critically and creatively to recognize and approach complex problems, and make reasoned, ethical decisions.
Communicators	They understand and express ideas and information confidently and creatively in more than one language and in a variety of modes of communication. They work effectively and willingly in collaboration with others.
Principled	They act with integrity and honesty, with a strong sense of fairness, justice and respect for the dignity of the individual, groups and communities. They take responsibility for their own actions and the consequences that accompany them.
Open-minded	They understand and appreciate their own cultures and personal histories, and are open to the perspectives, values and traditions of other individuals and communities. They are accustomed to seeking and evaluating a range of points of view, and are willing to grow from the experience.
Caring	They show empathy, compassion and respect towards the needs and feelings of others. They have a personal commitment to service, and act to make a positive difference to the lives of others and to the environment.
Risk-takers	They approach unfamiliar situations and uncertainty with courage and forethought, and have the independence of spirit to explore new roles, ideas and strategies. They are brave and articulate in defending their beliefs.
Balanced	They understand the importance of intellectual, physical and emotional balance to achieve personal well-being for themselves and others.
Reflective	They give thoughtful consideration to their own learning and experience. They are able to assess and understand their strengths and limitations in order to support their learning and personal development.

Table 2: IB LP attributes

This paper bases all further document analyses on the above-presented LP. Other documents will be analyzed and discussed in conjunction with the LP attributes as presented in the IB learner profile booklet (2009). The attributes are adapted to the needs of PE and a student-designed product is created.

Objectives

The overall objective of this thesis is to inspire PYP PE teachers with ideas on active implementations of the Learner Profile throughout Physical Education. The core idea, designing a subject-specific approach, is supported by thorough literature and IB-PYP document analyses, as well as student focus groups who design the final product.

Further objectives of this research are:

- informing about the necessity and status of Physical Education in Elementary Education.
- analyzing how IB-PYP documents relate the Learner Profile with Physical Education.
- analyzing Physical Education's potential for character education through the implementation of the Learner Profile.

Summarizing, this research aims to provide critical insight into students' perceptions and experiences with the Learner Profile throughout the subject of PE. Student-involvement in designing a subject-specific aims to provide meaningful and relatable results. Generally, this research aims to contribute to the ongoing attempt to heighten the integration of the IB-PYP Learner Profile into the subject of Physical Education.

Motivation

Beginning in early childhood, I was always interested and actively participating in physical exercise of any kind. Continuing during middle and high school, physical exercise and education has always sparked joy and played a big role in balancing life. I was always motivated, inquiring new sports, and challenged personal limits. From early years on, differences in personality have been noticed during less and more physically active periods.

Later, throughout university, a more specific interest in the relation between character development and physical exercise within primary education developed.

Several internships in PYP schools, as well as a 'Physical Education and Health' minor in Austria, have provided insights and new knowledge about different approaches of Physical Education.

While the LP was actively implemented in some schools, it was barely visible in others. Especially during PE lessons, I barely noticed any implementation of the Learner Profile while it is being advertised as one of *the* foundational concepts of the PYP. Valuing physical activity and education as one of the core subjects for health and personal development, I chose to investigate this topic to become more knowledgeable about the potential of Physical Education in relation with personal development and well-being. Because of experiences and strong interest in the PYP curriculum, it was decided to focus this research on the IB-PYP's Learner Profile concept in relation to the school subject and personal hobby of Physical Education.

Research Questions

To answer the research question “How can the IB-PYP Learner Profile be applied to create a subject-specific approach for Physical Education?” several sub-topics are discussed and analyzed, providing knowledge and insight for the reader to understand this research’s purpose, content and process. To fully benefit from the results, it requires an understanding of Physical Education’s current status in (international) primary education, as well as knowledge of the Learner Profile and further key IB documents, which is provided throughout following sub-topics and questions:

1. How does Physical Education relate to the development of the whole child?
 - a. How does Physical Education relate to students’ physical well-being?
 - b. How does Physical Education relate to students’ personal development?

The first sub-topic is a literature review that clarifies the status, significance and purpose of PE and exercise in education, aiming to fulfill the first objective. The relation of PE with physical and personal development is analyzed and discussed and it is pointed towards the overall potential of Physical Education.

2. How does the IB-PYP define Physical Education according to the MTPYPH, PESS and PSPESS?

To understand the IB-PYP's beliefs and approaches towards Physical Education, this sub-topic focuses on the analyses of key IB-PYP documents. The visions, values and approaches for Physical Education are summarized and presented.

3. How does the IB-PYP relate their Learner Profile to Physical Education according to the MTPYPH, PESS and PSPESS?

Similarly, to the second sub-topic, key IB-PYP documents are thoroughly analyzed, this time in relation to how the written PYP PE curriculum relates the Learner Profile to Physical Education. Documents are critically analyzed regarding written, clear relations between the LP and PE, as well as possible less obvious ones. To stress the potential of Physical Education examples are provided on how the documents' content could clearly be linked to the Learner Profile

“How can the IB-PYP Learner Profile be applied to create a subject-specific approach for Physical Education?”

The sub-topics work as the foundation for further design processes, in which the main research question will be answered using a 5-step design-research model. Next to the design, different subject-specific approaches are discussed and analyzed regarding its meaningfulness, adaptability and difficulties.

Significance

PE in primary schools presents an opportunity for learning about more than just moving the body and becoming good at sports. As also discussed throughout the first sub-topic, regular physical exercise not only enables students to develop and improve physically, but allows them to acquire knowledge, skills and attitudes helping them to succeed and be well.

Therefore, PE needs to be recognized and treated as strong promoter of physical and personal development of the whole child. Physical Education enables students to actively engage with themselves, each other and their environment (Sprake & Palmer, 2018). As educators, we need to realize and use the potential of PE to support our students to become skilled, aware and healthy global citizens

PE just like any other subject, should promote the develop of the whole child and be supported in that by teachers, parents and guardians. It is, especially in a current sedentary and screen-focused world, important to realize the need and potential of Physical Education for personal development and embrace regular, sufficient exercise to develop students' overall well-being (LeBlanc et al., 2015). Implementing the LP more actively throughout the subject of PE, can help teachers meet the needs of the whole child and therefore support their overall development.

Literature Review

Physical Education and its potential to develop the whole child

While most schools and PE subject-teachers nowadays would agree to Physical Education being more than just doing sports and improving fitness, PE remains one of the subjects with least time allocated (Sprake & Palmer, 2018). Often, the little time allocation for PE is caused by learning focusing rather on academic achievement than overall development (Sprake & Palmer, 2018). While many are aware of the need to imply more physical exercise in schools, and small action can be taken by every teacher him- or herself during classroom practice, often the lack of (human) resources, support or funding can keep schools themselves from active PE promotion (Committee on Physical Activity and Physical Education in the School Environment, 2013; Hills, Dengel, Lubans, 2014).

The importance of Physical Education is shortly introduced and discussed below, aiming to provide a first insight into the potential of PE not only for the physical, but overall development of children.

How does Physical Education relate to students' physical well-being?

In a world that is continuously developing towards a sedentary and screen-focused one, where access to media, especially in high-income countries, has more value than physical exercise, children are exposed to an increasing physical and mental health risk (LeBlanc et al. 2015). One example, as mentioned by Youfa Wang in *Global Perspectives of Childhood Obesity* (2017) is children watching lots of television. Having a television in their bedroom makes them watch more, exercise less and gain weight, often as dramatically as being

at risk of obesity. Additionally, the decreased physical exercise also has children nowadays less aware and control-taking of their own body, therefore more likely to accumulate serious physical injuries (Hills, Dengel & Lubans, 2014).

Besides the switch towards a screen-focused world, parents have also become very overprotective of their children – an essential characteristic of so called ‘helicopter parenting’. Clearly, not all protective parents fall below the category helicopter parent, yet by not giving their children the opportunity to experience by e.g. playing wildly outside, parents are making it harder for them to become independent, experienced and individual (Reed, Duncan, Lucier-Greer, Fixelle, Ferraro, 2016).

Generally, PE provides students with active learning experiences in which they develop necessary gross and fine motor skills, self-awareness and become more conscious of active and healthy lifestyles.

“Mens sana in corpore sano” (Juvenal as cited by Banicevic & Belic, n.d.)– A healthy mind in a healthy body.

How Physical Education possibly relates to personal development is discussed throughout the next section.

How does Physical Education relate to students’ personal development?

“Intelligence and skills can only function at the peak of their capacity when the body is healthy and strong.” – John F. Kennedy (as cited in Hentges, 2014).

“We think through our bodies.” Similarly, to John F. Kennedy, Novak (2018) explains that using and moving our bodies is essential for us to develop our personal and interpersonal wisdom by literally being more in touch with our

environment. Being active and engaging within the world around us enables us to find back to the connectedness between nature and our self and allows us to seek for our personal fullest physical and cognitive potential.

Also, as described by Laker (2001) can the decreasing amount of physical exercise lead to greater unhappiness and mental health issues at a much younger age. The obvious positive relation between physical exercise and well-being would make it seem logical that PE should be an essential part of students' school life, yet it is the potential of developing the whole child through active movement, that makes Physical Education so important (Laker, 2001).

Similarly, to above stated definition of Physical Education, the IBO states in their *Personal, social and physical education scope and sequence* (2009) the subject to be an opportunity to develop physically, intellectually, emotionally and socially by learning through and about movement.

In the further course of this framework, the relation of the PYP's definition and approach of Physical Education will be discussed, critically analyzed and summarized.

The definition of Physical Education according to PYP documents

Introduction of Documents

The analysis of below listed IB-PYP documents presents a general insight into the definition of PE. Its focus was put on defining

- general understandings and beliefs,
- approaches and expectations for teachers,
- expectations for students.

The listed documents were chosen based on the general importance for understanding the IB-PYP curriculum, as well as their relation to Physical Education.

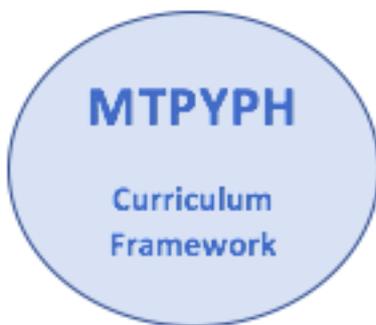


Fig. 1: Making the PYP happen:

A curriculum framework for international primary education (2009)

The MTPYPH represents the foundational key document of the IB Primary Years Program. It informs in detail about how the PYP works, its beliefs and mission, curricula and essential elements of the program. It also refers to additional strand-specific PYP documents. Those are derived from the MTPYPH but provide more specific information about different strands, e.g. Mathematics, Language and Physical Education.

As this document is the foundational manual for all PYP practices, additional documents were analyzed and discussed in conjunction with the MTPYPH.

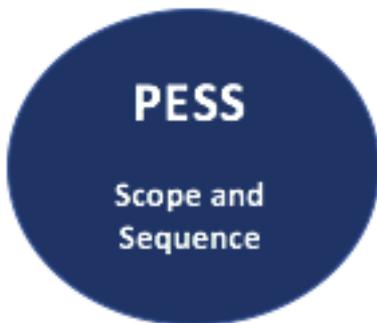


Fig. 2: Physical Education Scope and Sequence (2003)

The PESS provides detailed insight into the overall expectations for students in different Physical Education-related areas, e.g. Body Awareness and Gymnastics. It describes learning goals and provides examples for activities and assessment.

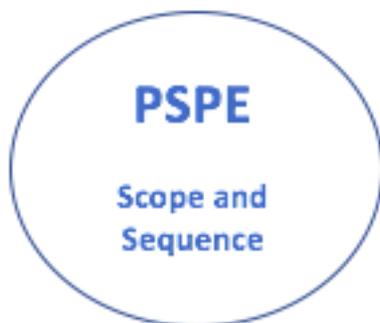


Fig. 3: Personal, social and physical education scope and sequence (2009)

The PSPE informs the reader about overall expectations in form of learning continuums for personal, social and physical education. Here, the IB refers to PE as the strand *Active living* and it is generally brought into context with the other two strands *Identity* and *Interactions*.

