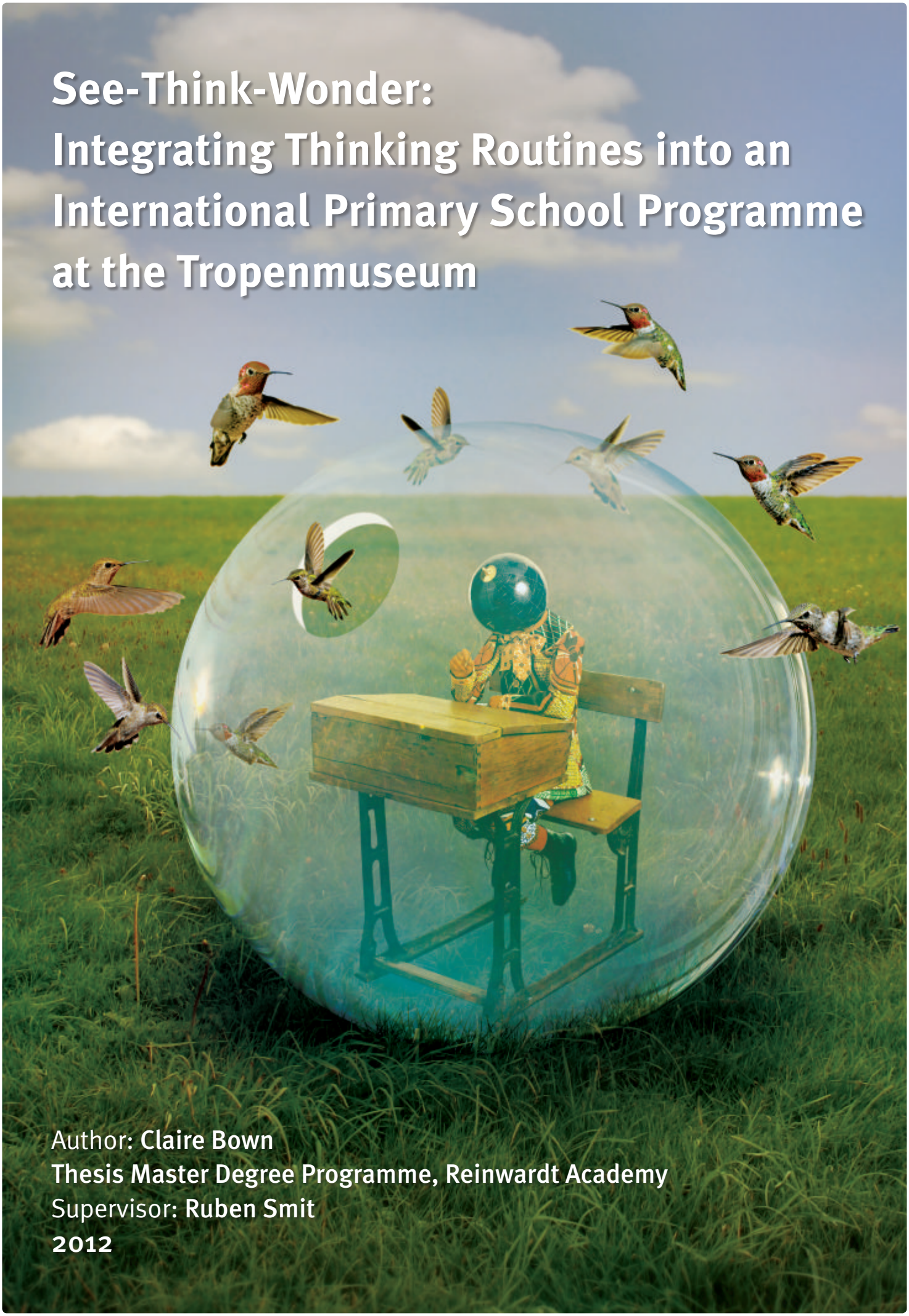
See-Think-Wonder: Integrating Thinking Routines into an International Primary School Programme at the Tropenmuseum



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Abstract

The Tropenmuseum is a leading Amsterdam museum focused on contributing to the knowledge and understanding of different cultures through its thousands of ethnographic and art objects displayed in temporary and permanent exhibitions. This thesis asks the question whether thinking routines, simple sequences that were originally designed for use in the classroom as the core of the Visible Thinking programme, can be successfully employed in a new museum programme for international primary school children. The objective was to design an appropriate and relevant programme for international schools encompassing elements of the different curricula in the international school environment and reflecting the progressive teaching methods employed in some international schools in the Netherlands. The result is a new student-centred programme focused on the careful observation and interpreting of museum objects using thinking routines to structure and guide the discussions. This thesis seeks to analyse and discuss why museums are the ideal environments for the effective and intentional teaching of thinking skills and how they can play a critical role in helping school groups build core life skills including critical thinking. In this way, museums could distinguish themselves clearly as institutions that offer diverse and innovative learning experiences that complement rather than mimic formal education school learning. This thesis charts the development, pilot and subsequent recommendations for the new programme called *Stories Around the World.*

Table of Contents

ABSTRACT I

LIST OF FIGURES AND TABLES IV

LIST OF ABBREVIATIONS V

ACKNOWLEDGEMENTS VI

1. INTRODUCTION 1

THE INTERNATIONAL SCHOOL CONTEXT 1

THE TROPENMUSEUM CONTEXT 4

THE THINKING SKILLS CONTEXT 4

THE INTERSECTION BETWEEN THE CONTEXTS 6

THESIS STATEMENT 7

RESEARCH STRATEGY AND METHODOLOGY 8

2. THINKING ABOUT THINKING 11

WHAT ARE THINKING SKILLS? 11

COGNITIVE REVOLUTION 14

DISSATISFACTION WITH THE EDUCATION SYSTEM 15

3. EDUCATION, LEARNING AND THINKING IN MUSEUMS. 19

THE 'WHAT' AND 'HOW' OF LEARNING 20

21ST CENTURY SKILLS AND MUSEUMS 23

4. STRATEGIES FOR LOOKING AT AND THINKING ABOUT OBJECTS 26

OBJECTS, LOOKING AND THINKING 26

IN SEARCH OF A METHOD 28

'THINKING THROUGH ART' AT THE ISABELLA STEWART GARDNER MUSEUM 30

'ART OF ANALYSIS' AND 'ARTFUL READING' AT THE COLUMBUS MUSEUM OF ART 34

'FILOSOFEREN MET...' AT THE KROLLER-MULLER MUSEUM 39
'THINK LIKE AN ARCHAEOLOGIST' AT THE HAFFENREFFER MUSEUM 41
CONCLUSIONS 44
5. THE NEW PROGRAMME STORIES AROUND THE WORLD 47
PROJECT BACKGROUND 47
FOCUS GROUPS 49
THE BASICS OF THE NEW PROGRAMME 54
6. VISIBLE THINKING 56
THINKING ROUTINES 57
DOCUMENTATION 58
VISIBLE THINKING IN THE MUSEUM ENVIRONMENT 58
7. PILOT, EVALUATION AND RECOMMENDATIONS 62
EXPERIENCES FROM THE FIRST PILOT 62
PILOT CONCLUSIONS 63
EXPERIENCES FROM THE SECOND PILOT FOR 6-7 YEAR OLDS 73
FINAL VERSION OF STORIES AROUND THE WORLD 77
8. CONCLUSIONS 79
APPENDIX I 82
A BRIEF OVERVIEW OF THE THINKING SKILLS FIELD 82
APPENDIX II 85
STORIES AROUND THE WORLD PROGRAMME DETAILS 85
APPENDIX III 89
TEACHER'S PACK STORIES AROUND THE WORLD 89
BIBLIOGRAPHY 90

LIST OF FIGURES AND TABLES

LIST OF FIGURES

FIGURE 1 QUESTIONS FOR THINKING 12

FIGURE 2 FELDMAN METHOD OF ART CRITICISM 28

FIGURE 3 BARRETT 'CRITICAL RESPONSE' METHOD 29

FIGURE 4 VISUAL THINKING STRATEGIES (VTS) QUESTIONS 30

FIGURE 5 ODIP STRATEGY 35

FIGURE 6 THINK-PUZZLE-EXPLORE, VISIBLE THINKING. 42

FIGURE 7 PHOTOGRAPHS FROM PILOT 1 62

FIGURE 8 A SELECTION OF OBJECTS FOR PILOT 1 65

FIGURE 9 'MADONNA (AFTER OMOMÁ AND CÉLINE)' BY ROY VILLEVOYE (2008); 'SIGI' BY MAMARI FANE 69

FIGURE 10 PUSTAHA FROM INDONESIA 71

FIGURE 11 FIGURE 6 SCENES FROM THE SECOND PILOT 74

FIGURE 12 'LA MAGICIENNE' (2005) BY MICKAËL BETHE-SELASSIE; 'PLANETS IN MY HEAD, LITERATURE' (2010) BY YINKA SHONIBARE. 75

FIGURE 13 HIGH TEA OCTOBER 3 2012; MUSEUMNACHT 2012 80

FIGURE 14 APPENDIX II STOP! LOOK! THINK. PRINCIPLES 88

LIST OF TABLES

TABLE 1 PILOT 1: DETAILS OF THE PROGRAMME 85

TABLE 2 PILOT 2: DETAILS OF THE REVISED PROGRAMME FOR 6-7 YEAR OLDS. 85

TABLE 3 FINAL VERSION OF STORIES AROUND THE WORLD 6-7 YEARS 86

TABLE 4 FINAL VERSION OF STORIES AROUND THE WORLD 8-12 YEARS (FORWARDS) 86

TABLE 5 FINAL VERSION OF STORIES AROUND THE WORLD 8-12 YEARS (REVERSE) 87

LIST OF ABBREVIATIONS

AICS	Amsterdam International Community School
BSA	British School of Amsterdam
CMA	Columbus Museum of Art
IB PYP	International Baccalaureate Primary Years Programme
IPC	International Primary Curriculum
ISA	International School of Amsterdam
KIT	Koninklijk Instituut voor de Tropen/Royal Tropical Institute
ODIP	Observe-Describe-Interpret-Prove
SPP	School Partnership Program
VTS	Visual Thinking Strategies

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1. Introduction

> In their ideal form, museums are spaces where students can cultivate skills in critical thinking, learn about the value of the arts and culture, and develop the desire to become life-long learners (Manuel 2010).

Imagine a school visit to a museum in which the students are actively encouraged to question, explore and discover for themselves, where student questions, answers and thoughts are allowed to direct the learning. Then, imagine an extended encounter with one object that lasts fifteen minutes where students are responding to just three questions: what do you see? what does it make you think? what does it make you wonder?

Surprisingly, this programme is not a hands-on workshop or an in-gallery interactive game, but a participative student-centred programme focusing on the critical thinking skills of observation, description, interpretation and reasoning with evidence through the use of thinking routines from Visible Thinking, an extensive collection of practices from Harvard's Project Zero. This programme grew out of the desire of international schools to benefit more fully from museum visits in the Netherlands; the wishes of the Tropenmuseum to develop a new innovative English-language programme and thorough research into the thinking skills movement and approaches and strategies that would function just as well in the museum environment as in the classroom.

The International School Context

Today most major world cities have at least one international school, if not more. For a small country, the Netherlands has a large number of international schools with the number growing yearly. Unusually, the majority of international schools in the Netherlands are partly subsidised by the Dutch Ministry of Education which enables them to offer international education for a reasonable fee. Aside from the growing number of international schools, there are also around one hundred schools offering bi-lingual education.

International education in the Netherlands aims to prepare children for the transition to English language education abroad or for the transition to full Dutch education (Dutch International Schools 2012). Another important goal is to provide the pupils with a sufficient level of Dutch to enable them to participate in

Dutch life. The majority of international schools offer either the International Primary Curriculum (IPC) or the International Baccalaureate Primary Years Programme (IB PYP). Some private international schools offer the curriculum of a specific country (e.g. The British School of Amsterdam offers the UK National Curriculum). According to Hayden and Thompson (2008), whilst some international schools cater to the needs of expatriates or diplomats wishing to educate their children in schools mirroring the educational system of the home country, others facilitate the need for a more progressive and internationally-minded education:

> Other international schools, whose importance *is* growing, reflect a new phenomenon: a certain dissatisfaction with the quality of the national education offer; the desire by sponsors and families to foster a global outlook that is not tied to a particular culture or education system; and the expressed need to prepare students to live and work in a globalized world (Hayden and Thompson 2008).

The IPC is centred around creative and engaging thematic learning with an international focus. Within each thematic unit, there are many ideas for collaborative and active learning and attention is paid to learning outside the classroom, in which museums play an important role. Embedded in each IPC Unit are learning-focused activities that help young children to start developing a global awareness and gain an increasing sense of the 'other' (Keeling 2010). The IB PYP has similar aims and focuses on the development of the whole child as an inquirer, both in the classroom and in the world outside. Through this process, IB PYP students develop an understanding of important concepts, acquire essential skills and knowledge, develop particular attitudes and learn to take socially responsible action (Kazakhstan International School, 2010). Both the IPC and the IB PYP are pedagogically progressive curricula focusing on a skills-based approach using trans-disciplinary units of study, with the aim of developing adaptable and resilient globally-minded learners.

Parents are often looking to international schools to satisfy the need for alternative strategies for education, for a student-centred modern and progressive approach. Many international schools have a tendency to introduce pedagogical approaches and instructional strategies that are innovative and advanced by the standards of state schools. The International School of Amsterdam (ISA), for example, has worked as a partner school for Harvard University's Project Zero

and aims to cultivate thinking skills and learning dispositions in ways that lead to greater self-awareness, genuine open-mindedness, and deeper content learning (ISAb, n.d.)

International schools are keen to visit museums and other institutions as a way of enhancing their curriculum and bringing learning to life through experiences with authentic objects and primary sources. The benefits of school field trips are numerous and include the development of social and collaborative skills and also the development of thinking skills, including observation, interpretation, empathy and understanding. Unfortunately, international schools are often limited by language barriers when it comes to accessing the full range of experiences a museum has to offer.

Most Dutch museums have been slow to offer English language programmes or resources for international schools – despite the strong bi-lingual culture in the Netherlands (86% of the population is able to speak English (Eurobarometer 2005)). There are some museums already offering school programmes in English, but these are typically either a custom-made tour assembled on request for a school with an English-speaking docent talking about aspects of the collection or a translation of an existing worksheet. There is certainly nothing specifically created for the growing international school community in the Netherlands. On the whole, English-language pre- and post-visit resources are also largely unavailable – international school teachers want information to prepare for visits and to follow up afterwards but have found that access to museum educational resources generally involves supplemental hours of translation work. This is time-consuming and relies on a strong commitment by the teacher involved. Therefore, there is a tendency to visit the same museums every year to save precious time and effort on the part of the teachers.

Some of the major Dutch museums are now planning to offer English language programmes in the near future, however care should be taken that this is not just a translation of an existing programme – seeing as teachers are increasingly being asked to justify specifically how museum visits tie in with their specific curriculum (Mortensen and Smart 2007), it is important to offer links to what is being taught in international schools and, more importantly, to how it is being taught.

The Tropenmuseum Context

The Tropenmuseum is a former colonial, ethnographic museum situated in the east of Amsterdam. The collection spans many continents and focuses on contributing to the knowledge and understanding of different cultures. The Tropenmuseum is also part of the Royal Tropical Institute (KIT), a knowledge institute for international and intercultural collaboration. As part of KIT, the Tropenmuseum takes part in a variety of international museum projects. The Tropenmuseum states in its mission statement that it is an internationally-minded organisation:

> The Tropenmuseum presents, studies and promotes knowledge of and interaction with other cultures. The museum offers perception and experience to a wide and diverse audience using the full spectrum of museological means, which includes exhibitions, collections and expertise, publications, the historic building and educational and other activities. The Royal Tropical Institute's museum is internationally involved in the areas of culture and development (Tropenmuseum 2012).

The education department at the Tropenmuseum offers a range of educational programmes every year to approximately 30,000 Dutch primary school students. The youngest age group (four to six year olds) can take part in a fun journey through the museum with Kancil, the Indonesian mouse deer, getting to know different objects from different countries. Older children can take part in a steel drum workshop and find out about music and instruments from a variety of countries. Other primary school groups can book a highlights tour of the museum or complete one of the museum worksheets. Whilst all of these programmes could be provided in English given adequate notice and availability of an English-speaking museum teacher, the museum took the decision in 2011 to design a new programme specifically for international schools.

The Thinking Skills Context

Most educators, whether they work in informal or formal learning, would agree that one of their chief goals is to help children learn and think more effectively. Recently, there has been a shift in some circles away from the transmission of information and content and towards the explicit and direct teaching of thinking skills (Fisher 2001). Terms like 'critical thinking' and 'thinking skills' have become popular and fashionable words in educational circles and many school teachers

have focused on teaching students ‘how’ to think as opposed to ‘what’ to think . In recent years, a variety of programmes, interventions and publications have been developed aimed to help with this.

Museums are well-placed to be at the forefront of this educational movement. Whereas there is widespread dissatisfaction with the current educational system in many high-performing countries, museums are usually regarded as places of innovative learning potential. Critical thinking is frequently discussed and is subject to much attention in schools and museums in the United States, however it is yet to be attended to on a large scale in the Netherlands in either environment. The Netherlands is one of the few countries that do not have assessment policies or guidelines on teaching in place for 21st century skills, of which critical thinking plays an important role alongside other skills like creativity, innovation, problem solving and decision making (Ananiadou and Claro 2009:14). This is partly due to schools being free to choose their own methods, but recently there have been signs that this is changing and more attention is being paid to the teaching of skills (Voogt and Roblin 2010; Allen and van der Velden 2012). To design a programme that aims to explicitly teach thinking skills alongside providing useful content would involve a careful re-thinking of the museum-school traditional relationship, which is currently heavily weighted towards providing curriculum connections.

However, the way in which museums teach – through their objects – can be used specifically to help develop key thinking skills – skills like observation, describing, interpreting and reasoning with evidence. Teaching with objects can be quite an un-structured process, so a strategy or tool that helps loosely guide thought processes and that aids the museum teacher with facilitating the ensuing discussion would need to be put in place. A museum is also the ideal environment for collaborative learning to take place. This in turn encourages critical thinking skills through active involvement in learning where students are encouraged to present their observations, thoughts and findings to the group through the use of open-ended questions. These questions, which do not have one right answer inspire creative answers from the whole group and encourage students to share input in order to learn together.

The Intersection between the Contexts

Quite often, discrepancies or divides exist between museum educators and school teachers with regards to perceptions of outcomes and values of school field trips (Bhatia 2009; Mortenson and Smart 2007). Teachers are more likely to think in terms of curriculum connections and accountability whilst museum educators are more mindful of *supplementing* learning and *complementing* the curriculum. Normally teaching methods between museums and schools are also markedly different. These subtle differences mean that good collaborations or partnerships between schools and museums are often erratic and unfulfilling.

However, the Tropenmuseum and many international schools share ideologies and similar approaches to learning and teaching. Their philosophies towards instructional strategies are not so far removed from each other. Furthermore, just as museums have been able to embrace progressive teaching methods, international schools have developed new and innovative ways of learning and teaching free from the constraints of national curriculums (which limit state schools to the preferences of successive governments). There are strong parallels between the approach to learning by the IPC and the IB PYP with how the Tropenmuseum understands learning and education in the museum. The Tropenmuseum is also enthusiastic about making their educational philosophy, which has always been an underlying, implicit acknowledgement of certain beliefs and ways of teaching, into something much more explicit and structured within a framework that can be taught to museum teachers. The development of a new programme which was not solely focused on content and curriculum but guided by it and one which could concentrate more on developing key thinking and looking skills was a key part of this new approach.

In addition to strong links between progressive teaching methods and learning theory, the Tropenmuseum and international school curricula share many commonalities between themes and content. Seeing as schools have to be very mindful of what goal they have in mind when visiting a museum and that teachers must be specific about what they want to share with children, it is vitally important that the museum is relevant. The Tropenmuseum has possibilities for thematic programmes on a large range of subjects which are particularly appealing for international schools – not least, music, storytelling, performing arts, celebrations around the world, rituals. Any one of these themes could be developed for use by

English language groups in general but also specifically to link in with thematic units in the IPC or IB PYP.

The Tropenmuseum also wanted to ensure that the ongoing work on including multiple voices and perspectives in the museum through exhibition and display extended also to educational visits. Seeing as one single, 'correct' interpretation of an object is now considered outmoded, students taking part in educational programmes should also be given the opportunity to add their voices to the interpreting of objects.

Finally, the Tropenmuseum and international schools also both share an international outlook. That is, perhaps, a deep sense and awareness of other peoples, cultures, countries and customs. Internationals schools themselves offer a small representation of the world and their students can teach us about their own cultures.

With all of these connections in mind, the Tropenmuseum started to develop a new programme for international schools reflecting the need for a broad, flexible topic applicable across the primary years and across international different curricula. To mirror the innovative approaches in use in international schools, a new teaching method was to be developed for the programme using thinking routines from Visible Thinking. This thesis aims to explore the development of this programme from its research and development stage, through to piloting and final versions. It aims to explore whether an innovative research-based classroom teaching tool – thinking routines – can be used successfully in a museum setting with objects.

Thesis Statement

The purpose of this thesis is to undertake research to create and deliver an educational programme for primary school children in English at the Tropenmuseum, using the international curricula as a reference point and thinking routines as a new participative pedagogical tool. The educational programme will then be piloted and evaluated and the conclusions and recommendations noted.

Research Strategy and Methodology

Methodology

The research and development phase began with an internship undertaken at the Tropenmuseum during the period May-July 2011 with the aim of creating a proposal for the museum through literature research and also by referring to and using the recommendations of international schools in the Netherlands.

This research involved collecting information about international schools in the Netherlands, their different curricula, number of pupils, nationalities, and establishing contacts with key teachers at some of the key schools for the Tropenmuseum. Leading on from this, meetings took place at four international schools to discuss their specific needs from museums, their thoughts on the Tropenmuseum and museum visiting in the Netherlands in general. From these discussions, four teachers were happy to become advisors for the project and to participate in focus groups and offer guidance where necessary.

The second phase (November 2011 – November 2012) involved conducting a thorough review of theory, methods, content, style and format for the said programme. After the initial research period, teaching materials were then researched and written, museum docents were trained and pilot groups took place. The programme was officially launched at an event for international schools on 03 October 2012.

The four schools that worked with the Tropenmuseum on this project are: the International School of Amsterdam (ISA), the Amsterdam International Community School (AICS), British School of Amsterdam (BSA) and the Violenschool International Primary school in Hilversum. Of these, two are private and two are state-subsidised. Two schools teach the IB PYP, one teaches the IPC and the last teaches the UK National Curriculum. The International School of Amsterdam (ISA) is the largest international school in Amsterdam with nearly 1000 pupils with approximately 50 nationalities (ISAa n.d.). These schools represent a good cross-section of international schools and the curricula that are being taught within the 'catchment' area of the Tropenmuseum (up to thirty kilometres around Amsterdam). By including the British School it will be interesting to see how the constraints of teaching a national curriculum, with its recent return to a more traditional subject-based approach (Paton 2011), will compare to the more

progressive skills-based and cross-curricular thematic approach of the other schools.

Data Collection

Extended Literature Review and Research

Research was carried out on the curricula and thematic units in use at international schools for the main two curricula, namely the IPC and the IB PYP. Much attention was paid to instructional strategies at use within the international school environment and to those aimed at cultivating critical thinking in particular. An overview of the field of critical thinking was carried out with reference to in particular to different methods and approaches in order to analyse for suitability of inclusion and development for the programme in accordance with the wishes of the museum and the teachers. Finally, research was conducted into developing learning activities in museums; for example, teaching with collections, learning from objects, and creative approaches to providing museum education (for example, fostering critical thinking skills). The content for the teacher's pack was written through research in the museum itself and by using the museum's in-house collection database and through discussions with museum education staff, museum teachers and curators.

Interviews and Focus Groups

Interviews were carried out with key curriculum coordinators and teachers in the aforementioned international schools to discuss initial expectations for the new programme. Individual interviews were also carried out after the two pilots with all the teachers from partner schools to discuss their reactions to and recommendations for the programme.

Two focus groups were arranged with the key contact teachers from the partner schools to discuss the style, format and content of the new programme. The first focus group in June 2011 was a roundtable discussion to ascertain what teachers wanted from a museum visit in general, what they currently received and what they would like in an ideal world. This focus group paved the way towards narrowing down the choice of themes, method of approach, style and format of the programme. A proposal for a new programme was developed from this first focus group.

The second focus group took place in January 2012 and was much more specific in its aims and objectives – the subject of the theme was decided and thinking routines were chosen as the method of approach through the use of a museum teacher as a facilitator.

Pilot and Evaluation Phase

The new programme was piloted for the first time in March 2012 with three of the international partner schools. A range of age groups tested the new programme across the primary years. A second pilot was arranged for the youngest primary years (six to seven years) in July 2011. After the trial, teachers were invited to discuss their thoughts and observations regarding the programme, its content, format and style in an interview conducted shortly after the pilot. Students were also invited to contribute their thoughts via a questionnaire distributed at the end of the pilot. From these discussions and evaluation forms, the programme was revised and edited as per the recommendations and suggestions and a final version was created.

Case Studies

Extensive research was carried out on museum educational programmes for schools designed specifically to foster thinking skills. Whilst the majority of innovation in this area has taken place in the United States and specifically in art museums, a range of programmes with different approaches in how to promote critical thinking skills have been included here. Attention has been paid to programmes that use a strategy or routine similar to the thinking routines used in Visible Thinking.

2. Thinking about Thinking

Although the development of thinking skills is not a new phenomenon, there has been increasing interest in ways to foster children's thinking and learning capabilities since the turn of the new millennium. This chapter looks first at what is meant by thinking skills and the role they play in learning. Secondly, an analysis of factors responsible for this growing interest will be undertaken – namely, the cognitive revolution and dissatisfaction with the education system.

What are Thinking Skills?

> Learning is a consequence of thinking. Retention, understanding and the active use of knowledge can be brought about only by learning experiences in which learners think about and think with what they are learning...Far from thinking coming after knowledge, knowledge comes on the coattails of thinking. As we think about and with the content that we are learning, we truly learn it (Perkins 1992:8).

Many researchers agree on the importance of thinking skills to learning although less agreement is found on how to define the term (definitions vary depending on which approach is being used). For this study, thinking skills can be thought of as the way in which our minds are applied to serve certain purposes such as observing, reasoning, hypothesising, or solving a particular problem. Furthermore, as a skill is generally considered an ability to do something well, thinking skills therefore are the ability to think in an effective, ordered and self-reflective way or, to put it simply, the ability to participate in the right kind of thinking at the right moment (Perkins and Ritchhart 2004). This type of good or effective thinking is often either refined further into different categories – such as critical thinking or creative thinking or given a specific name according to the approach being followed (such as higher-order thinking in Bloom's Taxonomy or the term 'lateral thinking' invented by Edward De Bono in 1967) .

This, of course is not a new trend. The ancient Greeks are widely regarded as the earliest teachers of thinking and acknowledged as starting an educational movement that recurs throughout the ages. In the twentieth century, John Dewey is considered by many (Harpaz 2000; Fisher 2001) as the father of the field of modern thinking. He called it 'reflective thought' and described it as 'active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusions to which it

tends' (Dewey 1910:6). Dewey believed it was possible to help develop a person's thinking, by promoting a creative, curious and questioning mind. He emphasised the active nature of thinking (raising questions, thinking things through, inquiry) and placed importance on the reasons and implications of our beliefs. John Dewey's influence can seen in many approaches to teaching thinking – for example in Project Zero's Visible Thinking (Ritchhart 2007:138) and in Matthew Lipman's Philosophy for Children (Cam 2006).

Many researchers have attempted to classify key thinking skills and of these, Bloom is probably the most well-known and enduring of all models, certainly amongst teachers. His classification of levels of intellectual behaviour in learning contains three domains - cognitive, psychomotor, and affective. Within the cognitive domain Bloom identified six levels of thinking organised from the most simple to the most complex: knowledge, comprehension, application, analysis, synthesis, and evaluation. The first three are basic or 'lower-order' cognitive skills whilst the last three are the 'higher-order' skills. Teachers are asked to apply the classification to teaching methods, curriculum and evaluation in order to assess whether higher-order thinking is being attended to. The levels are successive, in that teachers can build upon the knowledge and skills attained in the previous levels. To give an example of how this methodology can be used in the classroom, Fisher (2006) describes a way to develop learning activities using these categories in Figure 1 below:

Task 1: Questions for Thinking

Choose a story, poem, text or topic that you would like to use with children as a stimulus for their thinking. Using Bloom's Taxonomy create a series of questions to think about and discuss after you have shared the stimulus with them. List your questions under Bloom's six categories: knowledge, comprehension and application, analysis, synthesis and evaluation.

1. Knowledge .*What happened in the story?*
2. Comprehension. *Why did it happen that way?*
3. Application. *What would you have done?*
4. Analysis. *Which part did you like best?*
5. Synthesis. *Can you think of a different ending?*
6. Evaluation. *What did you think of the story? Why?*

Source: Fisher 2006

FIGURE 1 QUESTIONS FOR THINKING

Ely (2004) uses Bloom's Revised Taxonomy to analyse the ways in which museum educators have promoted higher-order thinking through the use of questioning and other activities in museum programmes in several different types of museums. The museum programmes involved were found to challenge students' critical thinking skills in over 50% of their questions. It was concluded that the taxonomy can be used in assisting museum educators to develop their programmes and create programmes that assist students in thinking critically about art.

The greatest strength of the taxonomy is to have taken the subject of thinking and to have made a usable structure around it. Despite being perennially popular in educational environments, it is perhaps only useful here as a starting point; it only provides what Ritchhart (2011) classes a 'sequential' view of thinking. All too often thinking is not that simple, it does not fall into easily classifiable domains. Bloom's Taxonomy also emphasises certain types of thinking as 'higher-order' which implies that some are more important than others – that, for example, description is a lesser-skill than interpretation, for example. However, our understanding of cognitive processes, how children learn and how teachers teach has advanced significantly since then.

Most teachers and educators would agree that their goal is to help children learn and think more effectively. In recent years, a plethora of new programmes and publications have appeared to assist teachers and schools in promoting critical thinking techniques and in developing the teaching of thinking skills.

Recent research has proved that thinking skills *can* be improved by understanding specific types of thinking, how they work, and practicing to improve abilities using various techniques. Why then is it important to nurture good thinking skills? On the whole, the ability to learn and apply new skills throughout life is becoming an important requirement in an increasingly complex world driven by information. The process of learning has thus far been deemed less important than the retention of facts and knowledge. This is no longer viable: fostering thinking skills is part of learning to learn. More specifically, developing thinking skills:

> Enables learners to gain a deeper understanding of topics, to be more critical about evidence, to think flexibly and to make reasoned judgements and decisions rather than jumping to conclusions. These qualities

> in thinking are needed both in school and in the wider world (Welsh Assembly Government 2010).

Two events in the twentieth century are responsible for the current proliferation of thinking skills programmes and the preoccupation with the idea of developing thinking. Firstly, the cognitive revolution and secondly, a growing dissatisfaction with the education system.

Cognitive Revolution

At around the same time as Bloom's Taxonomy was developed, something of a cognitive revolution was happening in the field of psychology. From the late nineteenth century onwards, intelligence had been seen as unitary, general-purpose and fixed. In the latter half of the twentieth century, new evidence pointed to the fact that intelligence was not simply a matter of inheritance and that individuals can construct their own unique intelligences. Vygotsky, Piaget and others challenged the traditional view of intelligence and through their work on psychology developed a view of learners as active constructors of their own knowledge. Up to this point, traditional views of intelligence had largely been shaped by the use of testing instruments, such as IQ, to classify and sort students. However, such tests began to be seen as only a fragment of the picture of a person's intelligence. Scores were highly likely to be influenced by one's ability to take tests in artificial and controlled circumstances and therefore did not measure performance in the real world (Ritchhart 2002).

Howard Gardner took the debate a step further in 1983 when he suggested a theory of multiple intelligences. Initially he proposed that humans have seven intelligences: linguistic, logical-mathematical, spatial, musical, bodily-kinaesthetic, interpersonal and intrapersonal (this was expanded in 1999 to include an eighth – naturalist.) According to Gardner, everyone has a 'unique blend' of all intelligences but each individual has a pattern of their own stronger and weaker ones. The big challenge is to discover how best to take advantage of this uniqueness. His theory has found favour with educators and has been applied widely to the problems of schools and teaching. It has been particularly appealing for teachers who feel alienated from the current curriculum model. Educators like the broad vision embedded in the theory – all seven intelligences are needed to live well and

attention must be paid to all of them in the classroom (and not just to the first two as traditional education has preferred). Although not developed directly as a 'prescription for schooling', Gardner maintains that children's minds are different, and an education system should take account of those differences. Mindy L Kornhaber from Project Zero has described why Gardner's theory has found such appeal within the education system:

> 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 in Smith 2002).

When intelligence is no longer regarded as a fixed ability, 'learnable' or 'expandable' intelligence becomes a possibility and this is something that researchers are agreed upon. Thus attention has turned in recent years to the exploration of how flexible mental habits and attitudes are; in educational circle brains are now frequently referred to as a 'muscle' that can be expanded and strengthened (rather than 'filled'). The focus therefore, should be on finding ways of stretching and developing this 'muscle' and on providing cognitive challenges to extend and develop children's thinking from the early years up to university level.

Dissatisfaction with the Education System

At around the same time as the cognitive revolution was taking shape, Neil Postman and Charles Weingartner's revolutionary book 'Teaching as a Subversive Activity' was published. This was at the height of the counter-culture revolution when radical change in society was deemed not only possible but essential. The authors call for an end to the 'transmission' of content by lecturing teachers, a move away from the system of grading, classifying and testing students and engagement in alternative ways of thinking and learning. Both John Dewey and Marshall McLuhan held the belief that 'we learn what we do' (Postman and Weingartner 1969), however, for the most part, then as now, students are not 'doing' that much in the classroom. There is a large amount of sitting and listening, memorising and test-taking.

Although written more than 40 years ago, this book still strikes a chord today as these same issues are still being debated. Ritchhart et al call this view of

teaching – that of delivering little more than content – simplistic and dangerous (2011:25). The focus remains with the teacher and not the learner, who in turn, assumes a passive role. In many classrooms it is surprisingly rare to find students who are being stimulated to ask questions or taught to think about the nature of questioning itself (Claxton 2008b:xi). Indeed most student questions are limited to administrative and technical details rather than substantive thinking. All too often, students are required to look for the right answer, to passively accept the information being submitted to them with recall being the highest form of intellectual achievement.

Successive changes of governments talk of the need to improve standards and results, teachers talk of teaching to get their students 'through' the test or exam and students think about their school in terms of 'do the work, get the grade and move on' rather than learning (Ritchhart 2002). Schools have been accused of focusing too much on the 'what' rather than the 'how' of learning and lean towards 'filling up' their students with knowledge for recall at the appropriate moment when testing requires. However, retention of information is not learning, it is training. What matters most is not the facts but 'how you discover and think about them: education in its true-sense is very different from today's assessment-mad exam culture' (Dawkins in Claxton 2008b:35). As we will see, 'learning is a consequence of thinking' and people tend to learn more deeply and retain knowledge longer when they think critically and creatively with and about the information they are learning (Perkins 1992).

However, critics are often quick to pass judgment on new approaches to teaching and learning using labels like 'trendy' and 'dumbing- down' and insisting instead on coverage of the essential knowledge contained within the traditional timetable (Paton 2011).

In order to meet the demands of the new century, schools are charged with the responsibility of equipping the next generation with vital skills to be able to cope with rigours and challenges of life in the learning age. These so-called twenty-first century skills are essentially cognitive – children must be taught how to discern the important information from the meaningless, to be able to analyse detail and understand perspective, make connections, and learn how to solve problems. These skills are not developed by traditional learning methods. The fostering of such skills involves placing the child at the core of the educational

institution, shifting the focus away from the delivery of information towards the development of student's engagement with ideas (Ritchhart et al 2011). There is a need to make deep understanding more important than superficial learning. As McGregor (2007) says, 'being helped to think better will help children learn more from what they see, say and do'. To succeed in life, neither intelligence nor academic skills on their own are enough.

The knowledge society requires individuals to be able to sort, sift and retrieve information effectively, be adept at problem-solving and make decisions, and therefore thinking skills have been pushed up the educational agenda in recent years. A number of countries have adapted and amended their curricula to show a decreased emphasis on content and an increased stress on thinking skills. In England, where there is one standardised national curriculum for all state schools, five key thinking skills were embedded into the revised National Curriculum in 2000 (INCA 2010). In Australia, creative and critical thinking are one of the seven capabilities of the new Australian Curriculum alongside literacy, numeracy, ICT, personal and social capability, ethical behaviour and intercultural understanding (Australian Curriculum 2008). In conjunction with curriculum content, these general capabilities are intended to incorporate the knowledge, skills, behaviours and dispositions that will support students to live and work successfully in the twenty-first century. Other countries with national curricula focusing on thinking skills include New Zealand and Singapore.

In the Netherlands, the general aims and purposes of primary education are laid down in the Primary Education Act (which was last revised in 1998). There is no nationally imposed curriculum that states what is to be taught at what level and how progress should be tested. There are, however, a number of compulsory core subjects that are further quantified through core objectives, which aim to offer general indication of common content. Together they form the foundations of a basic framework from which schools can work:

> The core objectives describe the desired results of a learning process, not the way in which these are to be achieved. Schools themselves choose their own pedagogical approach and select or develop their teaching and learning materials (SLO 2009:14).

To what extent then is the development of thinking skills a core objective in Dutch primary education? Though not explicitly promoted as in other countries, primary

schools are still required to foster the development of social, cultural and physical skills, which include skills of expressing oneself, listening to others, working independently, and problem solving (either independently or in groups) (INCA and Letschert n.d.).