How does the IB-PYP define Physical Education according to the MTPYPH, PESS and PSPESS?

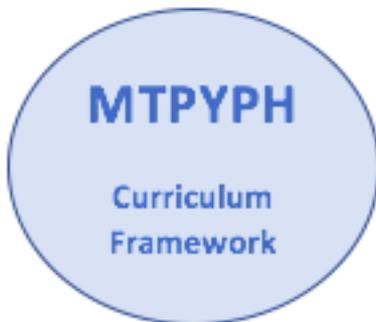


Fig. 1: Making the PYP happen:

A curriculum framework for international primary education (2009)

Generally, the document MTPYPH (2009) provides a summary of all documents' definitions and approaches for Physical Education within the PYP. It states that PE as such, is a subject where the individual's physical, as well social and personal development should be promoted by engaging actively with oneself and the environment. Transdisciplinary planning, teaching and reflecting – also meaning to inquire the relation between PE and Learner Profile, should help PE subject-teachers to provide students with realistic, meaningful learning experiences. Also, is the focus of PE practice displayed, showing that the emphasis has been changing from a very physical aspect, to one where the development of the whole child is approached. Yet, how far this, and the other documents are useful and understandable in relation to the Learner Profile, will be discussed throughout the next section.

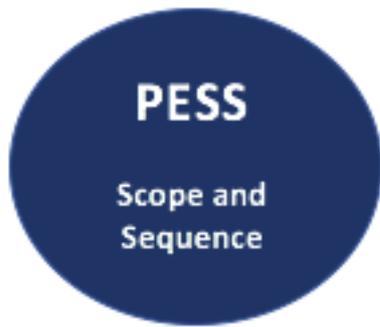


Fig. 2: Physical Education Scope and Sequence (2003)

The *Primary Years Program – Physical Education scope and sequence* (2003), provides a more detailed insight into the approach of Physical Education. While the overall expectations are formulated within the focus of physical development, “body control and spatial awareness, adventure challenges, athletics, movement to music, games, gymnastics and health-related activities” (p. 7.3), the more detailed definition states a ‘physically educated person’ to be critically thinking, working collaboratively and improving self-confidences (Gallahue, 2003). Similarly, to the *PESS* (2009) it encourages P.E. subject-teachers as well any other member of the school’s society, to treat and “see P.E. as part of a healthy and active lifestyle with connections to other areas of the curriculum and community” (*PESS*, 2003, p. 7.2).

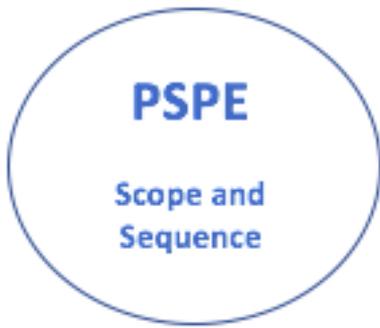


Fig. 3: Personal, social and physical education scope and sequence (2009)

The International Baccalaureate states in their PSPE (2009) that “the development of a student’s well-being can be implicitly and explicitly addressed through all areas of the PYP curriculum” (p. 1). Physical Education therefore, just like language learning and social sciences, should play an essential role in students’ daily school life as it provides students with the opportunity to actively engage with themselves and their learning environment by moving, exploring and challenging themselves and their bodies. Further definitions of PE within the *PSPESS* (2009), include the understanding of one’s very own physical needs, potential and health. Yet within the strand of ‘active living’, it tells little details about the promotion of intellectual, emotional and social development, while being mentioned throughout the introduction: “Physical Education in a PYP school should be more than just student participation in sports and games. Its purpose should be to develop a combination of transferable skills promoting physical, intellectual, emotional and social development (...)” (PSPE, 2009, p.1). To develop full understanding of the PYP’s definition and approach of Physical Education, the strands ‘identity’, ‘active living’ and ‘interactions’ need to be understood as being interconnected. To help our students develop their fullest possible potential through PE, meaningful and relatable learning experiences need to be established, in PE just like in any other academic subject (Novak, 2018).

The relation of the IB-PYP Learner Profile to Physical Education according to PYP documents

The key documents are critically analyzed regarding written, clear relations between the LP and PE, as well as possible less obvious relations. Examples on how Physical Education could clearly be linked to the Learner Profile are provided by linking the documents' content to the LP attributes as they are described in the IB learner profile booklet. The potential of PE to support the development of the whole child is stressed in the context of this analysis.

Documents			
LP Attributes			
Inquirers	- develop strategies to improve individual and team performance in physical activities	- to learn didactics	- understanding the body's response to exercise
Knowledgeable	- understand the factors that contribute to a healthy lifestyle	- to be aware	- understanding the causes and possible prevention of ill health
Thinkers	- develop and apply strategies to help manage situations of change and adversity	- to critically think	- making informed choices
Communicators		- to solve problems	
Principled	- to appreciate the interdependent relationships between	- to respond adequately to new situations	

	humans, other living things and the environment		
Open-minded		- to learn a new language	- <u>taking action</u> for healthy living now and in the future
Caring	- use cooperative behaviors <u>in order to</u> function as part of a group or team		- understanding the rights and responsibilities we <u>have to</u> ourselves and others
Risk-takers		- to be adventurous	
Balanced	- work towards achieving personal goals	- to be disciplined and strive for improvement	- <u>taking action</u> for healthy living now and in the future
Reflective	- reflect on the development of his/her own personal, social and physical well-being		- evaluating consequences

Table 2: Relation Learner Profile to Physical Education

How does the IB-PYP relate their Learner Profile to Physical Education according to the MTPYPH, PESS and PSPESS?

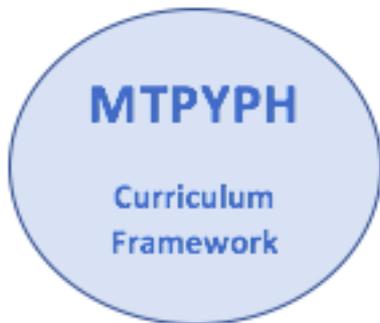


Fig. 1: Making the PYP happen:

A curriculum framework for international primary education (2009)

The MTPYPH (2009) provides an overview of all aspects in the Primary Years Program. The analysis' was put on the annex: *Subject areas, Personal, social and physical education in the Primary Years Program.*

This document again mentions the freedom provided for PYP subject-teachers in the design of lesson and teaching content, "provided that they are driven by a spirit of inquiry and a clear sense of purpose" (p.115). Yet, just like in the other documents, there is little to no guidance towards the implementation of the LP throughout the subject of PE. In the chapter, *Beliefs and values in personal, social and physical education*, it is mentioned that the IB Learner Profile is "integral to teaching and learning in the PYP because it represents the qualities of effective learner and internationally minded students" (p. 112).

The LP lies at the heart of the IB and is meant to help students develop in all areas to become global citizens, helping to make this world a better place. But the actual understanding and relation between PE and the LP is often not yet, where the IB strives to be, and it is not only the subject-teachers, but the whole school community's task to work towards this common goal.

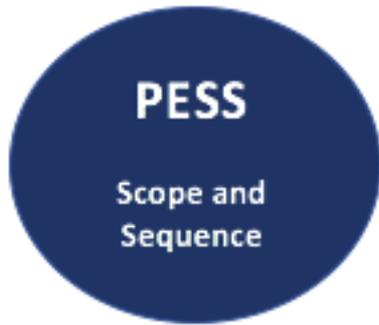


Fig. 2: Physical Education Scope and Sequence (2003)

Reviewing the PESS (2003), no direct links to the Learner Profile can be found. The document argues to not present a direct link with the LP due to individual and different impacts of resources, staff numbers, expertise, facilities and scheduling issues. The PE scope and sequence therefore provides freedom and should rather be understood as a framework, just like the guidelines within MTPYPH (2009). Yet, not providing any or basic guidelines and the decreasing curriculum time allocation of Physical Education, often forces teachers to maximize the amount of physical exercise, leaving less to no time to discuss and evaluate learning experiences with students (Hardman, K., & Marshall, J., n.d.). Although being very basic about the relation of PE to the LP, there are several indirect links implemented throughout their summary of expectations. Many different characteristics and traits are mentioned, that could be directly related to the Learner Profile, and therefore present a good foundation for its direct implementation in the subject of PE. Some examples of relating expectations and attributes are following:

- *“Games sequentially develops the students’ competence, confidence, success and enjoyment of the [...]”* relates to being **Balanced**;
- *“Body control and spatial awareness focuses on exploring the human’s body capacity for movement [...]”* relates to being **Knowledgeable, Inquirers and Risk-Takers**.

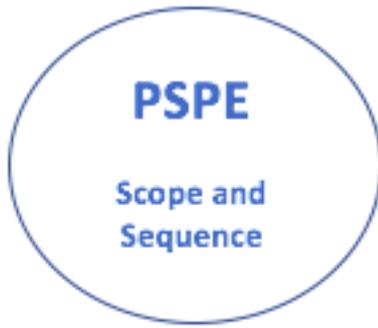


Fig. 3: Personal, social and physical education scope and sequence (2009)

Throughout the PESS (2003) quite clear connections could be discovered between Physical Education and the Learner Profile. Fewer connections were evident throughout the PSPE (2009). The strand 'active living' implements the understanding and awareness of one's own physical health, yet there is little notice about the subject's potential concerning social, intellectual and emotional development when looking at the 'Learning Continuum'.

Some examples in the PSPE (2009) of possible relations between the Learning Continuum and Learner Profile could be following:

- *"We can observe changes in our bodies when we exercise"* relates to being **Inquirers, Thinkers and Reflective**;
- *"There is a connection between exercise, nutrition and physical well-being"* relates to being **Knowledgeable, Inquirers and Balanced**;
- *"Regular exercise is part of a healthy lifestyle"* relates to being **Balanced, Open-minded and Inquirers**.

As a PE teacher, one is required to recognize, understand and teach the connection between PE and the Learner Profile by feeling oneself primarily as PYP teachers and therefore contribute to the overall outcomes of the transdisciplinary program (PSPE, 2009). Yet, there is little support in understanding and approaching those relations in either of the discussed documents. While all reviewed documents encourage PE subject-teachers to link Physical Education to the school's program of inquiry, and actively be part of

its development and preparation, it is not a general norm to regularly participate in transdisciplinary meetings or professional developments (Hardman, K., & Marshall, J., n.d.).

Conclusion

While most documents argue not to go into detail about the relation between Learner Profile and PE to provide freedom in the design of lesson content, they all mention that PE is more than just exercise. To establish consistent, meaningful and relatable learning experiences for all students of all PYP schools, clear and common understandings of the relation between the LP and PE are required or as Hardman and Marshall (n.d) call it, a 'Basic Needs Model'.

All in all, a quality Physical Education program helps students to develop their social, intellectual, emotional and physical capabilities to the fullest potential possible and supports their development towards becoming active, engaging citizens.

In the further course of this thesis, learning and teaching approaches will be designed, analyzed, tested and redefined. The design of subject-specific approaches aims to inspire teachers to implement character education more actively throughout PE.

Participants and Context

This research was conducted within the context of an international primary school in the Netherlands. This highly PYP-experienced school aims to develop academically skilled students who, through reflection and discovery of personal visions and set values, become global citizens within an ever- and fast-changing world. The importance of the IB-PYP LP is explicitly stressed and lies at the heart of learning and teaching processes. The small international primary school is located in the wealthier center of the Netherlands where many international expats choose to live and big international firms locate their head offices. The school currently hires staff of about 17 nationalities, the student body presents more than 40 different nationalities. Each class is culturally very diverse and the main language of instruction is English.