Although these changes to curricula demonstrate a government interest in some countries in the need for thinking skills to be fostered, little practical advice is offered on how best to achieve such objectives. Furthermore, whilst their inclusion in curricula is seen as a positive step, this is still a long way away from a broad skills-based curriculum that many advocate for. Some commentators note that these lists of skills and additions clash with a subject-based curriculum, that they are not always statutory, properly integrated or explicitly assessed (Martin 2007:37). In short, they do not go far enough.

3. Education, Learning and Thinking in Museums.

Since the birth of the first museums, the educational role of the museum has ebbed and flowed in response to the economic and political circumstances of the time. During the twentieth century, this role has expanded and consolidated despite slow and haphazard growth in the first half of the century (due to the World Wars and economic depression). In the United Kingdom and the United States, the first school services started to appear in the thirties; museum instructors began to be employed and printed educational materials started to appear. It was the latter half of the twentieth century that saw the largest change inspired partly by two landmark reports; 'Excellence and Equity: Education and Public Dimension of Museums' published by the American Association of Museums (AAM) in 1992 and 'A Commonwealth: Museums in the Learning Age' a 1997 report by David Anderson, Director of Learning at the Victoria & Albert Museum in London for the Department of Culture, Media and Sport. These reports both presented an expanded vision of the educational role of museums and confirmed the contribution that museums make to the educational needs of the people they serve. Both reports agreed that museum education needed and deserved a higher profile within museums.

Since then, governments have had an increasing interest in museums and education – particularly in the United Kingdom, under the Labour government of 1997 there was much investment in programmes which strengthened the capacity of museums and galleries to support children and young people's education. This, according to Hooper-Greenhill (2007:6), was driven by 'ideological convictions that culture must be socially inclusive, accountable and used more by schools.' Furthermore, changes to funding structures and increases in visitor numbers led to changes on a more fundamental level – museums realised that in order to remain relevant, new ideas and voices needed to be embraced and a more diverse, inclusive discussion of topics and artefacts undertaken. In recent years, education and outreach have been at the forefront of many museums' work and have played a more prominent role.

Thus within museums education services and facilities have expanded. Large funding bodies, like the Heritage Lottery Fund in the United Kingdom, have provided investment for projects with specific learning elements. More evaluation

work has been carried out (and formalised in the form of toolkits and frameworks) in order to provide evidence of the learning potential and capacity of museums.

What may seem with hindsight as somewhat of a 'golden-age' of museum education was not entirely without issues. Funding for many programmes has been project-based leaving museums with sustainability dilemmas once finance has ceased. Many museum education staff are also employed on a contract basis which affects the long-term educational vision of the institution. The role of museum education is also still unclear or marginalised in many institutions – side-lined into work carried out by a specialist department rather than at the heart or core of the institution as advised by both the AAM and the Anderson report mentioned above. Education may have been prioritised or moved up the agenda in museums but there is no overarching theory as to what this actually means.

The first years of the new millennium has brought more opportunities and challenges. Diversity and inclusion has now come to signify much more than race or gender – now different learning modes, styles and intelligences must be taken into account. In some museums, the word 'education' has been replaced with 'learning' perhaps reflecting the changes that have taken place within the field – all too often education is associated with something that you 'get' whilst learning is something that you actively 'do'.

The 'what' and 'how' of learning

On a general level, the role of museum education is to facilitate the use of the museum by visitors and to offer interpretation of the collection. In the nineteenth century, museum education, much like formal education of the time, was limited and without a theory to guide it. In the late twentieth century, as museum education became a specialised function of museums in its own right, museums education departments on the whole enthusiastically adopted the shift to a more constructivist learning theory, despite formal education remaining largely, though not entirely, behaviourist in its stance. Constructivism holds that people actively construct their own interpretations according to their prior knowledge, skills and background. The museum educator's role in such a museum is to facilitate active learning through the examination of objects, promote discussion and enable connections to be made. Therefore, constructivist learning is not so much *what*

museums want to teach, but more about what meaning visitors *choose* to give to their experiences (Falk et al., 2011:325).

Some commentators (Falk et al 2011; Hein 1997) see the behaviourist model 'thriving' in museums contrary to the generally held perspective of the progressive nature of museum learning. This could be partly due to pressure from the formal learning environment to design programmes in that way but it is also evident from the preponderance of 'walk and talk' tours, museum teachers assuming the role of 'experts' and the limited nature of some student worksheets. Other commentators have remarked that:

> An environment which is ideally suited to the development of divergent thinking and creative intelligence is often used instead to promote fact-oriented convergent thinking (Anderson 1995 cited in Castle 2002:16).

In a truly constructivist environment, open-ended questioning, active meaning-making and group discussion would be prominent features of all educational programmes, including school programmes. Similarly, an educator that acts as a facilitator rather than an expert, that promotes inquiry, responds non-judgementally and is open to new ideas, would be actively promoting critical and creative thinking amongst their visitors (Ferreira 2012).

George Hein (1997) stated that in order to consider how a museum is organised to facilitate learning, it is necessary to address both *what* is to be learned and *how* it is to be learned. Currently there is a great deal of emphasis on the 'what' of museum learning; the content. For school groups there is still a strong need to cover and provide certain content, provide facts and information for students in order to satisfy teachers and parents and to justify the relevance of the field trip. Some schools have a constricted view of what an excursion to the museum should include and are seemingly unaware of the potential of museums to connect to the learning taking place in the classroom. Museums visits are often placed at the end of a topic or even at the end of the school year as a 'treat' rather than an enrichment experience to extend beyond the curriculum and the student's learning experience. Therefore, museum educators work hard to develop programmes linked to school curricula to appeal to teachers who in turn find it easier to validate the field trip to school authorities. Whilst this content-based approach certainly has its benefits, defining museum programmes by their 'linkability' to testable curricula limits students educational experiences and results

in museum school programmes essentially covering what governments have deemed necessary to learn.

More thought needs to be given to 'how' museum school programmes are delivered. Traditional, didactic lecture-style guided tours and student worksheets are still popular choices for school groups despite recent enthusiasm for more participatory methods of late – workshops involving making and experimenting, role play, storytelling and drama, recording interviews and making films based on themes etc. Indeed many museums are still using teaching strategies more appropriate to the classroom rather than an informal learning environment. This may be due to the difference in educational philosophies in museums and schools – while museum educators focus on providing engaging experiences with hands-on activities, school teachers often want to see 'conceptual gains' (Bhatia 2009:iv). As Davis and Gardner (1999) point out, whilst often linked together in the public mind, museums and schools 'operate in distinct spheres'. As such, they should each take advantage of providing a different learning perspective conducive to their differing learning environments.

Admittedly, museums can sometimes fall back on less engaging means of providing learning for students due to constraints on resources (financial, staffing, time). However, creating meaningful learning experiences is not necessarily reliant on props and large budgets. Standard guided tours or worksheets could be improved greatly if museums were to concentrate more on providing a learner-centred experience which created opportunities for creative and critical thinking and shifted their emphasis away from providing information and content. Costs and resources would still be kept to a minimum. This in turn would allow the museum to 'frame' its content in a different way. The 'Look, Listen and Do' programme at the Smithsonian National Postal Museum does just that and has created a new programming model that 'includes great content, but is not dependent upon it' (Wickens 2012). Given that museums are generally freer than most state schools to offer progressive approaches, museums should feel freer to develop more ways of involving participants in the learning process itself, rather than adhering to strict school curriculum objectives.

21st Century Skills and Museums

Students need to be prepared for the challenges of working in the knowledge economy. Skills like effective thinking, adaptability, initiative and creativity are already highly-prised by employers and will become even more so in the future. Some researchers have commentated on the inability of the current forms of schooling to equip students adequately for the workplace of today, let alone the future (Claxton 2008b; Egan 2008). Students need to be able to not just acquire knowledge but know how and when to apply it. Ferreira (2012) notes the gap in the market between what employers require (creativity and innovation) and what academic institutions currently provide (acquisition of knowledge rather than skills).

Museums, however, are in a better position to focus on new approaches and skills. A 2009 report from the Institute of Museum and Library Services (IMLS) says that museums are well-placed to respond to this need, but need to develop and define it further:

> Competencies like critical thinking, global awareness and media literacy are no longer simply desirable – they are necessary. [...] Therefore it is critical that we envision, define and implement library and museum approaches that integrate 21st century skills in more tangible, visible ways (Institute of Museum and Library Services 2009:6).

The report defines the skills that are most needed to support productive participation in this new twenty-first century workforce. One of the *Learning and Innovation Skills* in the report is critical thinking and problem solving; which is defined as the ability to reason effectively, make judgements and decisions and solve problems. Other key *Learning and Innovation Skills* are the ability to think creatively, communicate and articulate thoughts and demonstrate visual literacy.

Beverley Sheppard (2010) urges museums to re-assess their educative role in order to increase not only relevance but also public awareness of the learning power of museums. Whilst those in the museum education profession are committed to the wonderful learning opportunities taking place in museums, others outside of the profession may not be so convinced. There is a danger of being regarded as; 'nice, but not necessary' (Center for the Future of Museums 2012:24). Museums need to make the case for the power of museum learning explicitly and directly and focus on how they can help with the development of 21st

century skills, better serve the educational system around them and even help to re-shape the educational learning environment. Museums in the United States now frequently claim that their educational programmes will develop thinking skills, or that this is one of their key objectives of the education department. Some museums maintain that the improvement of thinking skills is at the heart of the entire museum's mission, for example:

> The mission of the Boca Raton Children's Museum is to develop creative and critical thinking skills in children through exposure to the arts and humanities integrated with history and science' (Boca Raton Children's Museum, 2012).

These statements are due in part to recent educational trends but also to policymakers at local and national level requiring a greater emphasis on thinking as an aim of museum education. However, simply adding thinking skills to the list of objectives for a museum's educational programmes does not guarantee that such skills are taught or indeed, learnt by the students visiting that museum.

Interestingly, Rebecca Schulman-Herz (2007) argues that a shift away from a content to a skills approach focusing on developing critical thinking skills would allow the education department of a museum to be less dependent on the curatorial department, thereby allowing for the potential of the dynamics of the institution to change. In these financially difficult times, museums are forced to make tough choices about where cuts are going to be made. Education departments have grown and prospered during the last fifteen years, however, it remains to be seen whether that growth is now considered essential or superfluous to the requirements of the post credit-crisis museum. Indeed, ensuring that learning is at the heart of the mission and committing to developing 21st century skills would surely help to weather the worst of the storm.

Learning in the twenty-first century is now frequently happening out-of-school and the lines between informal and formal education have become less demarcated – learning is now just as likely to take place through online activities or via social networks as something that happens at school. Self-directed or free-choice learning is on the increase and people now expect experiences to be not only widely accessible but also participatory and collaborative. The ease with which audiences can now interact with online content has affected a sea-change in the museum profession too – audiences are now expecting multiple ways to

engage in participatory and flexible experiences at museums rather than simple docent-led tours. Museums can play a critical role in this new era by helping its visitors, particularly the school groups, build core life skills, including critical thinking. As such, museums should distinguish themselves clearly as institutions that offer diverse and innovative learning experiences that complement rather than mimic formal education school learning. Object-based learning with wonderful museum collections provides many opportunities for developing such skills through a variety of strategies or methods. It is useful therefore at this point, to investigate what types of museum programmes have been and are being developed to foster thinking skills, what form and structure these programmes take and what strategies or methods are being employed to achieve this aim.

4. Strategies for Looking at and Thinking about Objects

Objects, Looking and Thinking

Much has been written about the power of different forms of visual expression - art works, objects and artefacts - to inspire, provoke curiosity and interest. A museum collects objects for safeguarding, research, interpretation and display purposes. These objects tell stories on many different levels - of their functional, symbolic or historical meanings. Museum education is often grounded in object-centred activities – partly due to the fact that objects are suitable for use with all age groups, on an individual, pair or group basis and with all backgrounds and abilities. Objects are also used to create connections to the past, helping children to understand similarities and differences between their lives and others, now and in the past.

Teaching with objects is not a new phenomenon – in the nineteenth-century teaching this way was an important part of the education system. Observation, reflection and deduction were important facets of this method although the final goal was the understanding of science and classification (Hooper-Greenhill 2000:105). Traditionally, museums have taught with objects through the use of guided tours or, more recently, through handling sessions. These sessions were generally intended to encourage the recognition and analysis of the object's basic visual elements or to reflect on the object in a context related to the subject disciplines or a curriculum element. Recently, more emphasis has been placed on articulating the message that there is no one 'correct' meaning to be discovered and that: 'the meanings of objects are constructed from the position from which they are viewed' (Hooper-Greenhill 2000:103). It is accepted that objects allow students to learn in different ways and stimulate critical thinking through comparing and contrasting, identifying and classifying, describing and summarising and so on. Indeed, objects are increasingly used in museum education to help individuals learn what Philip Yenawine terms 'viewing-skills': that is an; 'increase in observational skills, ability to probe, ability to find a variety of possible meanings, openness to the unfamiliar, and so forth' (Rice and Yenawine, 2002). This often happens quite naturally, although all too often the process is unstructured and messy.

In museums, looking is central to the experience as visitors are presented with an array of objects which request their understanding or approximation

thereof. However, good observation does not always take place – the natural tendency is to have a quick look, make a quick interpretation or judgement and move on. In order to truly understand an object or art work, time needs to be spent quietly observing and thinking. Some objects do not inspire an immediate sense of connection until they have been properly and thoroughly observed. Tishman (2008) explains that looking at something carefully and slowly is an essentially rewarding process; 'the more you look, the more you see; the more you see, the more interesting the object becomes.' Falk and Dierking (1992) also argue that given the opportunity to slow down, more people have a higher likelihood of having a more in-depth experience with the object they are looking at as it enables the viewer to notice much more than from a casual glance.

In 'The Intelligent Eye: Learning to Think by Looking at Art', David Perkins (1994) states that looking at works of art or objects requires firstly long and thoughtful looking to understand its truth and beauty. Secondly, thoughtful looking at art or objects helps to develop better thinking. Perkins suggests that art provides a natural context especially well-suited to developing thinking dispositions:

> Looking at art invites, rewards and encourages a thoughtful disposition, because works of art demand thoughtful attention to discover what they have to show and say. Also, works of art connect to social, personal and other dimensions of life with strong affective overtones (Perkins 1994:4).

Time is very important in the museum environment. By slowing down and viewing fewer objects in a more controlled and careful way, less really is more. For school groups the slow exploration of objects allows students to become absorbed, to scrutinise and investigate and to find out information and construct meaning. Sufficient time should be allocated to allow students to interact fully with objects, their peers and museum docents.

Thus there is enormous potential for museum objects as tools for learning and thinking if they are used in a careful and considered way. Close observation of objects can fire curiosity and leads to high-level thinking. Thinking is driven by questions which seem to flow naturally when looking at an object. Visitors are often in need of assistance to look beyond the well-documented quick glance and thus strategies have been developed to help organise thoughts and develop a structure around which forms of visual expression can be viewed. Strategies or

routines can help out to make our thinking more ‘more broad and adventurous, clear and organized’ (Perkins, 1994).

In Search of a Method

One of the simplest ways of developing thinking skills is by asking open-ended questions about an object in order to stimulate thought processes and encourage students to take a more active role in thinking and reasoning. Questioning strategies have been in use for some time now in museum education, although all too often, the questions are of a convergent nature (‘What do you think this object is?’) or are leading questions allowing the visitor to discover precisely what the museum teacher or curator wants them to learn. Sometimes, questions are even asked purely for the sake of being interactive and participative.

Museum educators need to be able to guide people through the exploration of an object and sometimes fixed strategies, routines or procedures are often used. Some of these strategies work well, are easy to remember and use and produce great responses. Others, however, quite often fail to capture enthusiasm or commitment from the participants and can seem ‘artificial and unappealing’ (Perkins 1994:4). Most research and experimentation in this field seems to have taken place in art museums and for interpreting art many strategies have been developed to help guide the viewer through the interpretative process. Edmund Feldman developed a four-step strategy called ‘Formal Analysis’ for viewing art:

1. Description
2. Analysis
3. Interpretation
4. Evaluation

FIGURE 2 FELDMAN METHOD OF ART CRITICISM

The first step is ‘Description’ which requests a basic description of content and the elements. Next comes ‘Analysis’ which asks what relationships exist with what is seen and how the composition is used. Thereafter, ‘Interpretation’ asks for the overall meaning of the work, based on the findings from the first two steps. Finally, the viewer is called to make an ‘Evaluation’ or judgement of whether the work is successful in its communication.

Terry Barrett developed another strategy for looking at art called ‘Critical Response’. This method relies on the viewer’s personal knowledge and reading of the work. Contextual information can be added to the discussion at any point. The method asks three descriptive and interpretive questions.

1. What do you see?
2. What does it mean?
3. How do you know?

FIGURE 3 BARRETT ‘CRITICAL RESPONSE’ METHOD

All individuals are asked to contribute to answering the first question by saying one thing that they ‘see’. This method asks viewers to distinguish between fact and interpretation – stating that one sees ‘fear’ is an interpretation rather than an observation. The second question asks viewers to construct meaning based on what they have seen, what they hear from others in the group and what they know from life. Finally the last question asks for evidence to back up the interpretation, reinforcing the need for evidence to support opinions and beliefs. Barrett feels that art is a powerful stimulator of thought and discussion for everyone given the right environment within which to express oneself and a procedure to help organise thoughts. He believes strongly that:

> The goal is not that they find the ‘right’ answers but that they come back to the museum with friends and family and have enjoyable conversations of about art and life, independent of a tour guide (Barrett in Villeneuve 2007:197).

Another approach is called Visual Thinking Strategies (VTS) which has been developed over 30 years by psychologist Abigail Housen and museum educator Philip Yenawine. It focuses on looking and discussing works of art mediated by a discussion facilitator. This method is based around three carefully constructed open-ended questions which are strictly and rigorously adhered to:

1. What’s going on in this picture?
2. What do you see that makes you say that?
3. What else can you find?

FIGURE 4 VISUAL THINKING STRATEGIES (VTS) QUESTIONS

This strategy differs from the formality of Feldman's method as it recognises that concepts in art history and aesthetics, are typically beyond the young or inexperienced observer's understanding (Housen in Pierroux 2010:423). The VTS method instead concentrates on developing reasoning and visual skills over time through the use of open-ended guiding questions.

It is worth looking in more detail here at programmes that have been developed for school groups to actively develop critical thinking skills using various methods or strategies. The first programme uses the VTS method in a multi-visit art programme at the Isabella Stewart Gardner Museum in Boston, Massachusetts.

'Thinking Through Art' at the Isabella Stewart Gardner Museum.

The museum's School Partnership Programme (SPP) was created in 1996 and was designed as a multiple-visit programme for Kindergarten to Grade 8 students in five schools in the immediate neighbourhood. The SPP at the Isabella Stewart Gardner Museum concentrated originally on linking the museum's collection to the curriculum by focusing on specific subjects. The award of a research grant in 2003 enabled the museum to revisit the goals of the programme, study what students were actually learning and conduct an investigation into whether looking at art could help students develop critical-thinking skills (Burchenal and Grohe 2007). The programme was subsequently revised and shifted its emphasis from content-driven thematic and historical lessons to a new focus on 'looking skills' using Visual Thinking Strategies or VTS as the core instructional curriculum (Burchenal and Grohe 2007:113).

The new programme called 'Thinking Through Art' started with a classroom visit led by a member of the museum staff, which introduced students to the museum and also to the elements of the VTS approach using two images from the museum. The actual museum visit occurred several days later and was comprised of two parts - a one hour discussion of two objects alongside writing and sketching activities and a forty-five minute hands-on activity. Students visited the museum up to four times a year which enabled them to feel comfortable in the environment and more connected to the collection. Multi-visit programmes often focus on

nurturing thinking skills because they tend to offer a more extensive learning experience for the students whilst the museum itself benefits from building up a working relationship with groups over time.

It should be noted that the Gardner Museum is a different breed of art museum– there are no explanatory labels for any of the artworks on display and the collection is arranged imaginatively according to the vision of its eccentric founder, Isabella Stewart Gardner. This is ideal for encouraging students to discover and voice their own personal meanings using the strategies of VTS.

The first question (What's going on in this picture?) aims to open up with the discussion and particularly encourages the finding of stories in the art work. It also invites a variety of comments ranging from colours, information, and shapes to feelings. This first question probes directly for meaning rather than the construction of lists of observations. This differs from many other strategies, such as Feldman or Barrett's, which emphasise the importance of making observations *before* jumping into interpreting the object or art work. Their methods aim to strengthen reasoning ability as students learn to observe before making judgements.

As the discussion develops, the teacher asks the second question in the VTS method 'What do you see that makes you say that?' which prompts students for evidence for the points they have made and encourages the 'grounding of interpretations' (VUE 2001). 'What more can we find?' is the final question in the sequence and has the goal of making the discussion more rounded. It echoes the rigorous and thorough tendencies of VTS. This method spells out what is to be shown, at what age and in what order. With this approach, teachers act as facilitators or enablers rather than experts. They point to what the students are talking about in the art work and paraphrase every comment made. Teachers are also expected to remain neutral throughout, even in the face of inaccuracies. The routine focuses solely on the student's interpretation without the addition of content from the teacher or museum guide. Philip Yenawine explains the reason for this:

> ... I think that connecting with art begins with looking at it, and my concern with beginning viewers is that when we explain it to them, we teach passive reception, not active looking. I also think that for beginners to get the impression that they need to know a lot of stuff before they can connect

> with art actually stops them from looking and thinking on their own. (Rice and Yenawine, 2002:293)

However, as Ritchhart points out (2007), routines for looking at visual objects do not need to be this rigid or without careful content additions by the museum guide. Other strategies or routines, like the Terry Barrett or the ones from Visible Thinking, allow information to be offered to the students in small amounts and at appropriate times so that students are challenged to think about it or can form associations with prior knowledge.

The VTS method was deemed controversial at the time (see Rice and Yenawine 2002), not least because of the discussion it provoked regarding the role of the museum teacher but also because it focused on learning to look at art and developing the requisite skills for this rather than the acquisition of facts or content. In fact, Visual Thinking Strategies was something of an inspiration for the team at Project Zero who spent a year evaluating a project using VTS at the Museum of Modern Art (MoMA). Their findings indicated that these simple yet carefully crafted questions were powerful and that the approach: 'tends to contribute to a modest but significant increase in students' evidential reasoning skills when [students] are interpreting the meaning of a work of art (Housen 1993)'. This was Project Zero's first exposure to a thinking routine. Shari Tishman and David Perkins have since named VTS as one of three projects that were formative in shaping and helping to develop Visible Thinking (Lemshaga Akademi 2010). 'What makes you say that?' is listed as one of the core Visible Thinking routines and its origins in the work of Yenawine and Housen is acknowledged by Project Zero, although it's delivery differs somewhat from the rigid structure imposed by the VTS method. VTS itself is nowadays a strong part of many museum education programmes and is also used in many schools.

In the context of 'Thinking Through Art, the new approach was also criticised by some of the teachers at the partner schools who found the transition to a skills-based approach problematic. Burchenal and Grohe recall how one school was strongly opposed to the use of VTS and the 'learning to look' approach:

> These teachers felt that by not focusing on an artist's dates, stylistic traits, or biographical information, museum educators let students leave without 'knowing' new concepts. Often these teachers would interrupt a VTS discussion to ask the museum educator to explain the importance of the

> artist, or an art term (perspective, for instance) so that the students could, as one teacher put it, 'leave with something' (2007:117).

The museum has subsequently worked with teachers involved in the programme to offer extensions to the museum experience by offering post-visit activities using the VTS discussion questions. This helped with transfer of the skills learnt in the museum to the classroom environment. The reaction of these teachers against a skills-approach was not uncommon at that time. Recent changes to some national curricula (e.g. 2008 UK National Curriculum reforms) stressing more of a need to support young people to be successful learners, confident individuals and responsible citizens, have meant that less emphasis is now being placed on content-acquisition. Therefore, museum programmes that work in this way now would certainly no longer be held in such low-regard, especially if there is a good balance struck between offering thematic content and a method of delivery that is flexible and forward-thinking in its approach.

The project was evaluated by the Institute for Learning Innovation (ILI) who collaborated with the museum to develop a rubric for assessing the critical thinking skills relevant to learning with works of art. They identified seven primary skills that students use in their discussions of art works. The list which draws on the dispositional work of Arthur Costa and Bena Kallick's Habits of Mind (see Appendix I) comprises of the following skills:

Observing- Interpreting-Evaluating-**Associating**- Problem Finding-**Comparing**-**Flexible Thinking**

(Burchenal and Grohe 2007:119).

Researchers used this rubric to collect data from participating students in two SPP schools and two control schools. Two methods were employed to encourage students to talk about art. The first method was an 'untour' in the museum which allowed to students to choose which works of art they wanted to look and talk about. These conversations were recorded. The second method recorded students talking about an art poster. The results showed that students in the SPP showed statistically significant improvement in five out of seven thinking skills (shown in **bold** above). Secondly, students who had participated in the multi-visit programme made twice as many observations and provided evidence to back up their interpretations nearly twice as often as students in the control groups. The VTS approach not only helped students to learn to look at art, but also developed

critical thinking skills useful in and outside of the classroom. This important study also led the way for many other museums to assess the focus of their school programmes and to provide evidence in a shift towards a more skill-centred approach.

Questioning strategies can sometimes feel restrictive and unnatural, especially if, like VTS, contextual information is not allowed. Similarly, if questions are not prescribed, as in the Feldman method, museum teachers can struggle to remember the right phrasing for their questions or are forced to carry around long lists of suitable questions if this process does not come naturally to them. If the questions are already set as in the Terry Barrett and VTS strategies, then wording and phrasing is key. If it is too vague, the question will fail to capture the imagination, if too strict or harsh, then students will not feel at ease answering. Furthermore, strategies if well constructed should be memorable enough for the docent to easily recall where they are in the discussion. Finally, guided strategies for dialogue in the museum should provide ample opportunities for the active promotion and development of critical thinking skills amongst all the participants. The second programme to be discussed here uses a teaching strategy specifically developed at the museum to teach people how to look at art.

‘Art of Analysis’ and ‘ARTful Reading’ at the Columbus Museum of Art

Observe-Describe-Interpret-Prove (ODIP) was developed at the Columbus Museum of Art (CMA) in Ohio, United States by museum educator Barbara Sweney who was influenced by the work of Terry Barrett as well as the thinking routines from Visible Thinking. When it was first introduced the emphasis was more on visual literacy. Currently, it is part of an overall commitment to the development of critical thinking skills which is one of the major goals of the museum, alongside fostering communication, collaboration, creativity and lifelong learning (CMA 2012).

‘ARTful Reading’ is an educational programme offered by the CMA in Ohio to fifth grade students across the city. It includes a docent-led pre-visit to the school, a fifty minute tour at the museum and a studio experience back at school that ties in with the curriculum and thinking skills used at the museum. Throughout the whole programme, CMA’s teaching strategy ODIP is used to teach students

how to look at art. At the pre-visit ODIP is introduced to the students to prepare them for their visit to the museum.

1. OBSERVE

Look hard.

Look closely.

What do you see?

What information is there?

2. DESCRIBE

Describe what you see.

If you were asked to explain the appearance of this photograph to someone on the phone, what would you say? What descriptive words best describe this piece? What details could you give?

3. INTREPRET

Imaginative leap.

What is going on?

What is the artist trying to say?

What's the story?

4. PROVE

Back up your interpretation.

What makes you say that?

What clues did you use to come to that conclusion?

ODIP

Quickguide (CMA 2012)

FIGURE 5 ODIP STRATEGY

This routine not only provides a useable structure around which participants can discuss pieces of art but also invites people to slow down and develop new habits of observation. The routine supports intense reflection of ten minutes or more with the same art work. This then leads to an improved and more in-depth group discussion where findings are shared. The development of thinking is regarded largely a social endeavour and with this method, participants learn how to work together in a group and listen to and accept the viewpoints of others.

Many people have made the connection between ODIP and VTS and, according to Rachel Trinkley, Educator for Docent Programs at CMA, this is because neither require prior knowledge and work best with narrative-based works of art (R Trinkley 2012, Pers. Comm.,17 July). However, unlike VTS, information can be interjected as needed with ODIP, allowing for deeper meaning and understanding. The balance between docent information and allowing for student interpretations is notoriously difficult to achieve. With ODIP, museum teachers are encouraged to incorporate their own knowledge into the group discussion to enhance and deepen group learning (Jacques et al, 2012). The CMA believes in multiple group interpretations that may or may not lead to a final outcome or interpretation at the end of the session. This method is grounded in developing skills alongside building up interpretations; 'the process of thinking is just as important as the product we develop' (R Trinkley 2012, Pers. Comm., 17 July). Although ODIP is composed of certain steps like many strategies, it is suggested that the routine sometimes works best in a non-linear and more flexible way:

> ...observing and describing begin the process of slowing you down, and voicing what you see, but once you get into interpretation, you start jumping around if you want to develop a group interpretation. (R Trinkley 2012, Pers. Comm., 17 July)

This flexibility allies this approach very much to Visible Thinking's thinking routines which can also be used flexibly once the teacher feels comfortable in their application.

'ARTful Reading' has been evaluated independently by the Institute for Learning Innovation (ILI) to assess the impact of the programme on student's critical thinking skills. A researcher projected an image of a work of art onto a classroom wall. Students were asked to respond to the image in a way that mirrored the ODIP process with written responses to three questions:

What do you see?

What do you think or feel when you look at this image?

Why do you think or feel that way?

(Luke and Yocco 2010)

As in the Isabella Stewart Gardner research study, a rubric was created with five critical thinking skills:

Observation

Interpretation

Affect/Emotion

Questioning

Evaluating

(Luke and Yocco 2010)

Whilst the findings did not point to any significant differences pre- and post-visit, the study did find that the programme enhanced students' observational skills and provided an important context in which students can practise their critical thinking skills. The research study does leave some unanswered questions as to the next phase for the programme. Perhaps changes can be made to the design and key components of 'ARTful Reading' to make it more explicitly geared towards improving certain critical thinking skills.

ODIP has also been employed to great effect with medical students in the museum, as a way to slow down, improve observations, reflections and analysis skills. 'Art of Analysis' is a collaboration between the Ohio State University College of Medicine (OSUCOM) and the CMA. Students spend an evening at the museum exploring the collection using the ODIP routine. They spend twenty to thirty minutes at one art work moving step-by-step though each part of the routine. Museum teachers pose questions and offer information as and when required. Like in 'ARTful Reading', medical students are reminded that there is no one 'right' answer and that they are expected to gather evidence by observing. The museum teachers offer assistance with questions – like, for example 'Find a detail you think no-one will notice' - to encourage the students to look at the art work in more depth (Jacques et al 2012). The students are also asked to defend their interpretations to the group as a whole and to provide evidence of their ideas. This

is a social approach as students learn from one and another and use new observations from their peers to build on their own theories. After the group exercise, participants have forty minutes of individual time in the galleries to reflect on certain questions set by the museum education staff, before coming together for a final twenty minutes for group reflection. The aim is to mimic the type of debate common in clinical medical practice.

This programme, modelled on similar programmes at Harvard and Yale Universities aims to develop critical-thinking skills, empathy and develop close-looking and observational skills. Other programmes for medical students use other routines to guide thinking and learning – for example, Harvard Medical School's 'Training the Eye' uses Visual Thinking Strategies (VTS). These programmes aim to mirror the process of medical observation – the use of observation and visual clues in patient diagnosis, being able to accurately describe findings to physicians and team members, form interpretations and offer a diagnosis. Jacques et al (2012) also describe the process of group discussion in a museum as similar to 'medical rounds' in the hospital where a healthcare team meet to discuss a patient's progress and plan for subsequent care for that patient. The 'Art of Analysis' programme plays an important role in shaping critical thinking skills vital to the process of medical diagnosis, helps students to work cooperatively in group situations and, finally, also shows how a museum can provide an important function for its community.

The ODIP strategy is useful in a variety of contexts, with different age groups and abilities in providing a structure around which participants can engage in a dialogue about art. However, this method is not formulated as part of a multiple visit strategy as in 'Thinking Through Art' or is it certain whether it would transfer to other contexts or in environments. The acronym itself is short enough, however the language used is quite formal and harks back to formal art analysis. It would be interesting to see if it is easily remembered by students or whether they would think to use it independently or in other situations. The four steps – Observe, Describe, Interpret and Prove – are simple in themselves but additional questions need to be added to support these four stages. These questions need to be carefully constructed so as to encourage the type of divergent thinking that the method espouses. The final stage of the acronym 'Prove' is also troublesome – it is mildly reminiscent of assessing right or wrong interpretations despite the

programme stressing the use of open-ended questions and multiple interpretations.

Thus far all the museums working with strategies to foster thinking skills mentioned here have been located in the United States. It is important to also include an example of a museum in the Netherlands working with a strategy to encourage the development of thinking skills. Perhaps the development of thinking skills is not as high up the political agenda for Dutch education, but it is unusual to find a museum focusing on nurturing these skills at the current time. The Kroller-Muller museum, however, have developed a successful programme based on philosophical questioning and looking at works of art.

'Filosoferen met...' at the Kroller-Muller Museum

The 'Filosoferen met…' range of programmes looks at sculptures, paintings, nature and in the most recent book, works of art chosen by the director of the museum. Educator Herman Tibosch worked with Marja van Rossum, a teacher of philosophy with children to develop the new programme. The central aim of the programme is to develop the capacity for deeper, freer thought by using philosophical open-ended questioning. It is not a strategy or routine as such but it does have a loose framework that shapes the direction of the programme and its objectives are to develop critical thinking skills.

The first book 'Filosoferen met Beelden' (Philosophy with Sculpture) was created in 2004 and comprises a preparation lesson, philosophical discussions around several sculptures in the garden at Kroller Muller and activity sheets. The books are intended for use either with a museum teacher or privately – for use by family groups or by adults. If used with a museum teacher, this is a dialogic method of teaching that encourages interaction and provokes curiosity from the participants.

The fourth book was specifically developed for the exhibition 'Verlangen naar Volmaaktheid' ('Longing for perfection'), which was the last exhibition of the retiring director, Evert van Straaten. The book takes children on a journey through the exhibition with the director as the 'guide'. He talks about his retirement, asks children to look carefully and poses provocative philosophical questions at each work of art. Each work of art explores a different theme – for example, the Vincent van Gogh page is based on the theme of parting ('afscheid'). The theme is

explored in three stages – ‘Kijken’, ‘Ontdekken’, ‘Doen’ (Look, Discover, Do). ‘Kijken’ and ‘Ontdekken’ (Look and Discover) are focused on getting the viewer to look intensely. A small amount of factual or historical information is given about the work but the focus is predominantly on observational skills. ‘Doen’ usually involves a physical task that makes the viewer’s thinking about the art work visible – for example, for the Vincent van Gogh page, participants are asked to mimic the way van Gogh painted using their bodies to show the movements. These first three stages are used as preparation for the main philosophical questions that come later.

These are divided into three types of questions: ‘Startvraag’ (Opening Question), ‘Vervolgvragen’ (Follow-up Questions) and ‘Verdiepingsvragen’ (Deep Questions). The ‘Startvraag’ aims to open up the theme and usually asks participants to either voice their own thoughts or experiences or to consider two opposing or similar positions on the theme. The ‘Vervolgvragen’ explore perspectives and often ask the participant to look at the theme from a different point of view. The third stage ‘Verdiepingsvragen’ is the culmination of the first two stages and asks for deeper exploration of the subject matter.

This style of questioning and method of working inherent in this programme has much in common with the work of Matthew Lipman (‘Philosophy for Children’ see Appendix I for more information) and Gareth Matthews. It is a student-led, inquiry-based approach to learning. Philosophy here is the vehicle for deeper exploration of a specific subject matter. Philosophy discussion develops the capacity to ask and seek answers to existential questions, helps to develop conversational skills and seeks to foster emotional intelligence. Furthermore, this type of discussion about art enhances key critical thinking skills - the capacity to observe and interpret, draw inferences and deductions, develop hypotheses and explore perspectives. This approach also encourages the formation of a ‘community of enquiry’ where a group reasons together out loud – putting forward ideas, responding to and building on the ideas of others and generating further questions. The content of the discussion is considered to be less important than the quality of the reasoning, and the role of the teacher is to develop higher levels of reasoning through the use of guiding questions. As Marja van Rossum puts it;

> What you know as a facilitator is not important. You can give the group information but (you should) ask it in the form of an open-ended question or

> a conditional phrase because there are no correct answers (M van Rossum 2012, Pers. Comm., 26 July).

The 'Filosoferen met...' programme uses an inquiry method based on a theme. The questions are created in relation to the theme and therefore are subject to change. There is no strategy or recurrent routine per se, but the format of the programme following the stages of 'Look, Discover, Do' and the more overtly philosophical parts (Opening, Follow-up and Deep Questions) remains the same for each painting or theme. Again, this method weighs heavily on the ability of the museum teacher to implement a truly open style of questioning and to extract the most out of the group. The museum teachers must be highly trained and perceptive for this type of programme. The goals of 'Filosoferen met...' are rooted firmly in philosophical enquiry and the discussion focuses on clear, deep thinking and making thoughtful judgements. It also aims to help children develop the skills and dispositions to play a full part in tomorrow's society, skills which include the development of thinking, learning and language skills.

The final programme to be discussed in this section takes place at the Haffenreffer Museum of Anthropology situated on Brown University's campus in Providence, Rhode Island. The education department developed a programme called 'Think Like an Archaeologist' aiming to develop students critical thinking in examining objects. This programme is particularly interesting for two reasons: firstly, it is a anthropological museum rather than an art museum and secondly, it trialled the use of thinking routines with this programme for the first time this year.

'Think Like an Archaeologist' at the Haffenreffer Museum of Anthropology

The Haffenreffer Museum of Anthropology is situated on Brown University's campus in Providence, Rhode Island. The mission of the museum is closely linked to developing thinking:

> We inspire creative and critical thinking about culture by fostering interdisciplinary understanding of the material world (Haffenreffer Museum of Anthropology, 2012).