This research took place in a Grade 5 classroom with students ages 10-11. This culturally very diverse classroom includes students with PYP-experiences varying from 4 weeks to 7 years. The input of differently-experienced students helps designing a relatable and understandable product that is meaningful to the wider student community. It was chosen to conduct this research in a Grade 5 classroom as it requires lots of discussion, reflection and students' innovativeness. All 15 students, with English levels varying from EAL to native speaker, are equally involved and engaged throughout the process, as every student's original input is very valuable for the design of the final product.

Research Methodology and Methods

Design-Based Research (DBR) is a solution-oriented methodology in which participants focus on designing a theory-based and practice-tested product. DBR is based on non-linear design cycles or stages. While the stages seemingly lead to each other, flexibility in the design cycle allows room for discussion, reflection and improvement before finalizing a product. This specific research makes use of the 5 Stage Process proposed by the Hasso-Plattner Institute of Design at Stanford (d.school) as presented in *Design Thinking: A 5 Stage Process*.

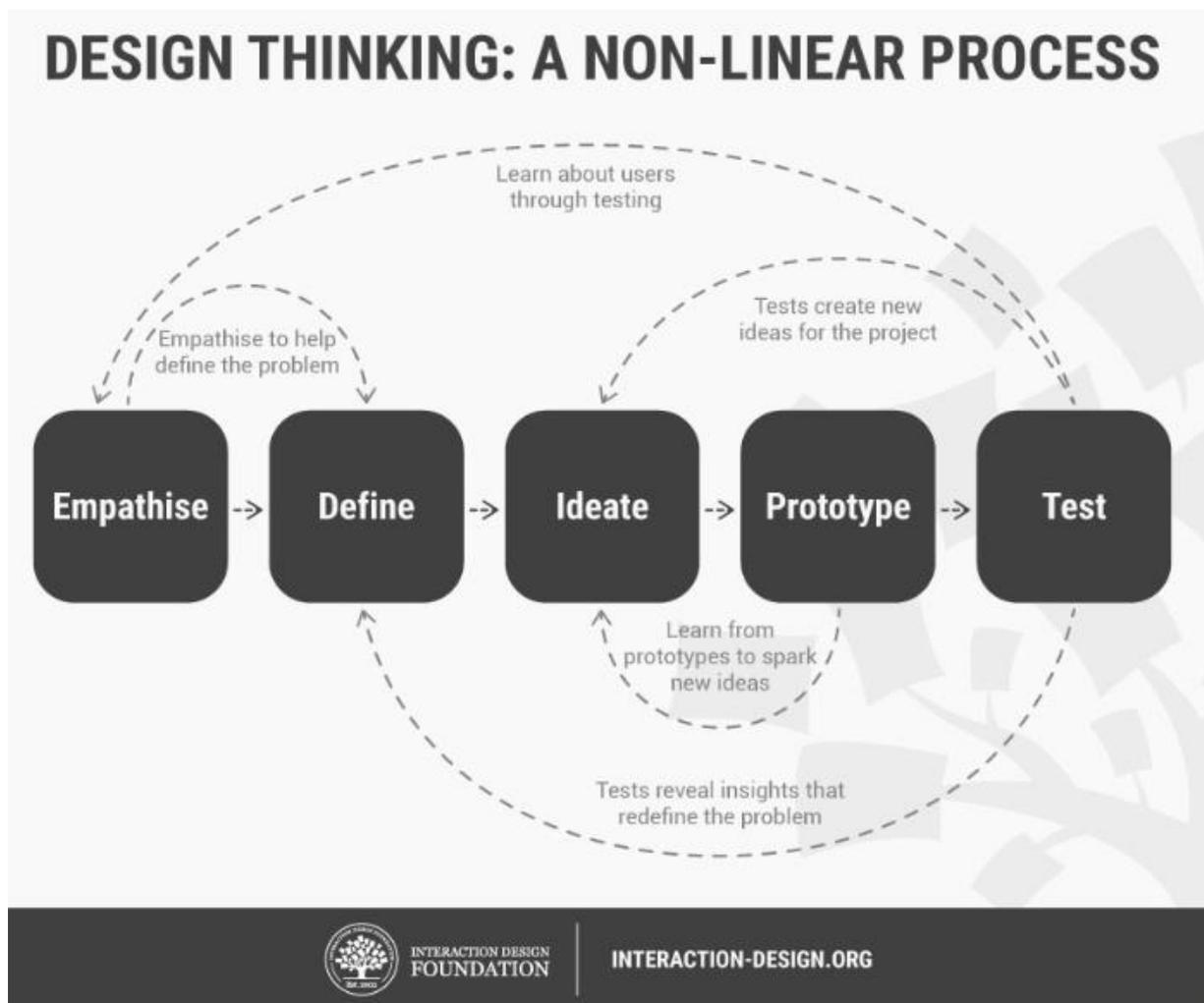


Fig. 4: Design Cycle

This process was designed based on literature review on the importance of PE, the IB-PYP’s definitions and approaches and possible relations between the LP and PE.

The detailed description of purpose, content and results of each phase are presented throughout the presentation of results. Below, a short overview of each phase is provided. The time allocation hereby only presents the approximate length of focus groups meetings where participants were actively engaged, not the time spent by the researcher herself.

Design Phase	Research Tool	Purpose	Content	Time Allocation
Empathize	Focus Groups, Literature Research	understanding the problem, empathize with students’ knowledge and understanding	activity, discussion	approx. 20 Min. activity + 10 Min. discussion
Define	Focus Groups, Observations Results of Activity	defining the problem, designing first approaches	discussing and analyzing observations and activity results	
Ideate	Focus Groups	brainstorming ideas	brainstorming discussions, note-taking, drafting first ideas	approx. 15 Min.
Prototype	Focus Groups, Observations, Literature Research, Activities	designing prototype	discussion, Reflecting upon Phase 1 activity	approx. 15 Min.
Test	Focus Group	designing final product	activity	approx. 30-45 Min.

Table 3: Design Process overview

This qualitative and interpretivist research aims to develop a deeper understanding of

- the general relation between Physical Education and student well-being according to academic literature,
- the IB's beliefs and approaches towards Physical Education throughout the Primary Years Program according to IB-PYP documents,
- possible subject-specific approaches of the IB-PYP Learner Profile for PE in order to support the development of the whole child.

It critically reflects upon personal experiences, discusses knowledge and understanding, and innovates new approaches based on the subjective input by a small sample of 15 Grade 5 students.

The literature research and document analyses provide insight into the topic, and function as foundation for further subjective design processes.

This research should act as a guide and can inspire PYP schools on how to possibly design their very own subject-specific approaches of the Learner Profile for PE. To understand and critically perform personal and professional inquiry means being able to improve and adapt practice.

Research Tools

Focus Groups

Focus groups in general provide the researcher with an insight into personal experiences, values and knowledges. Different participants' skills and input is needed in designing a meaningful product that is valuable to the wider social context, in this case the primary school environment (Breen, 2007).

Throughout this DBR, three focus groups of each 5 Grade 5 students worked separately towards a shared product. Working with three smaller groups allowed more room for discussion and engaged each student actively during activities. All groups carried out their own design cycle up to the final phase, where a shared product was created.

Each group met twice for approximately 30 – 60 Minutes and throughout meetings, informal interviews and semi-structured observations were conducted, using the observation form as seen in Appendix 3. The general tool *Focus Group* includes different research methods guiding the design process as can be seen below.

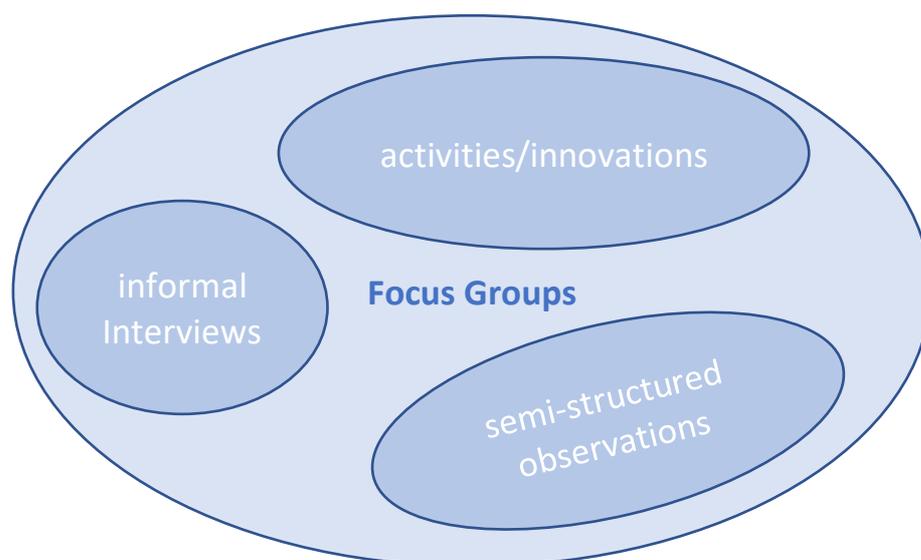


Fig. 5: Research Method Focus Group

Activities/Innovations:

Through different activities and discussions, students shared knowledge and experiences. Reflecting upon that, they brainstormed and innovated new ideas and approaches. Such innovations formed the tools for further processes on improving and finalizing the product.

Informal interviews and semi-structured observations:

Throughout the meetings, the researcher would ask following questions.

- a. Think back to your last few PE lessons, its content, instructions, behavior, action etc. Is there something you can relate to the Learner Profile?
- b. Think of the different kinds of sports, e.g. team sports, individual sports, competitions etc. Where and how do you see the Learner Profile? Which of the attributes do you apply within this activity?
- c. What is the first thought that comes to your mind when thinking of Physical Education?
- d. Do you use the Learner Profile in Physical Education? How? When? Examples.
- e. How could it/could it not help you (and your PE teacher) to use the Learner Profile in Physical Education?

Those questions function as guidelines for discussions. The notes that were taken were added to the observation form and overall protocols of the meetings were created.

Description of Data

Literature Review

Data for the literature review was gathered by researching, analyzing and summarizing recent academic literature on the importance of Physical Education for student well-being. To provide the reader with insight and understanding of the urgency to improve and increase PE, recent trends and developments are presented.

Document Analysis

Several IB-PYP documents were analyzed and discussed to provide insight into the organization's beliefs, values and approaches towards PE. For the second research question, the researcher scanned documents for obvious written content. For the third research question, the researcher looked for written content as well as read between the lines to analyze the potential of missing connections. Additional curriculum documents were analyzed in regard with the curriculum framework and brought into context with academic literature.

Focus Groups

All focus groups were introduced to the design process by explaining its purpose and content. Participants were ensured that this process is no assessment of their knowledge or skills, and that any topic-related experiences and input is welcome. Throughout the different phases, the researcher explained the content, reflected on the last phase and guided the students through the process. The researcher mainly stepped back and took on the role of the

observer. Thereby, she took notes on students' actions, responses and other possibly interesting factors.

Analysis

The data gathered in each phase of the design process was analyzed according to its needs. Since the design phases work towards different goals and contain different research tools and methods, the analysis of each phase slightly differs.

The 'Emphasize' Phase mainly focuses on gathering data and developing understanding. Thereby, the literature review is used to prepare its content and leading discussion questions.

Throughout the 'Define' phase, the observations of all groups are compared and summarized using the same observation form. Unusual observations are explicitly mentioned.

Throughout and at the end of the 'Ideate' Phase, discussion results were grouped into the LP attributes. Those served as guiding structure for summarizing first ideas and approaches.

The prototype was created using all discussion and activity results and weighing them up against each other in order to decide for the most valuable product for the broader community. E.g. too specific examples were adapted into more general definitions and the other way around.

The final product was tested and results were analyzed by reflecting upon the design process and defining areas for improvement.

A more detailed overview about the analysis of each phase is given throughout the presentation of results.

Presentation of Results

Phase 1: Empathize

Abstract

This phase empathizes with students' experience, values and perceptions to provide the researcher with an understanding of the research topic through participants' eyes and to set aside own assumptions at first (Dam & Siang, 2019). Observing, engaging and empathizing with participants lays the foundation for any further processes.