'Think Like an Archaeologist' has been running for three years in collaboration with the Joukowsky Institute for Archaeology, the RISD Museum of Art and Providence Public Schools. Each year the museum partners with two schools and

works with sixth grade social studies students (aged 11-12 years). A representative of one of the above institutions visits each class four times at their school to develop their knowledge of what archaeology is and how archaeologists work through hands-on participatory exercises. These visits also focus on themes of teamwork, close observation and pattern recognition (Haffenreffer Museum of Anthropology, 2012). Besides learning about archaeology, students are also learning how to think critically in their examination of certain objects (G Ducady 2012, Pers. Comm., 17 July).

For the fifth session of 'Think Like an Archaeologist' students come and visit the museum. This part of the programme is run by university students. In 2011 a group of graduate students were taking a course 'Museums and Learning' taught by Shari Tishman at the Harvard School of Education. They developed a field trip programme for their class project and tested it with the sixth grade students. One hundred and thirty five students took part in the programme using the thinking routine Think-Puzzle-Explore developed for Visible Thinking for Harvard's Project Zero. Groups of forty five students arrived at the museum and were divided up into three separate groups. Of these, one was to work individually, one in pairs and the last as a group. A facilitator then led the session using Think-Puzzle-Explore to investigate the object.

1. What do you think you know about this topic?
2. What questions or puzzles do you have?
3. How can you explore this topic?

FIGURE 6 THINK-PUZZLE-EXPLORE, VISIBLE THINKING.

It had been decided from an earlier pilot that it was necessary to give basic information about the object before starting the session. This was intended to reduce frustration and to ease the students into using this particular routine which draws on existing knowledge to make connections (Wada, Reusché and Unger 2011:4). During the session, the students were given a minute to look at the object carefully and two minutes to respond to the question associated with each stage of the thinking routine. For each step, specific questions were asked in connection with the object – for example, for the 'think' part of the routine the facilitator asked; 'What do you think you know about this object or the society it came from?' (Wada, Reusché and Unger 2011). The students were asked to think of as many

responses as possible to each of the questions. The facilitator read the questions and was responsible for monitoring the time. After students had completed the thinking routine they either filled out worksheets (if working as individuals or pairs) or contributed to a group discussion. After they had completed the activity, each group was given a turn at each of the activities – individual, pair or group work – to ensure that the data collection was balanced. At the end of each session, the group shared their responses with the facilitator and, if there was sufficient time, the facilitator shared his/her knowledge of the object with the group.

The responses on the worksheets were analysed using Bloom's Taxonomy to assess levels of thinking (Wada, Reusché and Unger 2011:9). The results show, perhaps unsurprisingly, that the group activity yielded the highest and most complex cognition out of the three categories. Working in pairs also showed a slight increase in complex cognition. Using thinking routines in a group and to some extent in pairs to look at a museum object therefore allows participants to build on each other's answers, explore alternative viewpoints, and make connections leading to deeper inquiry (Wada, Reusché and Unger 2011:10). The conclusions from this study showed importantly that the use of the thinking routine Think-Puzzle-Explore not only allows students to learn about the object but also how to look at objects; a skill that could be used outside in other environments. Furthermore, group work not only allows students to interact and exchange ideas but also teaches them how to cooperate in a group respectfully listening to other opinions and sharing thoughts and connections. In this way, using thinking routines in a group environment to investigate objects is useful for developing skills which are useful far beyond the walls of the museum.

This is an interesting and rare documented example of a museum working specifically with one of the routines from Visible Thinking to investigate objects. The majority of museums that are focused on fostering thinking skills in a similar way tend to be art museums and therefore it was refreshing to find this study specifically using thinking routines at an anthropological museum. However, the emphasis for this study is focused on whether group size affects complexity of thinking. The emphasis on data collection also restricted the ability of the facilitator to interact with the students and allow their responses and curiosity to guide new lines of inquiry. The facilitator was asked to read the questions for each part of the routine's three steps and was asked not to answer questions or reveal any

information until the data collection was over. Therefore, the routine was used somewhat rigidly which seems to belie their purpose as broad, adaptable and flexible practices. Certainly, the thinking routine is there to structure and place a framework around the discussion, but the questions asked for each part of the routine can and will vary depending on the group, time of day or any number of other motivations. It is also part of the docent's role to make these interactions varied and fluid – indeed 'the instructor proposes her ideas in a spirit of openness to change, conceiving of such a plan as experimental and flexible' (Burnham and Kai-Kee 2011:14). The facilitator was allowed to share information at the end of the data collection if time allowed, but for the groups who ran out of time, a vital part of the programme was missing – the extra information that allows students to understand in more depth. Rather than providing a platform for the docent to provide information, thinking routines allow a deep exchange between the students and (museum) teacher, in which no two groups will pursue the same avenues of inquiry. Due to the nature of the study, there were also time limits of two minutes imposed on each group for answers to each section of the routine. Admittedly, museums programmes have to adhere to an approximate schedule however, this strict and somewhat short time period seems to run contrary to the spirit of Visible Thinking.

The 'Think Like an Archaeologist' programme at the Haffenreffer museum is a fine example of a multi-visit school programme which capitalises on the combined strengths of three heritage institutions to add another dimension of learning to the local school curriculum. The intention is to grow the programme slowly but it would be interesting to find out if thinking routines will be used again for the museum part of the programme and, if so, whether any modifications will be made to the way they are used.

Conclusions

Whilst this is not a comprehensive review of all strategies for teaching thinking skills, the four programmes discussed here include examples of differing methods and strategies across a variety of institutions. There are key conclusions to be drawn from the examples seen here which are useful within the context of developing a new schools programme for the Tropenmuseum.

All of the examples of museums working with a strategy in this way take full advantage of the benefits of group work where ideas are explored through group discussion and dialogue. Everyone profits from the 'distributed intelligence' of the group as individuals are able to use and build upon other's experience and interpretations. This way of working, variously known as collaborative learning, or a community of enquiry or even 'collegiality' as it is termed by Arthur Costa, has both a cognitive and a social function. As Costa states:

> Together, individuals generate and discuss ideas, eliciting thinking that surpasses individual effort. Together and privately, they express different perspectives, agree and disagree, point out and resolve discrepancies, and weigh alternatives. Because people grow via this process, collegiality is a crucial climate factor. (Costa 1991:19)

Many of the programmes discussed here are also based on multiple visits, some with the emphasis more on the classroom than the museum. The benefits of multiple visits are numerous because students get to develop a relationship with the museum and its educators over time, start to feel comfortable in the museum environment and become confident about sharing their ideas about images (Burchenal and Grohe 2007:117). They also get used to the methods that the programme uses and would therefore have more opportunity to practise and explore new skills. This begs the question as to whether any of these methods would still work successfully in a one-off single museum visit. At what point does a method stop being a strategy and start being a routine? This is something that would need to be carefully thought about for the new programme at the Tropenmuseum.

Furthermore, a thinking strategy or routine needs to be capable of sustaining the interest of the participants and this appears to be best achieved with short strategies, with easy to remember steps with carefully formulated open-ended questions attached to each step. It also seems to be the case that the fewer questions there are the better. It is important to add variety too – maybe a selection of strategies could be used throughout the programme to target different areas of thinking or to keep the programme lively and not too repetitive. Whilst the reiteration of a strategy or routine is useful for students to feel at ease, if the same routine is used continually, will the students lose interest and engagement with the

object or art work? A strategy for developing important thinking skills needs to feel natural and unforced and above all, be enjoyable to use.

All of the strategies used by the museums mentioned here follow similar phases starting from observation to description, interpretation and, in some, judgement. The terms are different but the steps are essentially the same. Careful observation is always the starting point for an approach of this kind. This is an important step and should not be abbreviated in order to move on to the next stage (although it is quite usual for students to want to jump in with their interpretations straightaway). The majority of programmes here, except perhaps for the ones using VTS, emphasise that careful observation as a preliminary step is key to avoiding hurried interpretations and hasty conclusions. Focusing on deep looking followed up by careful describing allows students to see the 'whole picture' and to notice parts they would ordinarily have missed. As a group, they can build on one another's observations. This is a skill that, once taught, is never forgotten and easily transferable to so many other useful contexts.

The debate concerning adding contextual information to the discussion continues to be controversial. On the one hand, it is important to allow the observations to come from the students themselves based on their own understandings and to let them make their own connections without a museum teacher providing a series of facts. Indeed, students are likely to forget information when they are not challenged to think about it or when they are not given the opportunity to make connections between new and prior knowledge (Shulman-Herz 2010). However, there are appropriate and indeed important moments when educators can offer layers of content to extend the discussion further or to advance new lines of inquiry. The museum teacher's role is not to correct errors or misinterpretations (as all opinions are encouraged in all of these methods) but to add a nuanced layer of depth to the group discussion.

These considerations and conclusions formed from these detailed case-studies will play an active role in helping to decide how to approach the development of thinking within a primary school programme at the Tropenmuseum. Equipped with this information, the next chapter discusses the background to the project and how a decision came to be made about what method or approach should be adopted for the new programme.

5. The New Programme *Stories Around the World*

Project Background

In May 2011 the Tropenmuseum was interested in researching the possibilities of creating a new educational programme in English for international primary school children. The aim was to develop relationships with specific teachers at international schools who would participate in focus groups at the museum and be able to offer recommendations based on their needs and requirements for school group visits. Four schools were selected: the International School of Amsterdam (ISA), the Amsterdam International Community School (AICS), the British School of Amsterdam (BSA) and the Violenschool International Primary School in Hilversum. Additional research was conducted on international schools and their curricula and also on the school group programmes currently on offer at the Tropenmuseum. A report was subsequently written containing a series of recommendations and a proposal for the museum as to how they can extend the reach of their educational programmes by offering more possibilities in English.

There are strong parallels between the approach to learning by both the International Primary Curriculum (IPC) and the International Baccalaureate Primary Years Programme (IB PYP) with how the Tropenmuseum understands learning and education in the museum. As seen earlier in Chapter Two, museums have often advocated progressive and innovative practices in education. International schools, free from the constraints of a nationally-imposed curriculum, are usually also innovative institutions due to larger budgets, smaller class-sizes, keen parents, and supportive communities. The International School of Amsterdam has also been a partner school with Harvard University's research group Project Zero since 1998. The school aims to:

> …foster curiosity, creativity, and a passion for learning that inspires students to look beyond simple answers and facts, to pursue truth and understanding. We cultivate students' thinking skills and learning dispositions in ways that lead to greater self-awareness, genuine open-mindedness, and deeper content learning. (ISAb)

There are also strong links between the international outlook of the Tropenmuseum and the goals of international education in helping students to start developing a global awareness and creating opportunities to look at a theme from a local, national and international perspective. The Tropenmuseum's

emphasis lies in contributing to the knowledge and understanding of different cultures, and in increasing public support for international and development cooperation (Tropenmuseum website, 2012). International schools are comprised of many different nationalities which gives their students a larger world view, cross-cultural understanding and the ability to build relationships with people from different backgrounds and languages from a young age. The Tropenmuseum and international schools share this similar world view - that is, perhaps a deep sense and awareness of other peoples, cultures, countries and customs – which makes for an ideal collaboration.

Before discussing what form the new programme should take, it is worthwhile taking a few moments to analyse the existing educational offer at Tropenmuseum for Dutch schoolchildren. For primary schools, there are several educational programmes at the Tropenmuseum including workshops, docent-led tours, activity trails, or self-guiding books. Although all educational offerings for primary children could at that time be provided in English subject to availability, this was not mentioned anywhere in the educational brochure or on the main museum website. All information regarding education at the museum was also only given in Dutch (website and education brochure). Furthermore, all pre- and post-visit teacher resources and student worksheets were available in Dutch only.
As part of the preliminary research, visits were made to the partner schools to assess prior knowledge and use of the Tropenmuseum and to understand more about how each school organised their museum visit programme. Two of the schools visited at this early stage (ISA and Violenschool) were familiar with the museum and had participated in school trips. The other two (BSA and AICS) had not heard much about the museum, nor were they familiar with the collection or the educational programmes on offer. The BSA had never booked an educational visit to the museum despite the proximity of the school to the museum. AICS had only visited previously with secondary-age students and not with the primary school. In these preliminary stages, however, all teachers, were enthusiastic about the Tropenmuseum (whether new to them or not), the possibilities for numerous themes for school excursions and areas for connecting with their respective curricula.

Focus Groups

After the preliminary visits described above were made, two focus groups were subsequently held with teachers from the four participating schools. The first one took place in June 2011 and was attended by seven teachers and two members of staff from the education department at the Tropenmuseum. The second focus group was held in January 2012 and was comprised of seven teachers and two Tropenmuseum education department representatives. Both focus groups were attended by teachers representing a wide student age-range. There were also two teachers present with responsibilities as curriculum coordinators.

Focus Group 1

For the first group, a round-table discussion was held based on the following questions:

What do you want from a museum visit in general?
What subjects or themes interest you in the museum here?
Should the programme be linked to curriculum?
What form should this educational programme take?
What materials do you need/want?

A moderator asked the questions and kept the discussion focused. The aim was to establish clearly what deficiencies there were currently in museum educational programmes for international schools and what form a new programme should take.

The participants generally agreed that a museum visit for an international school involves a large amount of extra work by the teacher. This work involved translating existing worksheets or making telephone calls to bookings offices to ascertain what is available for students in English. Therefore, there is a tendency to visit the same museums every year because the school knows the field trip 'works'. Quite a few teachers prepare their own programme for a visit due to a lack of resources available in English and therefore it makes sense to repeat visits to the same institutions every year.

All teachers admitted to preparing before a visit and would like material in English to help with this. Post-visit material would also be a bonus as follow-up work is always carried out. The point was made that schools have to be very clear about their aims when visiting a museum:

'…we have to be very careful about how we use our time and what goal we have when visiting a museum. Have to do so much in the 6 weeks of the inquiry unit. Have to be very critical and very specific and have a goal in mind about what we want to share with the children.' (Violenschool teacher)

Interestingly, teachers at the focus group were interested in a thematic approach that would visit several areas of the museum rather than an approach which focused on a specific geographical region. For the visit, the teachers were keen for the focus to be around the whole museum on specific elements. The teachers explained that students complain when they only see part of a museum. If they have come for a music workshop, they sometimes wonder why they do not see the rest of the museum. Several suggestions for themes were mentioned during the meeting – music, storytelling, performing arts, celebrations, rites of passage, rituals – many of these were connected to themes or units of inquiry studied throughout the primary years. The teachers were also keen on a flexible approach that could apply to multiple schools and year groups.

When it came to discussing the format, important points were made which would have a strong bearing on the future programme. Questionnaires and worksheets were criticised for sometimes leading to narrow thinking. There was an in-depth discussion about the use of questions in the new programme. Questions should be open-ended with answers varying depending on how the student *experienced it for themselves*.

'Personally I would like to see things with open-ended answers…the answer for everyone could be completely different but it gives them a way in to a subject [...] It's a record of **their** interpretation of the theme.' (ISA Teacher)

Within the IB PYP, students focus on what they want to find out. The IB PYP teachers also emphasised the importance of making the children really aware of what theme they are working on, so that they look at the museum from a different perspective. This would help them to experience the richness of the subject. The ISA mentioned their involvement with Visible Thinking and explained how it asks students to look at the way they think.

> '(We have) done a lot of work with Visible Thinking, getting children to look at the way they think. Thinking routines – it might be worth you having a look at them. Like 'what do you know now that you didn't know before?'' (ISA Teacher)

The teachers were undecided as to whether they would prefer the new programme to be led by a school or a museum teacher. There were some concerns about how museum teachers would engage with students in their non-native language. On the other hand, teachers acknowledged the qualities of those museum teachers that have great teacher skills (such as knowing how to place children when looking at an object and how to solicit questions from the children).

In summary, the first focus group was successful in achieving its objectives. The discussion was lively and practical. All of the participants expressed interest in further involvement with the Tropenmuseum including further focus groups and helping to pilot any potential programme. Despite the fact that the focus group was held at the end of the school year everyone was happy to dedicate time and energy to discussing the ideas and proposals, testament indeed to the enthusiasm for the project.

The comments from the focus group enabled the creation of a proposal for the Tropenmuseum for a new programme in English for international schools and provided multiple reasons for why the project should go ahead. Strong arguments were made for why the new programme should not be a translation of an existing programme and for why new approaches should be used in order to reflect the innovative culture of learning visible at all of these international schools. This excerpt from the proposal reflects this:

> The details of what the groups would undertake at the museum are still to be researched and developed...The teacher or museum teacher could introduce the object and ask the group questions about it to encourage observation of the object itself (rather than the label). Then there could be time for the pupils to fulfil an open-ended task associated with that object or story. These should be multi-outcome (to allow group interaction), free-choice as much as possible and be multi-modal (visual, verbal, participatory). There should not be a great deal of tasks to achieve as this can limit interaction and discussion within the group. The tasks could also allow students the opportunity to explore on their own (Bown, 2011).

Focus Group 2

The focus for the second meeting in January 2012 was to decide on a theme from a shortlist, discuss how the new programme should be approached in the museum itself and what format the teachers resources should take. There was also time to debate whether the programme should be led by either a school teacher or a museum educator and how the new programme should be piloted.

The three themes on the shortlist were storytelling, migration and celebrations. These themes were shortlisted because they featured across all of the international primary schools at one or more grade levels and were common to a number of units of inquiry (IB PYP), thematic units (IPC) or topics (UK National Curriculum). After much discussion, storytelling was eventually chosen at the focus group. This is because of the breadth of the theme – it fits in with most of the themes throughout primary and crops up in many units but also it is used for general literacy across the units.

Before the second focus group an agenda was sent out detailing the subjects to be discussed, including the approach or method. It was stated that whilst the content of the new programme was important, it was difficult to be able to link the new programme directly to the different curricula on offer at international schools (especially the IB PYP where units of inquiry are designed by each school individually and regularly changed). Therefore it was proposed that a strong emphasis would be placed on the approach to learning in the new programme. This would also link directly with the ethos of the curricula of international schools and echo the sentiments expressed by the teachers in the first focus. Visible Thinking was introduced to the teachers with the intention that elements of it, primarily thinking routines, would be used in the new programme. It was mentioned that whilst thinking skills have been successfully targeted in museum

programmes in United Kingdom and in United States recently, there were currently no programmes working in this way in the Netherlands. The teachers with no prior knowledge of Visible Thinking had time before the focus group to acquaint themselves with the basics of the approach and to look at some key thinking routines.

On the day of the focus group, there was an enthusiastic response from the teachers towards the proposal. For the teachers not used to working with this method, they appreciated different ways of approaching the curriculum and the fact that students would take away a new skill from the museum that could be further developed back in the classroom. All teachers liked the way the routines forced children to slow down and look at things for a long period. Leading on from this, teachers positively discussed an idea for a slow tour focusing on teaching observational skills, one in which less would also mean more: the new programme would also involve fewer objects observed for a longer time in much greater depth.

> 'Thinking routines would work very well in a museum setting as they make you look at things for a very long time. Children are so used to skimming and looking at things quickly. It would be great to have the time to study something. I like the idea of having small groups to work on fewer objects – you would hope that they would come back with their parents or go to any museum and know how to look at objects and teach their parents.' (ISA Teacher)

The teachers were enthusiastic about employing a dialogic approach using open-ended and divergent questions. Students from international schools can bring many perspectives to the museum – especially those that may have visited or lived in one of the countries featured in the permanent exhibition – and opening up the programme to involve dialogue and discussion would allow those voices to be heard.

‘(With this approach) there are no right or wrong answers. The students see things that we, as teachers, do not see. Everybody is important, everyone has a different perspective.’ (Violenschool Teacher)

‘Student will have a totally different perspective to the guide – being from an international school there is a good chance they will have visited the country or lived in the country. It’s a completely different perspective from adults.’ (ISA Teacher)

This second focus group also made a decision on the question of whether the new programme should be teacher or museum teacher led. This was a lengthy discussion but ultimately it was decided that the new programme would be better conducted by a museum teacher, albeit one who can offer something new and fresh to the field trip and is more of a facilitator than a guide:

‘(It is) normal when you go to a museum for the group to move from object to object listening to the guide. But what we are thinking about is totally different. If a guide is involved, we want them to be questioning, doing the activities, (a) totally different type of guide.’ (BSA Teacher)

The Basics of the New Programme

On the basis of information given at the focus groups detailed above and previous research into the international school and Tropenmuseum contexts, it was decided to create a thematic programme based on a relevant subject that was linked to units or themes that international schools study over the course of Primary School. The programme would focus on one theme which would be explored with a museum teacher through a series of objects available in different parts of the museum. As mentioned above, the theme chosen was stories and storytelling,

primarily because it is common to all schools regardless of their curricula and reoccurs throughout the primary years.

The new programme was to offer detailed information for the teacher – something that had not been available hitherto in English. This teacher's pack would contain detailed information about each object and its associated 'stories'. This information would allow the teacher to feel better prepared for the visit and more knowledgeable about the collection at the museum. It would also contain useful pre- and post-visit activities to enable the teacher to extend the learning process before, during and after the visit. In the Teacher's Pack there would be suggestions for the teacher on how to prepare the group for the visit to the museum in order to get the most out of the trip.

Based on a series of objects, the museum teacher will lead the groups around the museum, object by object. The aim therefore is to encourage observation of the object itself (rather than the label), and to emphasise slow-looking and increase participation. There would be fewer objects explored in more depth. In a standard highlights tour at the Tropenmuseum anything from eight to fourteen objects are shown by the museum teacher in an hour. In the new programme, it was intended originally that only four to six objects would be explored (this was later revised to three to four objects per hour once the pilots had demonstrated just how long could be spent looking at a single object, even with young children). As this was intended to be more than a content-driven programme, the aim was to allow students to explore and discuss the objects for themselves using a structure to guide their thinking. The museum teacher would act as a facilitator of this discussion and not an expert.

Following several visits to meet with teachers at ISA and Violenschool and after witnessing and hearing about the progressive approaches in use in their classrooms, research was carried out as to whether any such methods could be employed within a museum setting to encourage the particular skills of observation, description, interpretation and analysis. The research led to extensive reading about Visible Thinking and in particular, thinking routines which seemed logical for use with objects and images in a museum. Earlier research into other museums using methods to foster thinking skills had also shown that routines were adaptable and indeed highly effective in a museum environment.

6. Visible Thinking

Visible Thinking is an initiative that has been developed over a number of years by researchers at Project Zero with the collaboration of various schools. Project Zero was set up in 1967 as a research group at the Harvard Graduate School of Education in the United States to investigate the development of learning processes in children, adults and organisations. Its mission is to understand and enhance learning, thinking, and creativity in the arts, as well as humanistic and scientific disciplines, at the individual and institutional levels (Project Zero 2010). Project Zero has worked with schools on all levels and ages in the United States, Europe (including the Netherlands) and Australia.

Visible Thinking is a broad framework for cultivating deep thinking and a deeper understanding of the curriculum. It is concerned not only with developing how well people think but also how disposed they are in the first place. Therefore, this is a dispositional approach, infused across the curriculum and subject matters from early years to university level, which has at its ultimate goal the creation of a 'Culture of Thinking' (for more information on approaches to teaching thinking, please refer to Appendix I). It allows the involvement and participation of students at both an individual and a group level based on the premise that thinking development is a social and collaborative endeavour (Ritchhart and Perkins 2008).

The vast majority of thinking is invisible, that is, it happens 'under the hood' (Perkins 2003). This approach helps educators to work to make thinking and opportunities for thinking much more visible in classrooms and other learning environments. When this happens, the opportunities for learning expand. By making thinking visible, teachers can establish exactly what misconceptions or understanding exist regarding a particular subject. It reveals prior knowledge to which the teacher can link new information, thereby activating students' curiosity and engagement with a topic. The 'visible' element can also provide a springboard to further discussion and lines of inquiry and help students to learn from each other.

Visible Thinking is used as the instructional approach in several projects including ones with international schools. The International School of Amsterdam has been a long-time partner with Harvard University's Project Zero and Visible Thinking Project and organises the biannual 'Cultures of Thinking' Conference.

'Artful Thinking' was developed to help teachers regularly use works of visual art and music in their curriculum in ways that strengthen student thinking and learning. Some museums, particularly museums in the United States, now also use elements of visible thinking as an educational approach in educational programmes, written resources and student activities, although only limited research has taken place thus far as to the efficacy of these elements in a museum environment.

At the heart of the Visible Thinking are practices that help achieve the goals of the approach – such as thinking routines and documentation. In this thesis, the focus will be primarily on the former but attention will also be paid to the latter, as they are inextricably linked.

Thinking Routines

Focusing on thinking routines is one of the easiest and most accessible ways to start working with Visible Thinking. A routine is simply defined as a sequence of actions or patterns of behaviour that are regularly followed or rehearsed. There are different types of routines – some emerging slowly over time or others that are adopted explicitly (Ritchhart 2002:86). Classroom routines fall into the latter category and are more goal-orientated and deliberate than, say, a habit or a ritual. They are designed by the teacher to achieve specific and certain tasks in the most efficient or productive manner – for example, handing out books and lining up in class. Ritchhart (2002) further defines four categories of classroom routines: housekeeping, management, discourse and learning. Thinking routines differ from these routines in that they are tools specifically designed to help, support and guide student's mental processes or thinking. They consist of short, easy to learn and teach steps that get used in a regular fashion. With habitual use students are able to automatically cue the steps of the routine themselves. Their names are catchy and appealing too – See-Think-Wonder, Think-Puzzle-Explore – helping students to learn them by heart and to put them to use independently.

Thinking routines have two additional characteristics that are distinct from other routines: they can be used across a variety of contexts and they exist as both public and private practices (Ritchhart 2002:92).Therefore, they can be used in a school, university, or corporate environment with ease and with diverse age groups. Nor are they subject-specific either – thinking routines have wide

applicability in arts, history, maths and science contexts. Furthermore, they can be easily used outside of the classroom and on an individual as well as a group basis. These last two additional characteristics are particularly pertinent for the use of thinking routines in museums.

Thinking routines offer a new way of offering critical thinking instruction. What separates them from other thinking skills programmes is the way that they enculturate a disposition to think (Ritchhart 2002:110). When used regularly and as part of the learning fabric of the environment, routines help to develop a culture of thinking.

Documentation

One of the practices of this approach closely linked to the idea of making thinking visible, is the use of documentation as a means of recording the learning journey. This can take many forms – such as the use of charts or tables, mind maps or lists, audio or videotape and photographs. Sometimes the teacher will write down the thoughts of the students (say, during a class discussion) whilst at other times, the student will be asked to write down their thoughts in a journal. It can also be a visual display (often called the 'Thinking Wall') which shows the process of learning rather than the end-product. In order to reflect on the thinking taking place in the classroom it is imperative to analyse, interpret and evaluate the documentation produced. Students look at their own work and reflect on what they have learned and how they learned it. Teachers can reflect on how to improve their own practice. This practice is not just limited to Visible Thinking, Claxton (2004) talks at length about 'reification' of learning moments or achievements through photographs, learning stories and student-made posters that record a list of student-generated ideas on certain subjects that not only reflect the learning journey that has taken place but also offer suggestions for helping students out in their work.

Visible Thinking in the Museum environment

As routines are part of the classroom, so they are also an integral part of museum education. Every museum has rules or guidelines to keep visitors and the collection safe. Students and teachers are reminded of the correct behaviour as they arrive at the museum. These rules help students to understand what to

expect and what to do. Therefore, imagine the benefits if students could also learn a new routine that would help them to adjust to the museum learning environment and to make sense of the objects or art works they are seeing in a memorable and engaging way? Imagine if a museum used these routines to invigorate their practice and facilitate open-ended discussions with student groups in a collaborative dialogic process?

Thinking routines are flexible and easy to remember. Unlike other strategies, the steps are short and memorable. They have their origins in the questions developed for the Visual Thinking Strategies (VTS), but the routines of Visible Thinking go much further and deeper. VTS, which has been used extensively in art museums, focuses more on visual clues whereas thinking routines allow the exploration of more abstract concepts. There is also a long list of different types of routines which are grouped into five broad categories: core, understanding, truth, fairness, or creativity. Each routine encourages certain types of thinking and the name of each routine helps to guide the student to the type of thinking required - for example, observing closely and describing, reasoning with evidence, making connections and wondering. In order to be effective tools, it is important to establish first the type of thinking that the teacher would like to elicit from the students and then choose the correct thinking routine for that task (Ritchhart, Church and Morrison 2011:46). This also allows different types of thinking routines to be used easily around the museum for different objects and in different types of programmes and to specifically focus on certain types of thinking.

Therefore thinking routines could be employed within a wide range of subject areas and in many types of museums – and certainly not just in art museums – to target and develop a wide range of thinking skills or dispositions. As we have seen earlier, there have been many other strategies developed for use in museums, particularly in the art museum field. Some of these strategies were originally developed for the criticism or interpretation of art, rather than for the goal of developing thinking and making it more visible to students and to teachers. These earlier incarnations were also called strategies rather than routines, implying that they are for use on a one-off basis rather than for repeated use, which enables people to remember them and use them independently in no time at all.

The flexible nature of thinking routines also allows the museum docent to add factual or supplemental information as and when required by the group to deepen learning and where appropriate. Whilst it is not always necessary to add factual context, in some situations, where new lines of inquiry could open up, it can give an object discussion new life and vigour. Thinking routines can also be used flexibly in their format once educators have got used to using them – steps can be omitted or changed or educators can even develop their own routines based on the Visible Thinking ones. Their flexibility stretches to age too – studies have shown that routines have been used successfully across the age ranges from the very young, through to school years and to university and beyond. Medical students and police officers have used thinking routines to help develop skills of analysis and interpretation.

Thinking routines work well in groups. As learning is chiefly a social and collaborative endeavour (Ritchhart 2007:149), it makes sense to use routines in spaces where students get together to learn, namely in a museum environment. Routines extend the conversation in the group as everyone feels at ease offering thoughts to the discussion. There really is a level 'thinking-ground' using the routines as there are no right or wrong answers and students become open and receptive to all comments. The process of using a routine would also help to teach students to respect and listen to other's opinions – useful skills that would transfer beyond the museum environment.

Not only do the routines allow the development of new, transferable skills, they can also change the relationship between the museum teacher and the students in the group. They allow a much more balanced discussion based on open-ended questions where everyone can comfortably take part and share their ideas. The routines make the students thoughts visible and can show the museum teacher just how much the students have understood about a particular object, story or concept in the museum. They can also allow the sharing of insights that the museum teacher may not have heard before himself.

The stages of the routine structure the conversation for both the museum teacher and the students. Therefore everyone knows what to expect. Observations are voiced before interpretations are offered, thereby reducing the amount of hasty first-glance reactions. As the museum teacher works through the easy steps of the routine, the comments of the group are documented on paper

for everyone to see and for the museum teacher to refer back to if necessary. These comments could be useful for the class teacher back in the classroom too. The museum teacher can also model the language of thinking with the group to develop language and communication skills ('I see, you made a connection').

Thinking routines are more than a strategy; they provide a structure for making meaning and give students an introduction to the process of thinking and how it applies to learning. They are adaptable to many contexts and environments and can be used with and by all age-groups. Thinking routines are easily applied and remembered which makes them ideal for use with non-native English speakers (for example, with museum teachers and many students from international schools). When compared with other strategies or approaches, thinking routines seemed ideal for use in a museum environment. Although largely untested and untried in ethnographical museums to this date, the routines seem ideal for encouraging the exploration of ideas, sparking curiosity and provoking debate with the eclectic collection of the Tropenmuseum.

7. Pilot, Evaluation and Recommendations

Experiences from the First Pilot

The first pilots took place on two consecutive days with three of the partner schools (the ISA were unable to take part on this date due to personal circumstances). Each school brought one class or approximately 20 students with 1 teacher, a teaching assistant and one or more parent helpers. Each class was split into two groups in order for the group size to be kept small with one group following the programme in a forwards direction and the other started in reverse order. There were therefore approximately ten students per museum teacher. There was a class from the age range six to seven years, one from eight to nine years and one from ten to eleven years. All pilot groups were led by a museum teacher accompanied by an observer who filmed prominent parts of the interaction and made field notes.

FIGURE 7 PHOTOGRAPHS FROM PILOT 1

The pilot had to be moved to an earlier date due to differing school holidays amongst the international schools. Therefore, it was decided that there was not sufficient time to train the museum teachers in the new method and museum education staff would act as museum teachers for the pilot. This proved to be a wise decision as the department had been introduced to the new method for some time before the pilot date, had read several articles about Visible Thinking and were therefore well aware of the key principles of the methodology. Unfortunately, at the last minute one of the museum education staff was unable to lead the tours on day one and a member of the collections department courageously offered to step in – this offered us considerable knowledge about the museum collection and

objects in the new programme but less prior knowledge of thinking routines or Visible Thinking itself.

All teachers were sent a copy of the Teacher's Pack (see Appendix II for a copy of the final version of the Teacher's Pack) containing information regarding the museum, the programme and all the objects included in *Stories Around the World*. The Teacher's Pack also contained suggested pre- and post-visit activities and activities to do in the allocated free-time at the end of the programme. The pack describes Visible Thinking and thinking routines in detail for teachers who are not used to this approach. Full examples of all the thinking routines are also given.

After the pilot, all of the schools that took part were visited and the teachers were interviewed about their experience of the new programme. They were asked questions regarding the teacher's pack, pre-trip preparation and the actual visit. The teachers had also asked their students to fill out short evaluation questionnaires on the new programme. Finally, the museum teachers were also asked for feedback following the pilot to ascertain their experience of working with the new method and how they had experienced using the thinking routines in a museum environment.

Pilot Conclusions

Principal Conclusions

The first pilot was a useful exercise to gauge how the thinking routines would work in the museum with the new programme. As mentioned previously, due to unavoidable last-minute changes to the museum teachers one of the pilot museum teachers was less familiar with the thinking routines, however, this provided an opportunity to see if the routines were suitable for you use without much prior training.

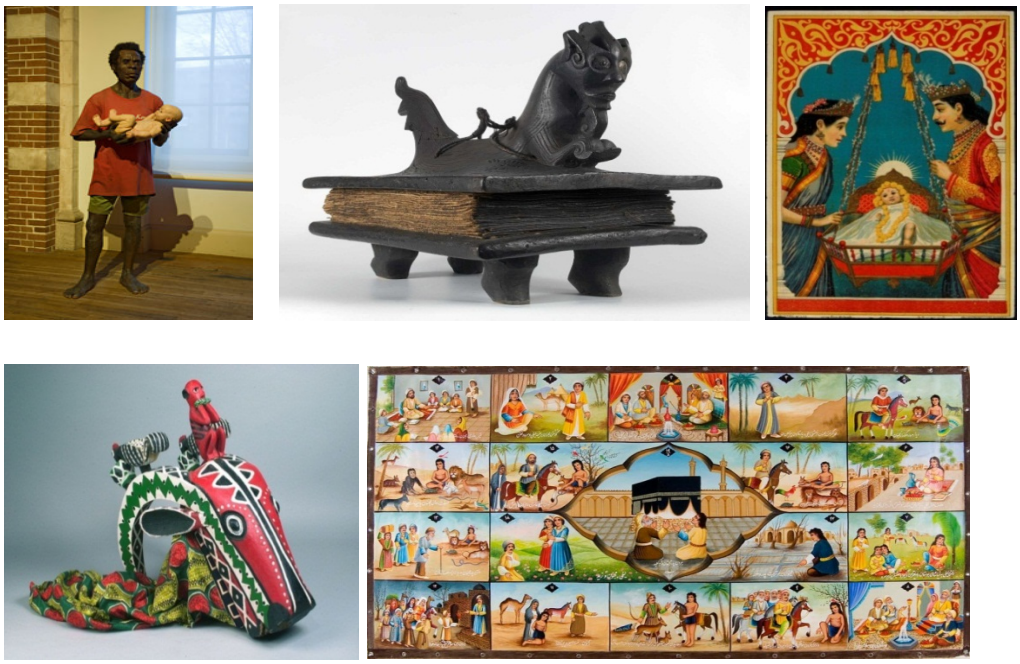
There were several general comments that arose out of the pilot sessions. Firstly, it was felt that more differentiation between the ages was needed. The six to seven year olds proved the most problematic group in the pilot sessions with not all of the students engaging and participating fully in the routines. Stories Around the World was developed to appeal to a wide age-range (from six to twelve years) however, it was felt post-pilot that the younger children should be offered a different sequence of objects and simpler thinking routines for exploring

them. Within this age group, there are some international schools that have already started to teach reading and writing and others that are more in line with the Dutch educational system and have only just begun. It was felt that more research needed to be undertaken with how the thinking routines could be adapted for the youngest students. Both student groups from AICS were easily distracted and sometimes showed a lack of concentration. Surprisingly, the teacher from this age group felt it worked well with his class of six to seven year olds:

> "They pitch it at their own level because they are the ones asking questions. Maybe there could be different objects for the younger children but as a learning experience it was very good, in depth and not superficial…We would like more time with the guide next time!" (AICS Teacher, Group 3 Class).

Secondly, it was felt that the programme should be longer. One hour was allocated with the museum teacher for the pilot. All groups felt that they wanted up to an extra thirty minutes with the guide, even for the youngest children. There was also debate amongst the teachers as to the number of objects that they would like to see during the visit. The museum teachers thought that three objects was sufficient for an hour in order for the programme to avoid feeling rushed and less detailed. The teachers, however, felt that if the programme was lengthened, then there would be ample opportunity for the groups to study another object, thereby creating the impression that they had 'seen' more of the museum.

The objects themselves were considered diverse and thought-provoking. Care was taken when designing the programme to include objects that were located throughout the whole of the museum on different floors and that different types of objects were used to pique interest. Therefore in the pilot programme there was a mix of objects – modern sculptures were contrasted with paintings and puppets with ancient books.