Activity: Who we are in Physical Education

The goal of this activity was to empathize with students' knowledge and understanding of the LP. It is to find out how they possibly relate the LP attributes to their experiences throughout PE. The informal observations based on this activity also helped emphasizing with students' understanding and perceptions of the general relation between the LP and PE.

Being guided through discussion, the main input still came from the students, as it determined the beginning of a subject-specific design approach of the LP for PE.

Working in focus groups allowed the students to discuss their ideas and inspire each other, yet final answers did not have to be group-approved but based on the individual student's decision. All answers needed to be justified by giving an example of the implementation of this attribute in PE, to exclude simple recalling as much as possible.

Being aware that many students have little experience with the IB Learner Profile, due to their short attendance at a PYP school, their opinion and values were equally appreciated and incorporated in the further process. It helped the final product become valuable and understandable to all students of all experiences and backgrounds.

Before, during and after the activity, all groups will be guided by the teacher as following:

1. Introduction: Explain the activity, materials and its purpose.
2. Activity: While students were working within their focus group, the researcher conducted semi-structured observations, answered clarifying questions and guided the discussion with following input:
 - Think back to your last few PE lessons, its content, instructions, behavior, action etc. Is there something you can relate to the Learner Profile?
 - Think of different kinds of sports, e.g. team sports, individual sports, competitions etc. Where and how do you see the Learner Profile? Which of the attributes do you apply within this activity?
3. Discussion: Discussion of the results and input. The researcher asked the group following questions:
 - What is the first thought that comes to your mind when thinking of Physical Education?
 - Do you use the Learner Profile in Physical Education? How? When? Examples.
 - How could it/could it not help you (and your PE teacher) to use the Learner Profile in Physical Education?

Materials that were used for this activity:

- cut out LP attributes

- A3 'Who we are in Physical Education' sheet
- glue sticks + pens
- observation form

The designed observation form (as seen in Appendix 3) was used as a guide for note-taking. Additional questions and observations were discussed and notes added throughout the activity.

Resulting from this activity, all three focus groups created a poster in which they present their ideas and associations of the LP in relation to PE.

It shows the LP attributes in relation to examples that were given by the students. Differences among results of the groups can be seen, evidencing diverse understanding and experiences.

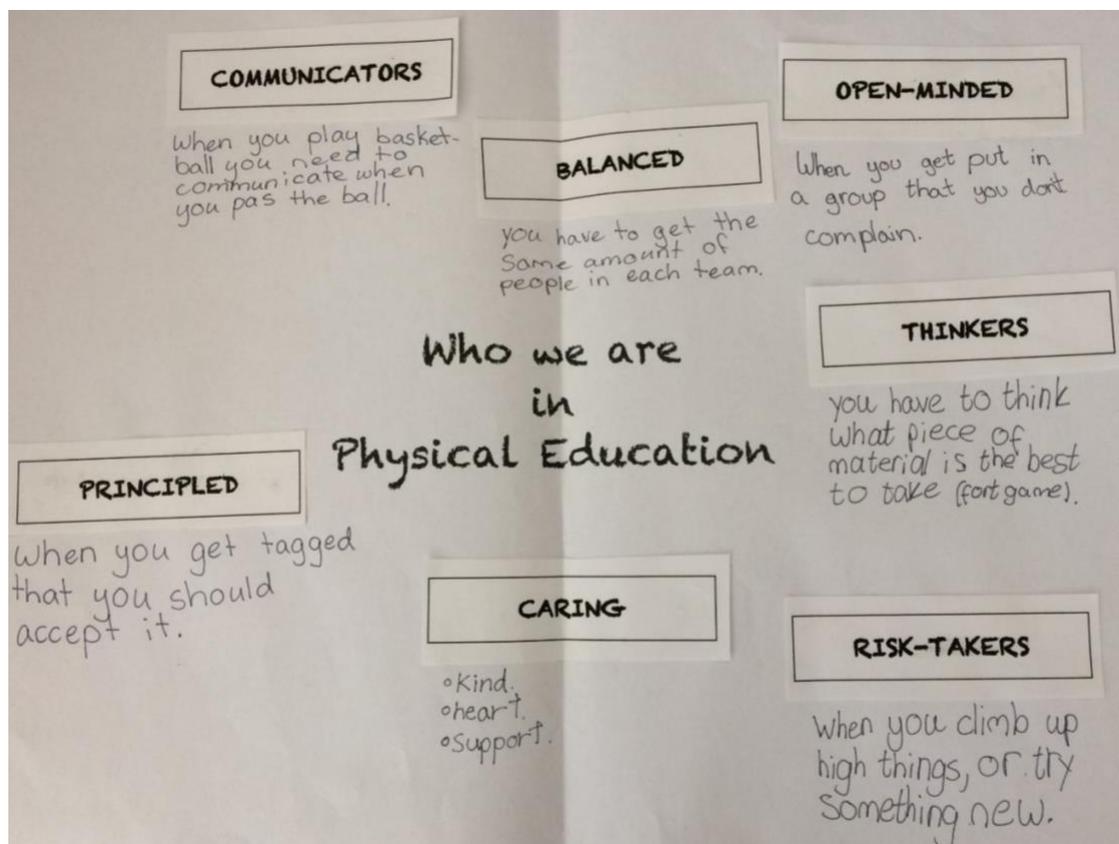


Fig. 6: Results Phase 1 Focus Group 1

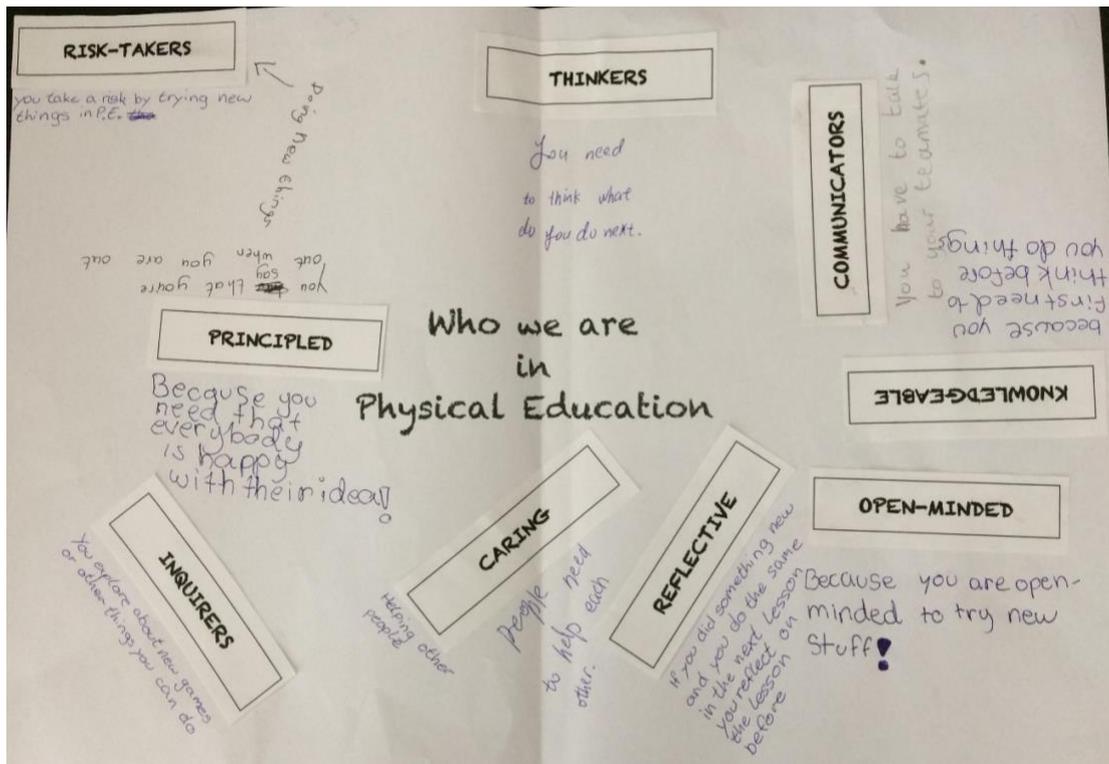


Fig. 7: Results Phase 1 Focus Group 2

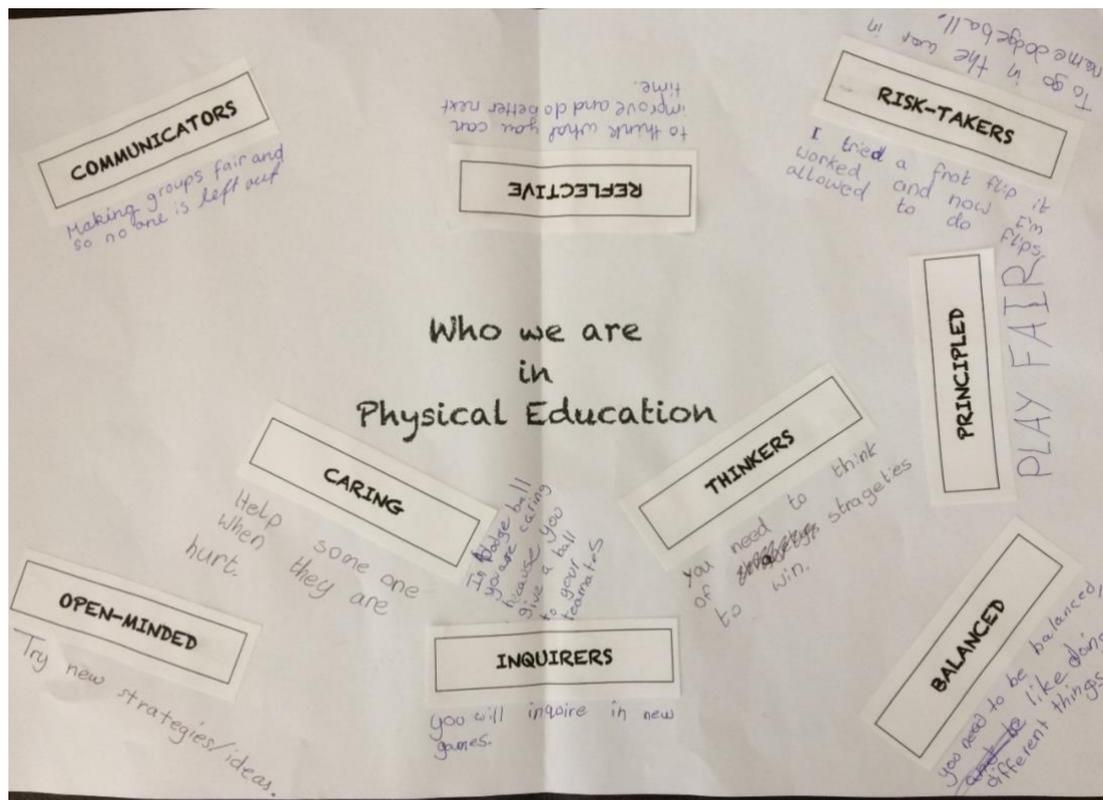


Fig. 8: Results Phase 1 Focus Group 3

Next Steps

During the next Phase (Phase 2: Define), all observations and notes are analyzed and summarized in order to define a core approach for following design phases.

Phase 2: Define

Abstract

During the 'Design' phase, gathered observations and information are summarized and analyzed to define the core 'problem', the leading question for further design processes (Dam & Siang, 2019). The researcher develops first approaches, features and ideas in form of discussion questions and possible activities.

Summary of observations of Focus Groups 1,2,3

Providing more structure and a clearer overview, the summarized observations made during Phase 1 are presented using the designed observation form. Throughout the summary, the focus was put on major and frequently occurring observations, in order to design a product which is meaningful to the wider group (Blaxter, Hughes & Tight, 2010). Below following table, the analysis of its content was briefly summarized.

Guiding Observation Criteria	Notes
<p>What do students know about the LP in general?</p> <p>Do they show understanding by being able to discuss, or do they just recall? How else?</p>	<p>Generally, all students were knowledgeable and understanding of at least some of the LP attributes. Everyone, including EAL speakers and inexperienced PYP students could define at least one attribute and give examples of how they personally apply it during PE.</p> <p>Significant differences were visible between experienced and less-experienced PYP students. While more experienced PYP students discussed and defined several LP attributes, less-experienced students mainly focused on attributes such as 'Caring, Risk-Takers, Communicators, and Open-Minded' as they seem to be more understandable and relatable.</p> <p>All groups showed clear preferences towards specific attributes, e.g. Risk-Takers, Communicators, Open-Minded and Reflective. Attributes, such as 'Inquirers, Principled and Balanced' were discussed by all groups, yet not as in-depth as others. Often, students were insecure of its meaning or confused two attributes, e.g. 'to have the same number of people in each team' as example for being 'Balanced', while this example rather belongs to being 'Principled'.</p>

<p>How do students express themselves? Confident? Questioning? Body Language, Tone</p>	<p>All students participated and contributed to the activity and discussion.</p> <p>Mostly PYP-experienced students led and started discussions and were very confident and sure of their answers.</p> <p>During the first minutes of the activity, there was little guidance by the teacher needed, as the groups worked with the more familiar attributes first. The students responded well to guiding questions by the teacher and could develop new ideas and discussions.</p>
<p>Can students give specific examples related to PE? What kind? How?</p>	<p>Certain attributes were discussed and used more frequently than others.</p> <p>'Caring, Risk-Takers, Communicators, Open-Minded and Reflective' were very clear and relatable to all students, and except for two EAL students, all could give at least 2-3 examples for each attribute.</p> <p>Other attributes, such as 'Inquirers, Knowledgeable, Balanced and Principled' were difficult for most students to give general examples. <u>Often</u> they were very specific.</p> <p>Generally, students could relate the LP to PE by giving specific examples, yet with some guidance by the teacher to think of specific sports or games they like.</p>

Which attributes are students relating to PE often/not/sometimes? Any difficulties in understanding attribute(s)? Why?	Often related with many examples: Caring, Risk-Takers, Communicators, Open-Minded and Reflective Sometimes and with guidance by teacher: Principled, Balanced, Thinkers, Inquirer Not related: Knowledgeable While most students were knowledgeable of the meaning of most LP attributes, it was difficult for some to make the relation to Physical Education, even when working with specific examples of their favourite game or sports.
How do students relate the concept LP to PE? What do they say? How?	Students can connect the LP with PE, and most are able to relate their own actions and behaviours. Some students see the possible potential of relating the Learner Profile to PE, saying that it could help them reflect and therefore improve on things or to make PE even more fun by playing fair.
General	

Table 5: Analysis Phase 2

Analysis of researcher's observations of Focus Group 1,2,3

The analysis of observations and discussions has led to three major conclusions which form the foundation for developing a core approach.

- 1 Participants have basic understanding and knowledge of their own and classmates' application of Learner Profile attributes within the subject of Physical Education.
- 2 Participants are able to reflect upon their use of Learner Profile attributes during Physical Education, yet are not aware of it unless being approached with it, by e.g. discussion or activities.

- 3 Participants have basic ideas on how the Learner Profile in Physical Education could benefit their personal development.

These outcomes provide a base and starting point for developing more awareness and understanding of the how the Learner Profile in Physical Education provides teachers and students with meaningful learning experiences. The core approach is to design ideas and strategies on *How the IB-PYP Learner Profile can be applied to create a subject-specific approach for Physical Education*. Physical Education supports not only physical development but through the implementation of character education, it supports students' personal development and self-awareness; their social, emotional, physical and mental strengths and areas of improvement. Therefore, in a student-involved process, ideas are designed for teachers to use during their PE lessons. Designing it together with students allows them to take initiative and lead in the design of their own learning, designing a product which in the end is relatable and meaningful to them.

Next Steps

During the next Phase the core approach will first be developed by brainstorming and gathering ideas. The summary and analysis of this phase provide insights and understanding for developing guiding questions for a second meeting with all focus groups.

Phase 3: Ideate

Abstract

During Phase 3, the 'Ideate' Phase, the core approach is presented to participants and first ideas are gathered. Such ideas are the foundation for the prototype design and final product. As many as possible ideas are gathered at first, then their adaptability and consequences are discussed and possibly eliminated (Dam & Siang, 2019).

Discussion

The second meeting with the three focus groups was focused on the discussion and gathering of ideas on how one could implement the Learner Profile actively during Physical Education, its benefits and possible difficulties. During these meetings, the researcher would be very focused on listening and initiating discussion and meanwhile take semi-structured notes, using following discussion questions:

1. How do you and your teacher implement the Learner Profile throughout PE? → Asking for examples of what they possibly do already.
2. How can one implement the Learner Profile actively throughout PE? → Gathering new ideas.
3. How can implementing the LP throughout PE benefit you and your teacher? → Making it relatable and meaningful for students.

4. Which role can you and the teacher play in the implementation of the Learner Profile throughout PE? → Involving student in the design of their own learning.

The results are summarized and re-written in structured form and whole sentences. Ideas and input were provided by students with little guidance by the researcher.

1.

- Visualized Learner Profile:

A Learner Profile, with attributes specifically related to PE is visualized on the wall. This LP was created by middle-years students.

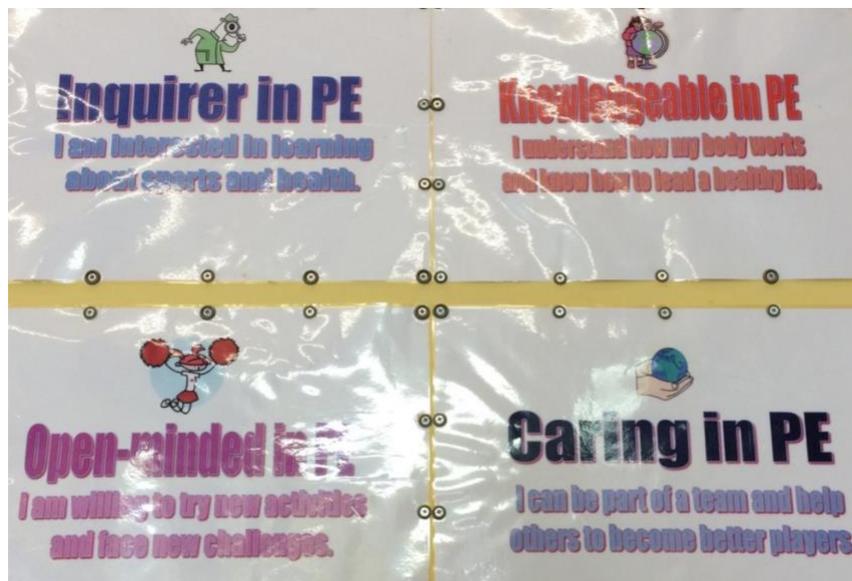


Fig. 9: Visualized PE LP

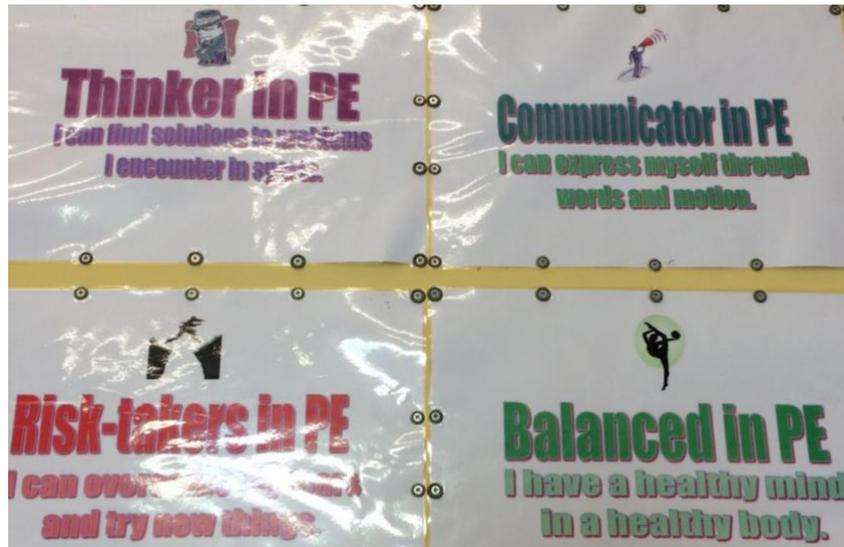


Fig. 10: Visualized PE LP continued

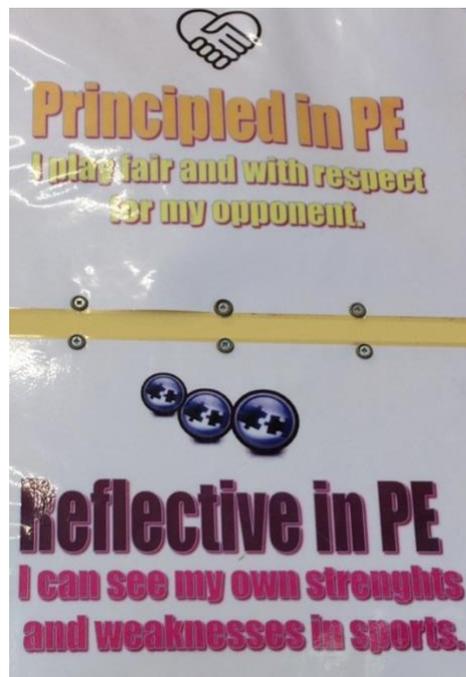


Fig. 11: Visualized PE LP continued (1)

- Using IB language:
During some instructions, IB language is used to remind students to e.g. be principled when warming up.
- 2.
- Visualized Learner Profile in the gym:

A Learner Profile visualized on the walls of the gym, with attributes specifically related to the subject of Physical Education.

Advantages: The Learner Profile is always present, teachers and students are always exposed to it and it is very visual, especially when using drawings or images.

Difficulties: Making it relatable and meaningful to all age groups. While it might be too simple for upper school students, it at the same time might not be understandable for lower primary students.

- Reflection Time:

At the end of the lesson, teachers and students together could shortly reflect on the lesson, their actions, behavior and learning using the LP attributes.

Advantages: Very clear and active implementation of the Learner Profile, where students and teachers reflect their behavior, actions and learning.

Difficulties: The difficulty hereby lies in time allocation. Often, PE lessons are already very limited and the physical activity is naturally put in the foreground. One must plan and organize well to allocate enough time for physical activity as well as room for reflective personal development.

- Using IB Language:

At the beginning of the lesson, when e.g. giving instructions, during the lesson, e.g. as encouragement or reminder, and at the end, e.g. reflection, teachers and students could use IB language by referring to and using the attributes actively.

Advantages: Consistent use of IB language helps students and teachers understand their own development, and enables them to relate their experiences to the PYP's mission.

Difficulties: Technical terms of the IB should be understood, meaningful and relatable to students and teachers, as otherwise the learning effect is

minimum. Teaching, and learning IB language together with students takes time and needs discussion and reflection, again making it difficult to allocate this time during anyway very limited PE lessons.

3.

- Reflecting own behavior, strength and weaknesses:

Using the Learner Profile actively could help students realize and understand their strengths and weaknesses better, as well as allows them to reflect on behavior.

- Playing fair is more fun:

Being able to play fair and being more aware of one's own behavior and actions could help make lessons even more fun.

4.

- Designing a Learner Profile for PE:

Students of different age groups (PYP, MYP, DP) could design their own Learner Profile in relation to Physical Education.

- Remind each other:

During lessons, students could remind each other to be e.g. more caring by passing the ball on to someone who barely gets it.