A selection of objects included in the programme for Pilot 1. From top left to right: 'Madonna (after Omomá and Céline)' by Roy Villevoye (2008); Pustaha from Indonesia (1852-1857); Print of the birth of Rama (circa. 1920-1930); 'Sigi' carved by Mamari Fane in Kirango, Mali (1994), Layla and Majnun narrative painting, Ahmad Khalili (2006).

FIGURE 8 A SELECTION OF OBJECTS FOR PILOT 1

The objects needed to relate to the theme of stories and storytelling, but also had to be engaging enough for detailed observation and discussion. Within the pilot programme for *Stories Around the World*, there were two sections (at the Ramayana prints and the Layla and Majnun narrative painting) that were designed for a more detailed exploration than the others. At these two sections, many of the key concepts for the programme were discussed (stories around the world similarities and differences, story sequencing, story characters, how objects tell stories). These more time-consuming sections were interspersed with shorter activities at the other objects. These sections also required more interaction from the students – writing rather than speaking – and thus proved to be time-consuming. However, students and teachers welcomed the use of a different modality within the programme and for a more in-depth discussion of how stories work relating to famous international examples.

All of the objects were well-received in the first pilot although some of the teachers remarked on the interactive buttons, touch screens and films distracting the attention of the students at some of the objects. The objects will be discussed in more detail in relation to the thinking routines below.

Thirdly, as a learning experience it was widely thought to be a huge improvement on what these teachers were used to experiencing at Dutch museums with international school groups. The students noticed the increase in interaction and participation and felt strongly that they were being listened to and that their opinions were valued and respected. Students also commented on the difference in approach – they liked that they were leading the discussion with the museum teacher acting as a facilitator rather than an expert. This, in turn, led the students to say that they understood much more and to use words like 'amazing' and 'interesting' in describing their experience. For them, it was a refreshing change from what they were previously used to on field trips and museum visits:

"I liked the interaction part" (Student, Violenschool, Group 7, 10-11 years)

"It was amazing" (Student, AICS, Group 3, 6-7 years)

"(I liked) how real the things looked and the way they explained it" (Student, British School, Year 4, 8-9 years)

"(I liked) that they asked us questions instead of them just talking" (Student, Violenschool, Group 7, 10-11 years)

For the first pilot, the teacher's pack was sent one week before the pilot. All of the teachers involved asked for the pack to be sent more in advance, in some cases up to one month. This would allow teachers to work the relevant parts into their planning and to prepare the student properly for the visit to the museum and the thinking routines. They found the pack a good length with plenty of detailed information. Information and resources for teachers was one of the points that came out of the first focus group as lacking in museum visits by international schools.

The pack is also intended as an introduction to Visible Thinking and thinking routines for the schools. There are detailed explanations of the new method in the Teacher's Pack and even suggestions for using the routines pre-visit so that students can benefit more on the day of the museum trip (whilst the routines do not necessarily need practise beforehand, it stands to reason that the students who have used them previously will gain understanding more quickly). Out of the pilot groups, only one teacher prepared their class for the visit – the six and seven year olds from AICS spent some time beforehand looking at the museum, its collection and discussed how museums work. They also touched on the story of the Ramayana, looked at a world map and located the countries that the objects originate from. The BSA teacher admitted that they had not prepared due to time constraints and because the group had already visited the museum in January that year. He did say that he used the pack extensively after the visit to follow-up on the themes that had been discussed at the museum.

Whilst the content of this new programme is not as important as *how* it will be approached, it is still imperative that there is an appealing theme to attract international schools to the museum and that the narrative thread is clear throughout the programme. The teachers found this to be the case although mentioned that it would be a good idea to have an introduction to the theme at the beginning of the visit and a short introduction at each object explaining the concept that the group will be discussing. This would help to focus their thinking and help with pushing the discussion further using the thinking routines. The theme was rendered less-important because of the approach to the programme – facts became less important than observing closely and making interpretations and connections.

Thinking Routines

It is important to note that whilst there was a suggested order for the groups to follow (group 1 followed the programme forwards, whilst group 2 worked in reverse), there was room for flexibility and judgement was left up to the museum teacher as to which objects to focus on. Furthermore, whilst a running order of the six objects had been prepared, it was understood that not all groups would see all six objects. Some museum teachers spent longer at some objects than others and this had an impact on other groups in the museum. Ten minutes had been roughly

allocated per object but it became quickly evident that this was not nearly enough time for the kind of in-depth discussions that the thinking routines created.

The thinking routines were all repeated throughout the programme with the express intention of giving students a chance to try them out more than once – a 'practice-whilst-you-visit' if you will. Although thinking routines are designed for repeated use in a classroom setting, they are also easily used in other contexts and environments. As mentioned earlier, two of the partner schools for the project are familiar with thinking routines. Of these, one of the schools took part in the first pilot – the Violenschool in Hilversum. This was an older group with students aged ten to eleven years, and on the whole, they did seem to use the routines with less effort than the groups new to the approach. However, none of the other groups struggled to use the routines. There were issues of bypassing certain steps in the routines and a lack of documentation of student's thoughts, but this is something that can be rectified once the museum teachers are more used to using the routines. The routines are designed to be used flexibly once (museum) teachers have got used to using them.

It is hoped that all future schools signing up for this new programme take the time and effort to introduce thinking routines to their students before coming to the museum in order for the approach to become more of a routine and less of a one-off strategy. Of the schools new to this approach, both said that they already use similar approaches in class (the KWL protocol, for example) and that they would definitely use the routines again in the classroom. It would be interesting to see how students would benefit from using these routines if they were given an introductory lesson at school or even the repeated visit pattern of a multi-visit programme.

The objects chosen for the beginning of the pilot programme (in forward and reverse order) are both intriguing and captivating objects with an element of mystery (Figure 9). These were chosen as ice-breakers in order to immediately engage the group and kick-start their thinking. It was also thought that their appealing nature would encourage all members of the group feel happy to contribute to the discussion.

FIGURE 9 'MADONNA (AFTER OMOMÁ AND CÉLINE)' BY ROY VILLEVOYE (2008); 'SIGI' CARVED BY MAMARI FANE IN KIRANGO, MALI (1994)

The routine chosen for the beginning of the programme is one of the simplest and easiest to remember – See-Think-Wonder. This routine is also repeated throughout the programme to encourage a familiarity with the steps and hopefully encourage students to recall it after leaving the museum. At 'Madonna (after Omomá and Céline)' (Figure 9) students were generally fascinated and spent a long time looking and stating what they saw.

> 'I liked the bit when we looked at that man because it looked very real'.
> 'I liked the statue of the man best because it was realistic.'
> (Students, Violenschool, Group 7, 10-11 years)

Using the flexibility that is built into these routines, one of the museum teachers asked the group to see and share in pairs with the words written down on sticky notes. Each pair explained afterwards why they had used certain words, offering reasons and evidence for what they saw. This object genuinely intrigued the students and provoked lots of stories and interpretations. Some of the museum teachers finished at 'Madonna (after Omomá and Céline)' by using the Headlines routine which asks students to come up with a sentence or phrase to capture the essence of the object. This routine worked well and provoked multiple responses reflecting different interpretations. It also gave the museum teacher room to offer extra information about the object and artist. 'Sigi' also worked well as an object to start or end the programme. As it is so visually engaging as an object, students are immediately interested in what it is, the way it works, and what it is used for. The film that accompanies this object on a constant loop is

marginally distracting to the discussion but helps to see the object in its original context and the students found this particularly fascinating.

Some students, especially the younger students, found it hard to concentrate on simply looking at an object for an extended period of time and felt the need to move around and look at other artefacts or areas of the building. Others wanted to shout out their thoughts immediately. This may well have initially been caused by the well-documented 'novelty factor' for students on school museum visits which can impede learning (Piscitelli and Anderson 2000; Falk, Martin and Balling, in Bailey 1999). Again, this is something that the museum teachers can work on and develop strategies to encourage the sort of slow-looking that this approach requires. Furthermore, museum teachers could assist the students by explaining what 'looking' actually means – focusing on every detail, moving around the object, looking high and low, at the back and at the front, looking for things that you would normally miss out of haste and so on. With the younger groups, museum teachers could also direct the student's looking to focus on shapes, colours, size and so on to offer a structure to the observation. Once the students had mastered the ability to look for a short while, it did help to calm the group's initial 'museum excitement' and concentration levels were very good.

Another issue arose from the museum teacher asking the group what they could 'see', many students wanted to jump in quickly with interpretations. Some of the guides gently reminded students to go back to the 'seeing' – stating that only things that you can physically touch are things that you can see. The conversation about what the students observed flowed naturally with lots of enthusiastic responses from the majority of students in each pilot group. Of course there will always be some students who are keener participants than others, but this method allows everyone to share their thoughts and for their thoughts to be listened to and valued. It is this 'culture of thinking' or community of enquiry that distinguishes this approach from other methods. The museum teachers worked hard to follow up items that the students had noticed with requests for evidence ('What did you see that made you say that?') and for further observations ('What more can you find?' 'What do new things do you see now?'). This helped for the discussion to continue way past the allotted time for each object.

Some of the routines worked better than others in conjunction with the object they were used for – this could be due to many factors: confidence of use

by the museum teacher, age of the group or interest in the object. It would be fair to suggest that by the second day, the museum teachers were more comfortable with the design of the programme and more comfortable using all the thinking routines. The Explanation Game was chosen as the thinking routine to use for the *pustaha*, an ancient book and one of the most treasured objects in the Indonesian collection of the Tropenmuseum. The *pustaha* is an intriguing object and needs careful examination to ascertain exactly what it is and what it was used for. The Explanation Game is designed for observing closely, making interpretations and reasoning with evidence. By putting together a visible list of the parts of this object, students are then asked to explain these features and to give reasons. Whilst the instructions for the routine warn against this becoming 'guess the name of object' this is entirely what the students attempted to do. With all of the pilot groups, students were immediately drawn to shouting out interpretations despite the museum teachers' efforts to return the discussion to the parts of the object. The students found it hard to generate the list of 'parts' necessary for the first step of the routine. The museum teachers thought that maybe the object was less appealing for the students. However, interestingly enough, the school teacher's and student evaluations showed otherwise. Student evaluations showed that they were fascinated by this 'book of spells'. In summary therefore, it may be worth trying out a new routine for this object. This would also work better here logistically - the museum teacher needed to cover up the label on the display case (which tells visitors exactly what this object is) and this caused students to wonder what was behind the white sheet rather than spending time looking carefully at the actual object.

"I found out about a book of spells with a mythical creature on top. It is one of the oldest ones in the world!!!" (Student, British School Year 4, 8-9 years)

Figure 10 *Pustaha* from Indonesia (1852-1857)

Some of the objects were more successful than others in engaging students to share their thoughts. Only one group of six to seven year olds saw the shadow puppets - w*ayang Diponegoro*. Unfortunately, the large interactive screen in front of the objects proved too distracting for the children to concentrate on the steps of the thinking routine and, although the students noticed many details, the discussion lacked the depth of others by the same group. The screen also makes it difficult for the entire group to see the objects at once which made it hard for students to focus on the task in hand.

The two longer sections of the programme – a narrative painting of the story of Layla and Majnun and eight prints showing scenes from the story of the Ramayana – proved very successful, if time-consuming. Students asked questions, looked closely and answered each other's questions. For both stories, the thinking routines 10x2 and What Makes You Say That? were used. For the Layla and Majnun painting, the students first lay back on a bed of cushions to study the painting in detail. They are then encouraged to generate a list of ten words either individually or in groups on sticky notes. Students took this seriously and were generally silent when looking. Then the group came together and generated another list of ten words. All of these words were made 'visible' using a large portable white board. The word bank created by the students creates a discussion of story. After each word is added to the word bank, the museum teacher asks questions such as 'What makes you say that?' in order to push further for reasons and evidence. During the pilot the different groups made many connections in the painting with Arabic writing and culture, Islam and Romeo and Juliet. Some of the children were familiar with both the story of Layla and Majnun and the Ramayana and enthusiastically told the group about their personal connections to the stories.

For the story of the Ramayana, the children were divided up into small groups and were each given a laminate of the print to be studied on the floor (the originals are rather high up for small children to study closely). Each small group generated a list of ten words using post-it notes which were then stuck on the laminate. Each group was then called up by the museum teacher one-by-one to read out and discuss their words. Through their words, the group were easily able to tell the story of the Ramayana together scene by scene. A minor issue here was that the writing of the words was troublesome for the younger children and took

too long. Perhaps this age group should be encouraged to draw five to ten things about any aspect of the picture.

Whilst the reactions to the first pilot of *Stories Around the World* were extremely positive, there were some issues with the youngest participants – the six to seven year olds. After evaluating the responses from the observers, museum teachers, class teachers and students, it was decided to differentiate between the age groups and to create a separate teacher's pack and programme for the youngest age group. This new programme for six to seven year olds would consist of sixty minutes with the guide, with a more appealing range of objects for younger children and a simplified set of routines. Once the alterations and changes were complete, another class of six to seven year olds was invited to come and pilot the changes.

Experiences from the Second Pilot for 6-7 year olds

The second pilot took place three months after the first. This allowed time to carry out research into new objects suitable for use for the programme and to develop additional materials for inclusion in the Teacher's Pack. This also allowed adequate time for research into using thinking routines with young children.

This additional research showed that, as an adaptable set of practices that are easy to use and learn, thinking routines are equally effective with the very young as they are with university graduates, given that adequate consideration is given to the age and capabilities of the children. A study group of early childhood practitioners carried out research on a group of three and a half to six year olds in the United States with the goal of adapting thinking routines to young children and engaging them in deep thinking (Ritchhart and Perkins, 2008). The research found that when thinking is integrated well into the everyday routine, young children become much more aware of situations that call for thinking and therefore build up positive attitudes towards thinking and learning (Salmon 2010). Several thinking routines were successfully adapted for use or employed strategically across a range of disciplines and during different types of activities throughout this research. Teachers can also assist the use of thinking routines with the very young by modelling what thinking looks like (Ibanez Wolberg and Goff 2012) , simplifying the steps of the thinking routine (for example, by taking 'Think' out of See-Think-Wonder (Ritchhart et al, 2006)) or by asking students to draw their

observations or thoughts. Alterations were made to *Stories Around the World* to make it more suitable for younger children keeping this encouraging research firmly in mind.

FIGURE 11 SCENES FROM THE SECOND PILOT

(FROM LEFT TO RIGHT, AT LA MAGICIENNE, LOOKING AT PLANETS IN MY HEAD, LITERATURE, USING POST-ITS TO WRITE DOWN WORDS FOR 5X2 THINKING ROUTINE, AT MADONNA (AFTER OMOMÁ AND CÉLINE).

An introduction was added at the beginning to talk about the Tropenmuseum and to ascertain out what prior knowledge the students have of the collection. This was useful not only to introduce the theme and method of the programme but also to help eradicate the 'museum novelty' factor mentioned earlier. A short reflective session was also placed at the end of the hour to try out a final thinking routine to ask students to sum up the whole experience. In the first pilot, the Ramayana section was considered too complicated for the younger students (and the prints were too high). This was replaced by a simplified version of what was originally planned using the Layla and Majnun narrative painting instead. The thinking routine 10x2 was reduced to 5x2 to make allowances for the level of the younger age group with instructions that students could draw or write the words. Two new objects were introduced as well – 'Planets in my Head,

Literature' a contemporary sculpture from Yinka Shonibare and 'La Magicienne' an art work by the artist Mickaël-Bethe Selassie (see Figure 12 below). These replaced 'Sigi' from the Africa exhibition which was also considered too high and distracting for the youngest age group. The two new objects were both chosen for their vibrant colours and instant appeal to a younger audience.

The thinking routines were also simplified for the second pilot – See-Think-Wonder was used twice, along with What Makes You Say That? and a new routine, a simplified version of Headlines, One Word was used. For the pilot itself, two museum teachers who had both participated in the first pilot facilitated the discussions, accompanied by two observers and two extra volunteers to photograph and film the proceedings.

FIGURE 12 'LA MAGICIENNE' (2005) BY MICKAËL BETHE-SELASSIE; 'PLANETS IN MY HEAD: LITERATURE' (2010) BY YINKA SHONIBARE.

The second pilot with a different class of students from AICS worked well. The introduction was warmly received and the teacher thought it was a good idea to introduce the students to the museum and set expectations for the visit. The choice of objects was much more visually appealing for the students, although the story of Layla and Majnun was again hard for the children to grasp and it was felt that too long was spent here.

The simplification of the thinking routines was a success demonstrated by the marked increase in concentration with the second pilot group. The museum teachers were also both more confident in using the routines and were therefore

able to keep the group focused and motivated. Their class teacher was wholeheartedly enthusiastic about *Stories Around the World* and expressed interest in extending the programme to ninety minutes!

> '… (The) thinking routines worked well, they focused the students. They got used to them quickly and knew what to expect… Overall, I was very impressed, would definitely like to come back next year and have already recommended the programme to other teachers at school.' (AICS Teacher, Group 3 Class, Pilot 2).

Following the student and teacher comments from the second pilot, it was decided to drop the story of Layla and Majnun as this was felt to be too long for the younger age group. Instead, the programme for the younger age group would focus on concepts such as how to look at objects and how objects tell stories rather than story structure, sequencing and themes. A new object from the exhibition Round and About India was added – a tin-foil model of a mausoleum (*ta'ziya)* which all students seem to find fascinating. It was felt that since the story of the Ramayana had been removed from the programme for the younger children after the first pilot, a visit to the India exhibition was lacking. Many children in international schools come from India, so it was also important for the museum to include an object from this exhibition. The introduction and ending were lengthened to ten minutes each, with ten – fifteen minutes allotted for each object. The second pilot had shown that when the museum teachers had overrun and spent longer than fifteen minutes at an object, the student's interest had started to wane. Museum teachers are advised that three to four objects can be studied throughout the programme depending on the concentration and attention span of the students as to whether they are studied in more or less depth. The thinking routines were again revised with the final version containing just See-Think-Wonder and 5x2. The museum teachers can vary the way the thinking routines are used (asking for individual, pair or group work to generate the observations and thoughts) and the youngest students seem to really benefit from the repetition

of using the same routine. 5x2 allows students a chance to write or draw answers on post-its and therefore add another modality to the programme. The ending section is a useful addition to the programme allowing time for students to reflect on the experience and think about what they have seen and learnt.

Final Version of Stories Around the World

Both pilots were invaluable experiences in testing *Stories Around the World* as a viable new school programme, in assessing the impact of the theme and developing and trying out the new method of working within the museum with different age groups throughout the primary years. Appendix II shows the final version of *Stories Around the World* which is currently being offered to groups. The programme continues to be evaluated and the method is being developed further. The running order has been refined further and now includes suggested timings at each of the objects as a useful guideline for the museum teachers, as timing issues were a recurrent issue in both pilots (the groups always have so much to say that the allocated time goes very quickly and never seems long enough). There is now an introduction and a conclusion built-in as part of the final programme, something that was lacking in the first version for the first pilot.

There are two distinct programmes for two separate age groups with sixty minutes for the six to seven year olds and ninety minutes for the eight to twelve year olds (although there are still frequent comments from the teachers asking for the programme to be even longer such is their enthusiasm for the method). Two separate Teacher's Packs have been developed – one for each age group – with detailed information on the museum, the approach using thinking routines and the objects. There are also detailed activities for before, during and after the visit which also use thinking routines and open-ended questioning to elicit the most creative and imaginative responses from the students (see Appendix III for a copy of the Teacher's Pack).