- Student-centered instructions:

During instruction time, not only the teacher could mention which attributes this kind of lesson focuses on, but students could figure it out themselves, discuss etc.

How can the IB-PYP Learner Profile be applied to create a subject-specific approach for Physical Education, mainly focuses on the design of a subject-

specific, visual Learner Profile with attributes defined and explained specifically for Physical Education. This creation will later be brought into relation with other mentioned ideas, as just the design and creation does not provide students with consistent Learner Profile experience.

Next Steps

Based on input from this Phase, a prototype of the Learner Profile for PE is developed together with students.

Phase 4: Prototype

Abstract

During Phase 4, the 'Prototype' Phase, a draft of the final product is designed by the researcher and then discussed and adapted together with the participants (Dam & Siang, 2019). Thereby, the focus is put on the design of a subject-specific Learner Profile for Physical Education. Throughout the process of designing a prototype, various aspects as mentioned during Phase 3 are implemented, e.g. using IB language and reflecting on students' experiences and development.

Following table presents the prototype of a subject-specific Learner Profile created by the researcher. Thereby, the input from all three phases is summarized, analyzed and brought into context with each other. Participants ideas and knowledge, research and the researcher's own ideas are used to design a subject-specific, relatable and clear prototype.

The left column described the Learner Profile Attributes and its official definitions according to the IB learner profile booklet.

The middle column presents participants' definition of LP attributes in relation to Physical Education, while the right column provides specific examples of how the attribute is already passively implemented throughout PE.

LP Attribute with Definition	Attribute Definition specifically for PE	Example in Action in PE
Inquirers	We inquire new games and sports by listening	

<p>They develop their natural curiosity. They acquire the skills necessary to conduct inquiry and research and show independence in learning. They actively enjoy learning and this love of learning will be sustained throughout their lives.</p>	<p>to instructions and trying them out.</p>	
<p>Knowledgeable They explore concepts, ideas and issues that have local and global significance. In so doing, they acquire in-depth knowledge and develop understanding across a broad and balanced range of disciplines.</p>		
<p>Thinkers They exercise initiative in applying thinking skills critically and creatively to recognize and approach complex problems, and make reasoned, ethical decisions.</p>	<p>We think about strategies and materials that we need or are best.</p>	
<p>Communicators They understand and express ideas and information confidently and creatively in more than one</p>	<p>We talk to our teammates about strategies.</p>	<p>During the fort game, you talk about which materials are best to use and during the game you talk to each other.</p>

<p>language and in a variety of modes of communication. They work effectively and willingly in collaboration with others.</p>		
<p>Principled They act with integrity and honesty, with a strong sense of fairness, justice and respect for the dignity of the individual, groups and communities. They take responsibility for their own actions and the consequences that accompany them.</p>	<p>We are fair, honest and do not cheat when playing games.</p>	<p>To accept and be honest about being tagged when playing 'Tag'.</p>
<p>Open-minded They understand and appreciate their own cultures and personal histories, and are open to the perspectives, values and traditions of other individuals and communities. They are accustomed to seeking and evaluating a range of points of view, and are willing to grow from the experience.</p>	<p>We listen to, accept and try new strategies and groups.</p>	<p>When classmates have tips, you listen and maybe use it to get better.</p>

<p style="text-align: center;">Caring</p> <p>They show empathy, compassion and respect towards the needs and feelings of others. They have a personal commitment to service, and act to make a positive difference to the lives of others and to the environment.</p>	<p>We help people when they are hurt and apologize when we hurt somebody.</p>	<p>When somebody falls, you go and ask how they are and if you can do something.</p> <p>You make sure that everyone is involved and gets the ball.</p>
<p style="text-align: center;">Risk-takers</p> <p>They approach unfamiliar situations and uncertainty with courage and forethought, and have the independence of spirit to explore new roles, ideas and strategies. They are brave and articulate in defending their beliefs.</p>	<p>We try new sports and games, and challenge ourselves when we are not good at or afraid of something.</p>	<p>Being afraid of jumping hurdles but giving it a try anyway and finding out you are good at it.</p>
<p style="text-align: center;">Balanced</p> <p>They understand the importance of intellectual, physical and emotional balance to achieve personal well-being for themselves and others.</p>	<p>We try different physical activities when we have the choice to do so.</p>	<p>Trying out different activities, e.g. running, swinging, climbing, jumping and not only stick to one because you are good at it.</p>
<p style="text-align: center;">Reflective</p> <p>They give thoughtful consideration to their own learning and experience.</p>	<p>We think about what went well and what we need to improve or change.</p>	

They are able to assess and understand their strengths and limitations in order to support their learning and personal development.		
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Table 6: Prototype

After discussing this prototype with the participants, it has been decided to change the table into a visually more attractive design of a Learner Profile. Inspired by the visual Learner Profile presented during Phase 3, the prototype would be changed into a student-designed display with drawings and short but relatable definitions.

Next Steps:

During the final phase, the 'Test' Phase, the student-designed display is created through a process of discussion, analysis, doing and reflecting.

Phase 5: Test

Abstract

During Phase 5, the 'Test' Phase, the adapted prototype is tested in order to ensure a meaningful final product. While this is the last phase of this specific 5-stage model, the product is continuously improved by making alterations and refinements. Design Thinking is a non-linear and ongoing process (Dam & Siang, 2019). It is repeating itself in order to achieve best possible results and needs to be revised and adapted continuously to adapt to changes in the environment.

The goal of this phase was to adapt and improve the prototype in order to make it more visually attractive and understandable to primary students of different age and background. To improve the product, drawings and short definitions for each attribute were designed, explaining the relation of the LP with Physical Education. These drawings and short definitions enable students to relate the content more easily to their own actions and behaviors by being provided with specific and relatable examples of their own experiences. Through the visualization by e.g. putting it on the gym's wall, students and teachers are exposed to it and the Learner Profile becomes more present.

By having students design their very own LP, they are actively engaged in their learning process, as they have to think, discuss, analyze and reflect upon their experiences, knowledge and development. As already stated by Vygotsky in his theory of Constructivism, student-involvement in the design of their own learning, allows them to develop deeper understanding and make connections through meaningful and relatable learning experiences (Powell & Kalina, 2009).

The product, the design process of a subject-specific Learner Profile for Physical Education, was tested in relation with following focus points that resulted from earlier discussions:

- using IB language in relation to Physical Education, and
- reflecting on experiences and changes in action and behavior.

Process

During the second meeting of each focus groups, the students were provided a template of each LP attribute. The template included the LP attribute and the definition the students came up with during the design process. The groups were asked to read through the definition and discuss possible adaptations. After that, each group was provided with 3-4 templates on which they made a drawing related to the given definition. Students were encouraged to discuss ideas and work collaboratively. After about 20 minutes, each focus group discussed the results by trying to explain each other's drawing and how it relates to subject-specific definition of the Learner Profile.

The results of the shared product are presented below.



Fig. 12: Inquirers

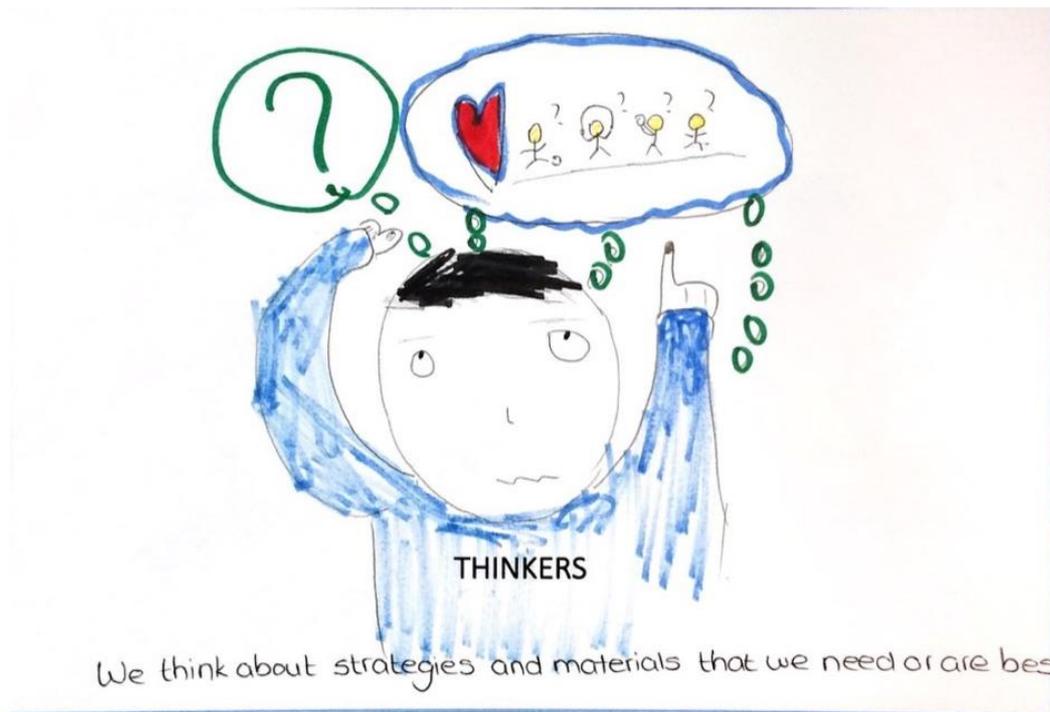


Fig. 13: Thinkers

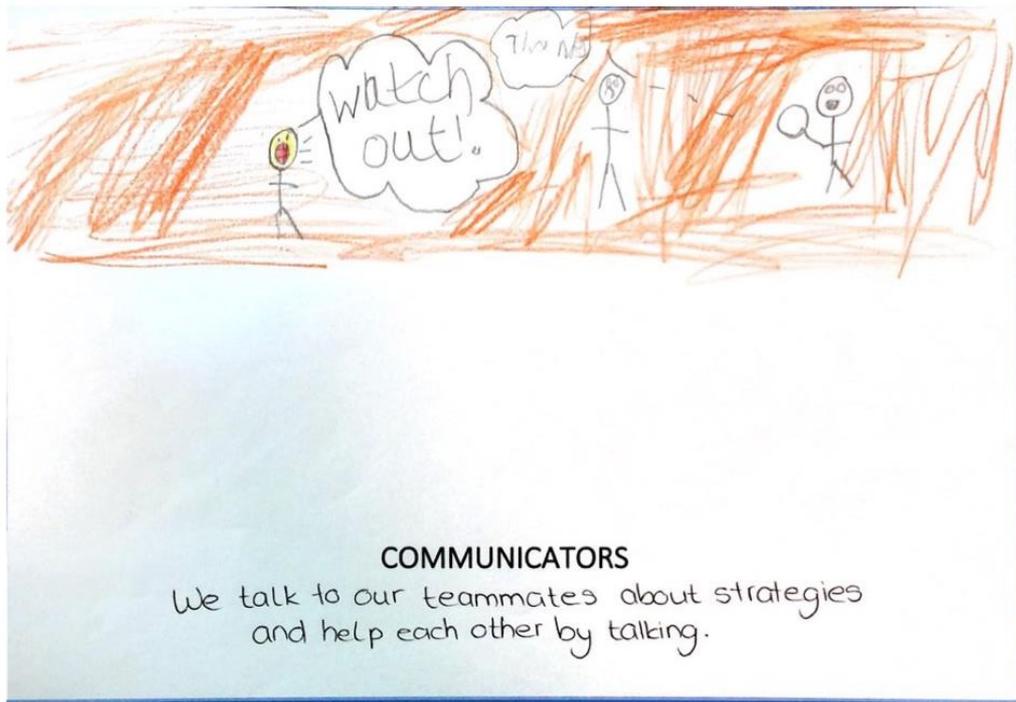


Fig. 14: Communicators

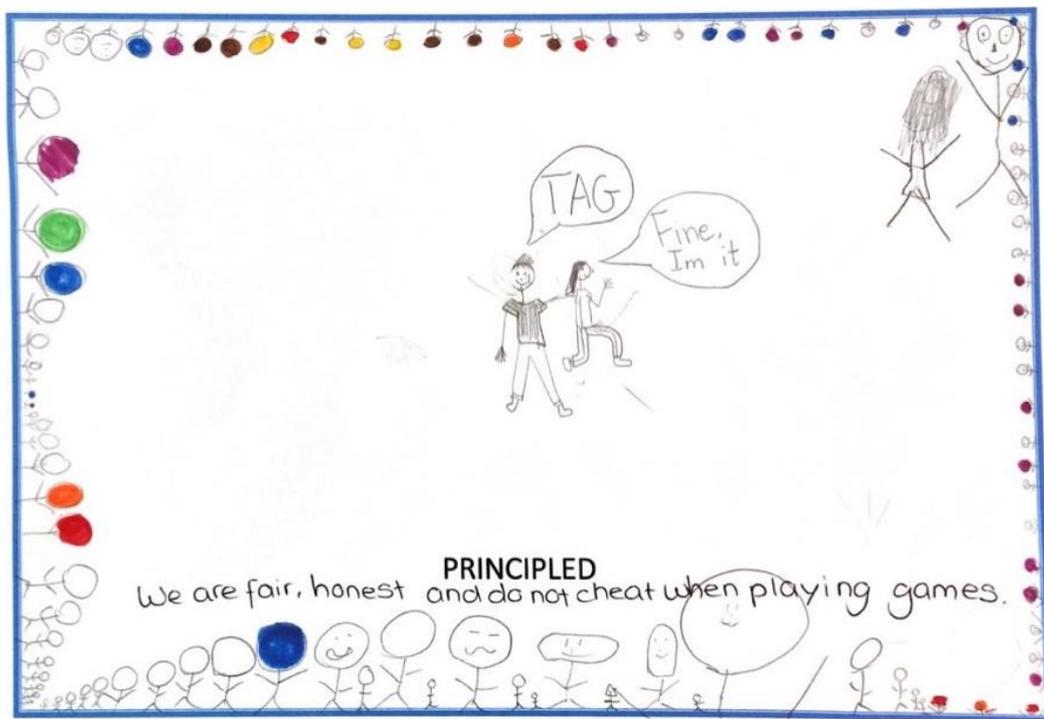


Fig. 15: Principled

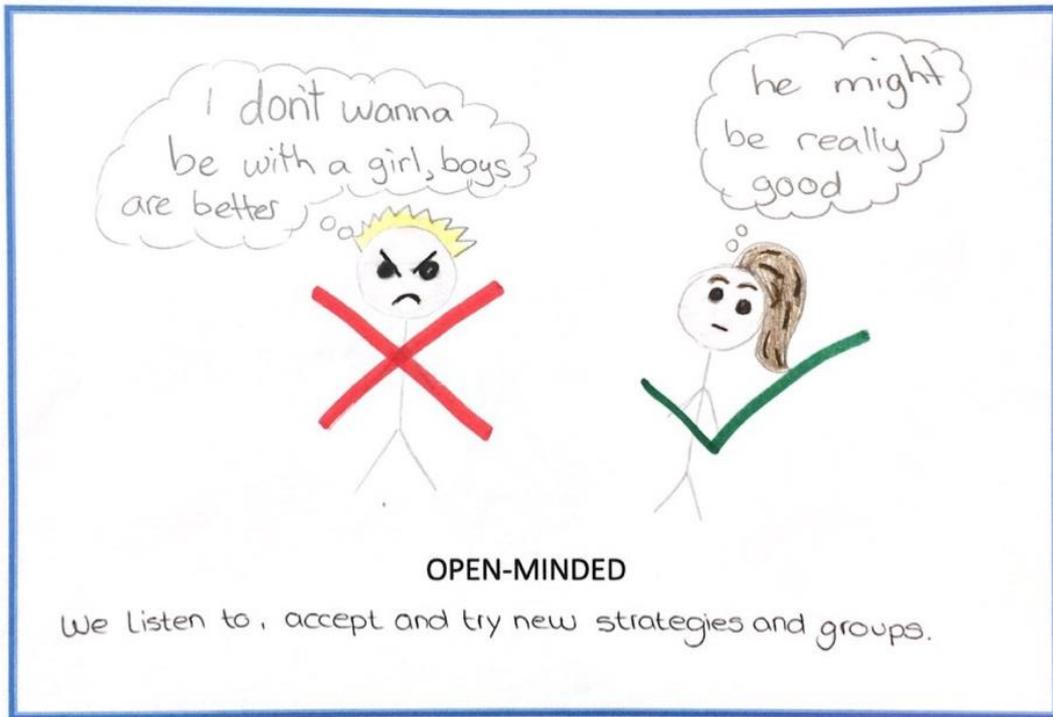


Fig. 16: Open-minded

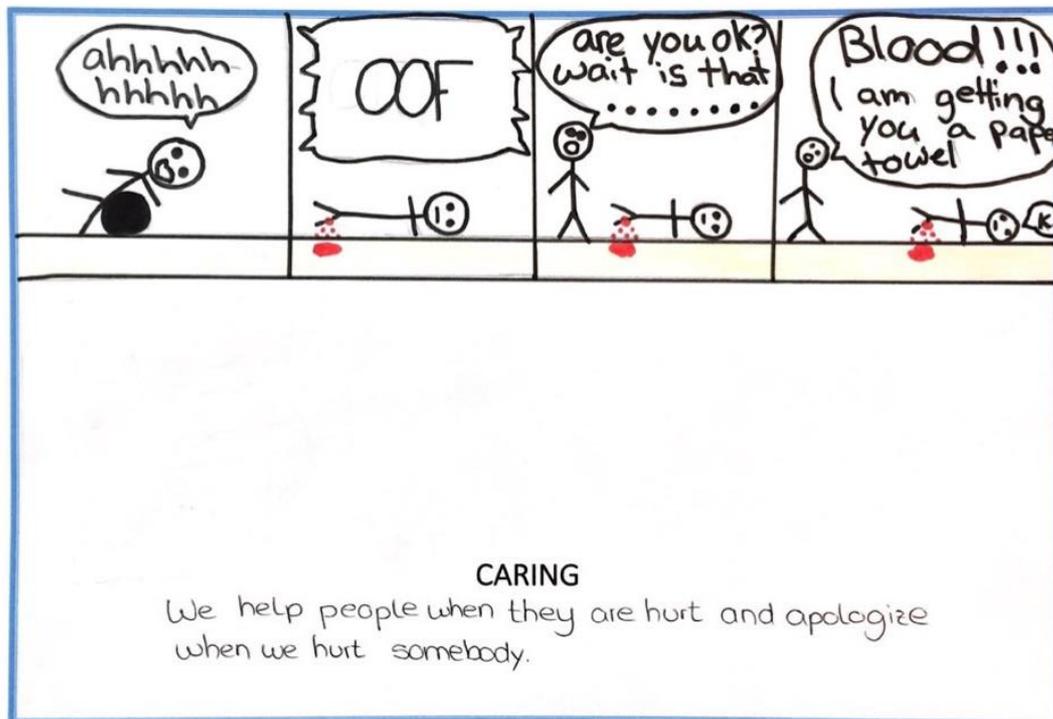


Fig. 17: Caring



Fig. 18: Risk-takers

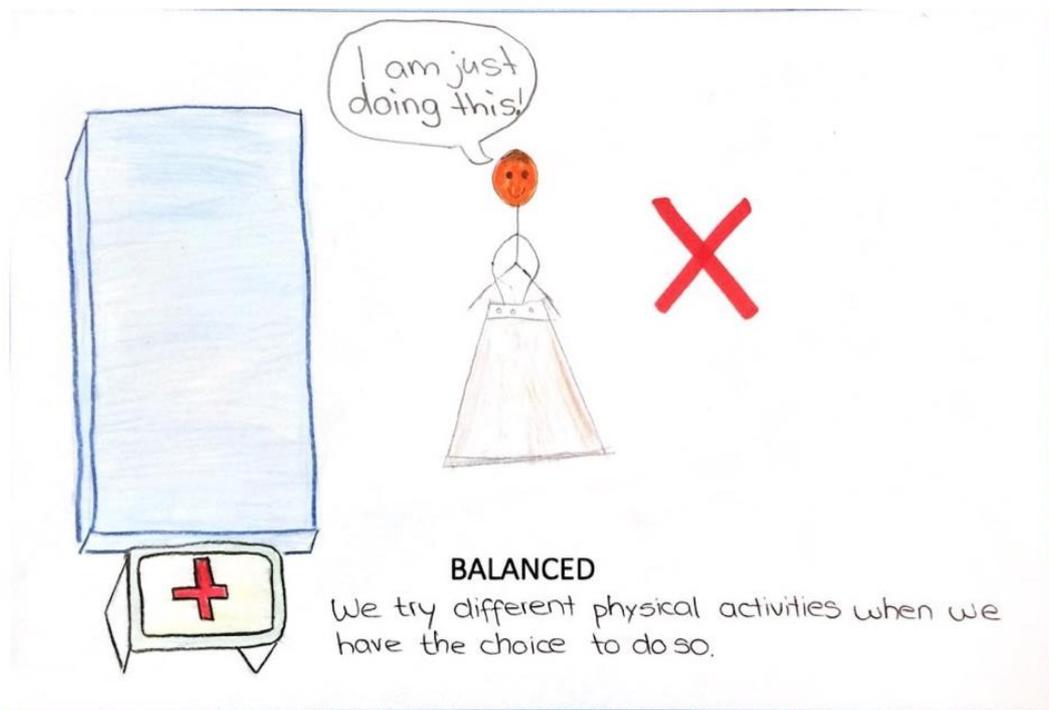


Fig. 19: Balanced

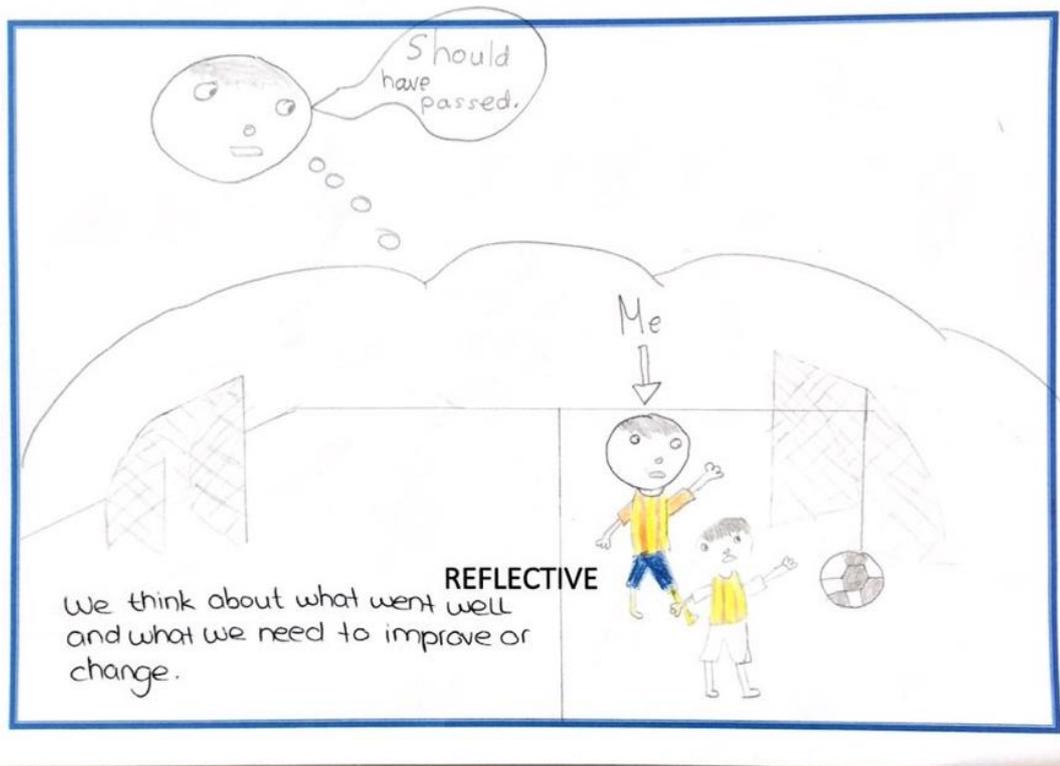


Fig. 20: Reflective

Analysis

Throughout this phase, all students were very engaged and able to contribute to the final design of the subject-specific LP. They actively discussed and shared ideas using IB language and showing understanding that was developed throughout this process. Throughout discussions, students were able to make more connections and relate their own actions during PE to the Learner Profile. They showed serious appreciation and interest being involved in the design of their very own learning tool and were considering to use the product as visualization in the gym. The final product was informally presented to other primary teachers and they showed great interest and curiosity in implementing the Learner Profile more actively themselves.

Generally, the final design of the subject-specific approach of the Learner Profile for Physical Education provided the students with deeper understanding of their own behavior and actions throughout PE. They also became more aware of the connection between Physical Education and their personal development, as they started realizing specific personal character traits in relation with the LP, e.g. being caring because one would always take care of hurt people.

Validity and Reliability

The validity of this research is ensured through the triangulation of methods, sources and instruments. The methods used are document research and focus groups including informal interviews and semi-structured observations while the sources are students, curriculum documents and academic literature. The instrument used is the design process towards the design of a subject-specific approach of the Learner Profile for PE. The researcher is using an established technique of design-based research with clearly defined phases which provide guidance throughout the design process.

The reliability of this research is ensured to the extent that it is possible with DBR. The three design cycles were compared and included throughout the design of the final product, but because of the subjective nature of this research, results differed among the groups. Within different contexts and different focus groups, results might differ significantly, leading to different products. Therefore, the reliability of this DBR is limited to the context of this school.

Ethics

Prior to the actual research taking place in the classroom, the researcher will communicate the project to students, parents and teachers, to be transparent and sensitive toward possible ethical issues. Also, will she ask students for permission to work with them, and being allowed to use the data. Certainly, all personal information will be anonymized and participants will be informed about the right of withdrawal at any time. In preparation of the research, a consent form with information and the participants' rights will be designed for parents and teachers to sign beforehand. The collected data will be stored password-protected, and deleted immediately after this assignment was successfully submitted. The researcher is aware that in case of any changes, these must be communicated to the participants, and participants can demand a copy of the result. Possible occurring issues, such as misunderstandings or withdrawal are approached sensitively and possible insight into recordings and planning is provided. These ethical guidelines are based on the "Ethical Principles for Educational Research" by the British Educational Research Association (Bera) (2011).

Research Conclusion

Sub-question 1: How does Physical Education relate to the development of the whole child?

Physical Education benefits the development of the whole child by providing active learning experiences in which children discover themselves and their environment. PE enables students to challenge themselves, test their limits and learn about the relation between healthy bodies and healthy minds. Next to its physical benefits, PE offers many diverse learning experience to develop personal characteristics within a realistic and relatable context.

To be able to use PE's full developmental potential, more time should be allocated and PE made an essential part of students' daily school life.

Sub-question 2: How does the IB-PYP define Physical Education according to the MTPYPH, PESS and PSPESS?

Generally, all documents state Physical Education to be more than just physical exercise and that the focus has changed from just physical development to development of the whole child. They encourage transdisciplinary collaboration to align PE more to the core subjects in order to provide students with best possible learning experiences. The IB promotes making Physical Education an essential part of daily school life as it provides students with the opportunity to actively develop transferable skills in a relatable context.

Sub-question 3: How does the IB-PYP relate their Learner Profile to Physical Education according to the MTPYPH, PESS and PSPESS?

By educating teachers about the potential of the Learner Profile within the subject of Physical Education, educators will be able to address the needs of the whole child. The physical, emotional, intellectual and social aspect will then be respected and approached through physical exercise and will help students develop cognitive, practical, personal and interpersonal qualities (Eaude, 2009). Especially the active movement in Physical Education allows students to develop by experiencing, doing and interacting, working proactively towards mental and physical well-being by being exposed to meaningful, relatable learning experiences (International Council of Sport Science and Physical Education, 2010).

The Learner Profile thereby should be used as the foundation and guideline for learning and teaching experiences, and the learning about and through the LP should be made an essential part of the subject.

Research question: How can the IB-PYP Learner Profile be applied to create a subject-specific approach for Physical Education?

This research provided some examples on how to create a subject-specific approach, such as the use of IB language, the visualization of the LP in the gym, student-centered instruction and reflection time. While some require time and preparation, such as the design of a Learner Profile, others can be implemented quite quickly, e.g. the use of IB language.

Besides the design of a subject-specific Learner Profile, where this research mainly focused on, there are smaller but as significant approaches that can be made. Important for the design of a subject-specific approach of the LP for PE is to involve students and engage them in their own learning process. The LP does not have to be changed or adapted to make it valuable for PE. Implementing it throughout instructions, activities and reflection are small, yet very effective

approaches towards developing self-awareness in students through Physical Education. Bringing the LP to life throughout Physical Education creates active meaningful learning experiences from which students benefit not only physically but developmentally.

Discussion/Recommendations

The reliability of this research could have been enhanced by engaging more participants throughout the process. Therefore, subject-teachers could have been interviewed to add more input and ideas.

The final product could have been presented to other age groups to receive feedback. This feedback could have provided insight into the product's value among the wider social community and possibly been adapted to meet the needs of most students.

With more time available, the final product could have been enhanced by being tested over a longer period. More reflection and enhancement could take place to design the best possible product within this context. Definitions and drawings could have been discussed more in-depth and improved.

While this research was mainly focused on the design of a visually subject-specific Learner Profile, other approaches could focus on using IB language, creating an action wall or student-centered instructions. There are several subject-specific approaches which enhance the implementation of the LP throughout PE, and different contexts require different approaches.

Generally, with more time allocation this research could have been enhanced concerning its reliability. It is believed that the use of the LP throughout PE should be an ongoing process that is designed, reflected and adapted by students and teachers together. Creating a subject-specific approach must not stop after designing a Learner Profile but continue through its active implementation.

Limitations

Research Method:

Due to professional circumstances, alterations of the research methods were made and an interview with the IB-PYP PE teacher was not possible. The interview would have provided a professional view on the topic and contributed to possibly even more ideas for subject-specific approaches. Due to the change, this research's focus is mainly put on literature review, document analysis and focus groups.

This alteration could possibly have been prevented by contacting the teacher at an earlier point and being even more transparent about this research's content.

Time:

This research took place within a limited time frame. Due to professional responsibilities and events e.g. as student-led conferences the available time was overestimated by the researcher. This could have been prevented by seeking more support from mentor-teachers and supervisors, re-scheduling the time planner and being less perfectionist.

Theory:

While there is lots of theory to be found about the importance of PE, current trends and developments, there is less theory on the actual implementation of character-building approaches throughout PE. Few examples, often about developing social skills, are available. There is little guidance for teachers on how to actively implement character education throughout PE. Especially the IB-

PYP, who promote their education through the use of the LP, little relation between the LP and PE can be found when analyzing the documents.

The limitations of this research show an ongoing learning process and limitations will be regarded for further projects. The low reliability of this research, due to the alterations made throughout the process, provide several aspects for improvement, which are explained throughout the recommendations. While low reliability is a characteristic of DBR (Van Der Donk & Van Lanen, 2016), this research succeeded in answering the research question by designing a subject-specific approach of the LP for PE.

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Appendices

Appendix 1: Consent form interview

Lena Boßmann
Lindestraat 54
7941HZ Meppel
The Netherlands

Consent for participating in an interview

Description: You are invited to participate in a research study on **“How can the IB-PYP Learner Profile be applied to create a subject-specific approach for Physical Education?”**. This research critically analyzes the current status and possible enhancement of the relation between Physical Education and the International Baccalaureate’s Learner Profile within the context of a small International Primary School in the Netherlands. Throughout this design-based research, a subject-specific approach for the LP will be developed, aiming to provide guidelines on how to possibly increase the implementation of the LP within the subject of PE and thereby use the potential of Physical Education to support students’ well-being and personal development.

You will be asked to participate in a semi-structured interview, which will be audio-taped and used for personal educational research purposes only. The data will be anonymized, stored password-protected and deleted latest on August 31, 2019.

Time Involvement: Your participation will take approximately 30 minutes.

Risks and Benefits: There are no risks associated with this study. There is benefits of personal and professional development by gaining an insight into students’ perception of this topic as well as ideas for possible lesson enhancements.

Payments: You will not receive payment for your participation.

Participant's Rights: If you have read this form and have decided to participate in this project, please understand your **participation is voluntary** and you have the **right to withdraw your consent or discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled. The alternative is not to participate.** You have the right to refuse to answer particular questions. The results of this research study may be presented occasionally for educational purposes and will be read by team members of the university NHL Stenden. Your individual privacy will be maintained in all published and written data resulting from the study.

Contact Information: **Questions:** If you have any questions, concerns or complaints about this research, its procedures, risks and benefits, contact the Protocol Director, Lena Boßmann (+31657609700).

Indicate **Yes** or **No**:

I give consent to be audiotaped during this study. Yes No

I give consent for tapes resulting from this study to be used for writing a Bachelor thesis for the university of NHL Stenden. Yes No

Signature _____

Date _____

Print name of participant _____

Appendix 2: Consent form focus group

Lena Boßmann
Lindestraat 54
7941HZ Meppel
The Netherlands

Consent for participating in focus groups

Description: You are invited to participate in a research study on **“How can the IB-PYP Learner Profile be applied to create a subject-specific approach for Physical Education?”**. This research critically analyzes the current status and possible enhancement of the relation between Physical Education and the International Baccalaureate’s Learner Profile within the context of a small International Primary School in the Netherlands. Throughout this design-based research, a subject-specific approach for the LP will be developed, aiming to provide guidelines on how to possibly increase the implementation of the LP within the subject of PE and thereby use the potential of Physical Education to support students’ well-being and personal development.

You will be asked to participate in a focus group. The data will be anonymized, stored password-protected and deleted latest on August 31, 2019.

Time Involvement: Your participation will take approximately 2 x 30-60 minutes.

Risks and Benefits: There are no risks associated with this study. There is benefits of personal and professional development by gaining an insight into students’ perception of this topic as well as ideas for possible lesson enhancements.

Payments: You will not receive payment for your participation.

Participant’s Rights: If you have read this form and have decided to participate in this project, please understand your **participation is voluntary** and you have the **right to withdraw your**

consent or discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled. The alternative is not to participate. You have the right to refuse to answer particular questions. The results of this research study may be presented occasionally for educational purposes and will be read by team members of the university NHL Stenden. Your individual privacy will be maintained in all published and written data resulting from the study.

Contact Information: **Questions:** If you have any questions, concerns or complaints about this research, its procedures, risks and benefits, contact the Protocol Director, Lena Boßmann (+31657609700).

Indicate **Yes** or **No**:

I give consent to be audiotaped during this study. __Yes __No

I give consent for tapes resulting from this study to be used for writing a Bachelor thesis for the university of NHL Stenden. __Yes __No

Signature_____

Date_____

Print name of participant_____

Appendix 3: Observation Form

Observation of:	Focus Group 1,2,3
Phase:	1 (Empathize)
Activity:	Who we are in Physical Education
Guiding Observation Criteria	Notes
What do they know about the Learner Profile in general? Do they show understanding by being able to discuss, or do they just recall? How else?	
How do they express themselves? Confident? Questioning? Body Language, Tone	
Can they give specific examples related to PE? What kind? How?	
Which attributes are they relating to PE often/not/sometimes? Any difficulties in	

understanding attribute(s)? Why?	
How do they relate the concept LP to PE? What do they say? How?	
General	