Subsequently two training sessions have been held for museum teachers, training them in working with thinking routines and using open-ended questions and extended looking times with objects. The museum teachers, although initially sceptical about the ability to hold a group's interest for ten-fifteen minutes at each object, had the chance to try out some of the routines for themselves. They were first asked to find an object in the museum that they were fascinated by but were

not necessarily knowledgeable about. Then, they were asked to try out the routine See-Think-Wonder with their peer docents as participants. For the second training, the museum teachers worked with all the routines from *Stories Around the World* using them with the objects selected for the programme. In both training sessions, museum teachers were impressed with how easy the routines are to use and pick-up. They were also astonished at how they helped the discussion flow so easily and how each time they used them, something different about an object, sometimes something they had not even noticed themselves, came out during the discussion.

8. Conclusions

This thesis has attempted to show how thinking routines can be integrated into a new programme for international schools at the Tropenmuseum. After an initial research phase into how thinking skills can best be developed in a museum environment looking at relevant literature and examples of other museums working in this way, time was spent talking to teachers in focus groups and carefully designing a programme which met their needs and also the requirements of the museum. The education department at the Tropenmuseum has been interested in developing a new method of working with groups right from the start and enthusiastically supported all stages of this programme's development. The final programme was launched to a large group of teachers from international schools from all over the Netherlands in October 2012 to a positive response from all participants.

The education department plans to extend the use of thinking routines to other programmes within the education department. It has already been trialled with Dutch primary school children for a special *Kinderboekenweek* programme to great success. Educators at the museum have since also used the routines at the Tropenmuseum activities for *Museumnacht 2012* with large groups of adults discussing a single object for thirty minutes and also in an Indonesian university setting with museum studies students – both with overwhelmingly positive results. Museum teachers have also been introduced to thinking routines during the training sessions for *Stories Around the World* and some docents have started to incorporate the routines independently into all of their work at the museum. Working with thinking routines has also altered the way that museum educators and docents interact with students; attention is now paid to modelling the language of thinking and to use non-judgemental feedback. Waiting time is also encouraged to increase participation from everyone, lead to more responses within the group and to help the conversation flow smoothly. Educators have even started to develop their own routines – for the final version of the programme, a new routine called 'Title' was developed which is loosely based on the 'Headlines' and 'One Word' thinking routines – and to think of a variety of ways of adapting the routines to suit different groups and occasions. These developments all illustrate how the routines have become effortlessly integrated into the

department. The aim is that this method will underpin the philosophy of learning at the museum and will be written into the new educational policy.

FIGURE 13 [FROM LEFT TO RIGHT] INTERNATIONAL SCHOOL TEACHERS AT 'PLANETS IN MY HEAD, LITERATIRE' AT THE HIGH TEA OCTOBER 3 2012; MUSEUMNACHT 2012 FAST-COURSE IN SLOW-LOOKING AT MADONNA (AFTER OMOMÁ AND CÉLINE).

Due to the interest in making thinking routines the basis of the educational approach for the Tropenmuseum, a new model for the method was developed for the final version of the programme. It is called 'Stop! Look! Think.', and it is composed of five principles which aim to encapsulate everything that the slow, detailed exploration of objects using thinking routines in *Stories Around the World* represents (see Appendix II for details of the principles). These five values illustrate the fact that this way of working is not just a strategy; it is about embracing an entirely new culture of thinking and learning in the Tropenmuseum. It is not about how many objects you can take a group to see on a highlights tour, but how a group puts together their own interpretations of a select group of objects. It is not about asking factual questions that lead to narrow thinking, but about asking open-ended questions that facilitate discussion in the group. It is about fostering a community of learners that all feel happy, willing and able to contribute to the discussion taking place. It is about gaining new perspectives and knowledge on objects from the students themselves. All of these are made possible through the use of thinking routines in a museum environment and the deep thinking that accompanies their use.

More research needs to be undertaken as to how many schools and students are taking these skills and routines back into the classrooms or their everyday lives and using them again. There are numerous possibilities for extending the

learning possibilities further – for example, by offering an introductory lesson on thinking routines at the school prior to the museum visit or even a stand-alone outreach programme for international schools that are too far away from Amsterdam for a day trip. *Stories Around the World* focused on the core routines from Visible Thinking. These are probably the easiest ones to use if new to the concept, however, given the complexities of the collection at the Tropenmuseum, future primary and even secondary school groups could work with the understanding, truth, fairness or creativity routines as a way of exploring diverse perspectives, considering different viewpoints and thinking creatively about options.

Even if teachers are not using thinking routines on a regular basis after their visit to the Tropenmuseum and experience of *Stories Around the World,* for the time that the students were present at the museum, they were thinking to the highest of their ability and learning valuable skills that can be transferred easily to other locations and concepts. The use of thinking routines and the desire to promote thinking skills in a museum environment could lead to bigger and more fundamental changes to the way museum education is envisaged in an institution. These small steps could lead ultimately towards what Ritchhart (2007:137) calls a 'Culture of Thinking', where thinking is valued, visible and actively promoted not just in the education department but across the whole museum. The beauty of working in this way is that; '*once one begins a campaign to make thinking visible, the opportunities seem to be endless (Perkins, 2003)'.*

APPENDIX I

A Brief Overview of the Thinking Skills Field

Many programmes were developed in the latter half of the last century to teach thinking . This has continued into the new century, with the result there are a multitude of programmes designed to teach thinking in a variety of different styles and methods. This is a vast and often confusing field– making it incredibly difficult to choose the right approach for each institution.

Some approaches have their roots in psychology (for example, the 'Cognitive Acceleration in...' series and Instrumental Enrichment) whilst others have a philosophical background (for example, Philosophy for Children). Several researchers have attempted to give overviews of aims, design, content, and methodology of prominent thinking programmes (Nisbet 1990, McGuinness 1999, Fisher 2001, Harpaz 2003, Ritchhart and Perkins 2004, McGregor 2007). In 1990, Nisbet listed more than 30 programmes and distinguishes between 'programmes' and 'infusion' approaches. Later, McGuinness carried out a review and evaluation of research into thinking skills for the Department for Education and Employment in the UK and identified three distinct models for the delivery of thinking skills programmes: programmes that are additional to the normal curriculum, those that target subject specific learning (i.e. mathematics, geography) and those that adopt an infusion approach across the entire curriculum. In 2005, McGuinness narrows this down further and talks about 'enrichment' and 'infusion' approaches to teaching thinking (McGuinness 2005). Although some have argued for a mixed approach where both methods are followed (see Ennis 1997).

Examples of 'enrichment' or stand-alone approaches include Reuven Feuerstein's 'Instrumental Enrichment' and 'Philosophy for Children'. The former is an psychology-based approach developed more than 40 years ago and founded on work with low-performing adolescents in Israel. The latter, 'Philosophy for Children' was developed by philosophy professor Mathew Lipman in the 1970's and consists of group sessions which begin with a stimulus which leads to the formulation of questions and collaborative dialogue in order to deepen thinking about a particular philosophical line of enquiry chosen by the group collectively.
Stand-alone approaches can take the form of separate lessons or a course for a few days or a week in parallel to the existing curriculum. However, enthusiasm for

these courses has the potential to wane once the novelty factor has worn off. It is also difficult to find time to add in another lesson in an already constricted curriculum. Opponents argue that developing thinking should not be separated from its context and that it is easier to incorporate into current practice across the curriculum rather than as a supplemental lesson.

Infusion approaches are embedded in the curriculum and can be either across the curriculum or focused on specific subjects and/or particular types of thinking. It is defined concisely by McGuinness:

> In the context of teaching thinking, it means that the teaching of curricular content is infused with explicit instruction in thinking, with developing understandings of the kinds of thinking that might be required and with being strategic and self-regulatory about one's own thinking (McGuinness 2005:115)

Even within this category, there are different theoretical perspectives. Some methods focus on skills and meta-cognitive strategies (for example, Halpern) whilst others focus on intelligences (for example, Gardner or Sternberg). More recently other methods have concentrated on the motivation, inclination and sensitivity to thinking – this is known as the dispositional approach (Perkins, Jay and Tishman 1993) and it will be discussed in more detail below.

Of late there has been a further shift away from the infusion approach towards a more holistic view of teaching thinking – that of developing a whole community of learners or a culture of thinking within an organisation that evolves organically and reaches out and involves all parts of an organisation. Claxton (2006) sees this whole-school approach as one where attention is paid to pedagogic practices, language, modelling examples of learning, forms of appraisal and assessment, management and staff practices. Ritchhart (2022: 146-147) uses the term 'culture of thinking' and has identified 8 cultural forces that create this culture: the modelling of the teacher, the way time is allocated, the way language and conversations are used, the interactions and relationships that unfold, the expectations that are communicated, the opportunities that are created, the routines and structures that are put into place and finally the way the environment is set-up and used. Ritchhart (2007) also wrote about creating a culture of thinking within museums.

There has also been much debate between ability or skills-centred programmes (for example, Edward De Bono's CoRT programme, or the Odyssey Programme) and a dispositional approach to teaching thinking (e.g. Visible Thinking, Art Costa's Habits of Mind). The main issue with focusing on 'skills' is that it tends to suggest somehow that such learning processes can be trained and, once trained, the learner has acquired the necessary skill. However, none of this takes into account a person's inclination to use that 'skill' or indeed have any knowledge of which situations that skill can be used. In recent years, a more dispositional view to teaching thinking has gained credence. It is based on the belief that ability alone is not enough – having certain thinking skills does not predispose someone to use them. Shari Tishman has defined thinking dispositions as; 'abiding tendencies toward distinct patterns of thinking behaviors' (Tishman, Perkins and Jay 1995:39). Therefore, dispositions develop by routinely engaging in specific patterns of behaviour rather than paying attention to this at sporadic moments. Tishman and her colleagues at Harvard Project Zero developed a triadic theory of thinking – the three aspects are ability, sensitivity and inclination, with the latter two being dispositional in nature.

Despite their differences, there is some common ground amongst the different strands. All of the programmes aim to teach thinking explicitly and directly (Fisher 2005) and 'engage learners in challenging thinking tasks to stretch beyond what they would normally undertake' (Ritchhart and Perkins 2005). All agree that 'transfer' is a key issue – the ability and will to use these skills learned in one context in other contexts. It has been argued that transfer is more likely if the approach implemented is infused across the curriculum and is dispositional in its methods (Perkins and Salomon 1989; Claxton 2008). Furthermore, at the core of most programmes is the development of 'metacognition' or thinking about thinking. Most programmes include time to reflect on and monitor the thinking and progress that has taken place during the activity and evaluating it after completion.

APPENDIX II

Stories Around the World Programme Details

PILOT 1

Object Name	Thinking Routine	Time Allotted (approximate minutes)
Madonna (after Omomá and Céline)	See-Think-Wonder Headlines	10
Layla and Majnun	10x2 What Makes You Say That?	10-15
Wayang Diponegoro	See-Think-Wonder Headlines	10
Pustaha	The Explanation Game	10
Ramayana	10x2 What Makes You Say That?	10-15
Sigi	See-Think-Wonder	10

TABLE 1 PILOT 1: DETAILS OF THE PROGRAMME

PILOT 2 6-7 YEAR OLDS

Object Name	Thinking Routine	Time Allotted (approximate minutes)
Introduction		10
Madonna (after Omomá and Céline)	See-Think-Wonder One Word	10
Layla and Majnun	5x2 What Makes You Say That?	10-15
Planets in my Head, Literature	What Makes You Say That? One Word	10
La Magicienne	See-Think-Wonder	10
Conclusion	One Word	5

TABLE 2 PILOT 2: DETAILS OF THE REVISED PROGRAMME FOR SIX TO SEVEN YEAR OLDS.

FINAL VERSION OF STORIES AROUND THE WORLD 6-7 YEARS

Object Name	Thinking Routine	Time Allotted (approximate minutes)
Introduction		10
Madonna (after Omomá and Céline)	See-Think-Wonder Title	10
Ta'ziya	5x2 What Makes You Say That?	10
Planets in my Head, Literature	See-Think-Wonder Title	10
La Magicienne	See-Think-Wonder Title	10
Conclusion	Title	10

TABLE 3 FINAL VERSION OF STORIES AROUND THE WORLD SIX TO SEVEN YEARS

FINAL VERSION OF STORIES AROUND THE WORLD 8-12 YEARS (FORWARDS)

Object Name	Thinking Routine	Time Allotted (approximate minutes)
Introduction		10
Madonna (after Omomá and Céline)	See-Think-Wonder Title	15
Ramayana	5X2 WMYST	25
Pustaha	See-Think-Wonder Title	15
Sigi	See-Think-Wonder Title	15
Conclusion	Title	10

TABLE 4 FINAL VERSION OF STORIES AROUND THE WORLD 8-12 YEARS (FORWARDS)

FINAL VERSION OF STORIES AROUND THE WORLD 8-12 YEARS (REVERSE)

Object Name	**Thinking Routine**	**Time Allotted (approximate minutes)**
Introduction		10
Sigi	See-Think-Wonder Title	15
Pustaha	See-Think-Wonder Title	15
Layla and Majnun	5X2 WMYST	25
Madonna (after Omomá and Céline)	See-Think-Wonder Title	15
Conclusion	Title	10

TABLE 5 FINAL VERSION OF STORIES AROUND THE WORLD 8-12 YEARS (REVERSE)

Stop! Look! Think. Principles

1. Learning how to look at objects carefully and slowly, to investigate and find out information and construct meaning.
2. Developing critical thinking skills in observation, description, interpretation and reasoning with evidence.
3. Nurturing ability to work and think in a group – for example, by developing listening skills, respect for alternative viewpoints and appreciating different cultures and traditions.
4. Using open-ended questioning to motivate and engage students in learning and elicit fresh and dynamic ideas.
5. Equal participation and involvement for all in the discussion regardless of age, ability and background.

FIGURE 14 STOP! LOOK! THINK. PRINCIPLES

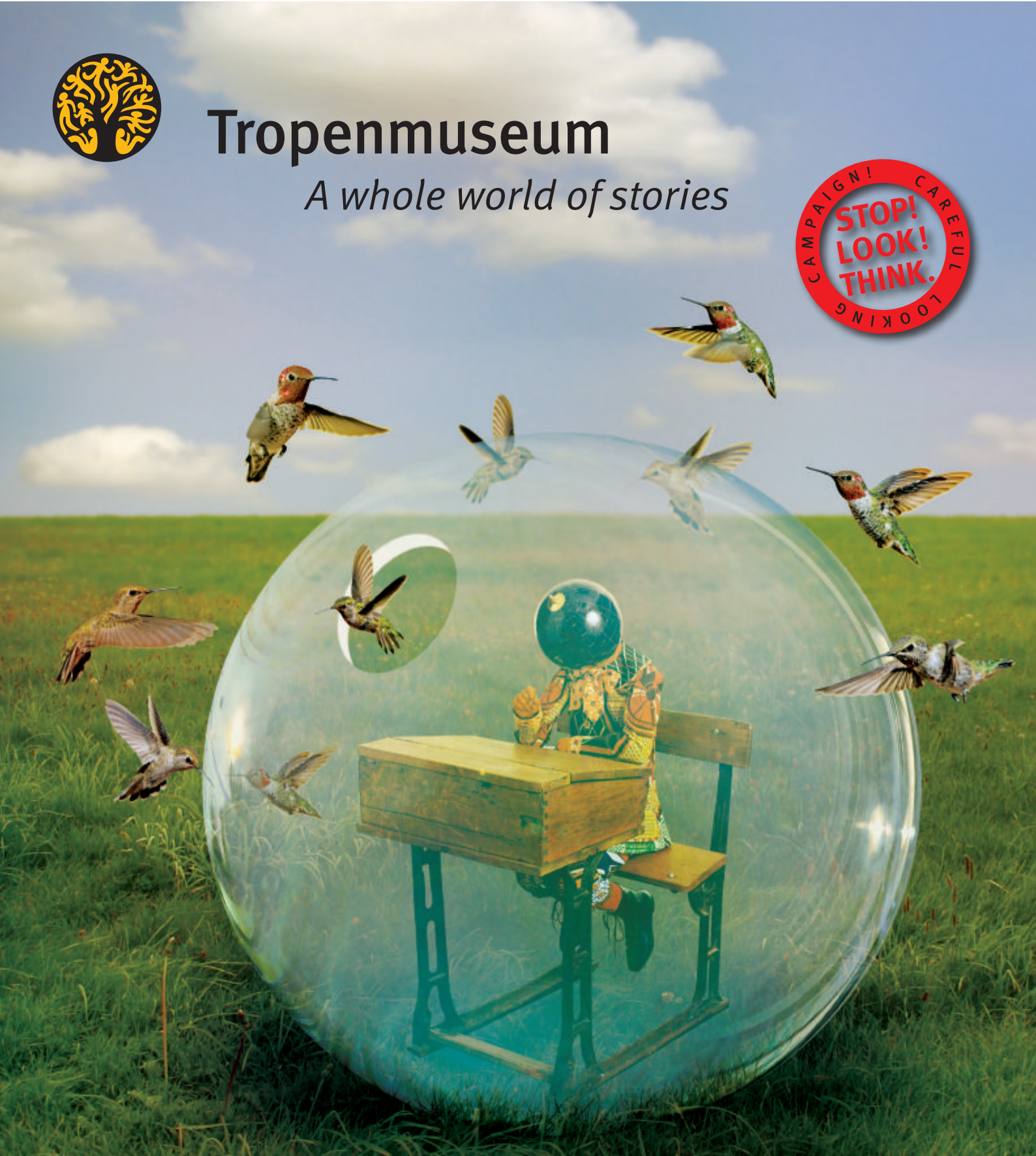
APPENDIX III

Teacher's Pack Stories Around the World

Tropenmuseum

A whole world of stories

CAREFUL LOOKING CAMPAIGN!
STOP! LOOK! THINK.



Stories Around the World

Teacher's Pack (8-12 year olds)

2012-2013

www.tropenmuseum.nl

Contents

Information for the Teacher **3**
Stories Around the World 3
Stop! Look! Think. 4
Practical Information 4
Programme Information 5
Key Concepts of the Programme by Object 5

The Visit **6**
Introduction: Stories Around the World 7
Roy Villevoye 'Madonna (after Omomá and Céline)' 8
Pustaha 10
Ramayana Prints 12
Ahmad Khalili 'Layla and Majnun' Narrative Painting 15
Sigi 17

Activities to do with your Students: Before, During and After Your Visit **19**
Before: Our Visit to the Tropenmuseum 19
During: Free-time Suggested Activities 1 20
During: Free-time Suggested Activities 2 21
During: Free-time Suggested Activities 3 22
After: Ramayana Shadow Puppet Theatre 23
After: Digital Storytelling 24
After: Looking at Objects: Discuss, Write, Create 25

Resources and Reference Materials **26**
Glossary 26
Web Resources 26
Appendix I: Stories 27
Appendix II: 'Terrorist' Khosrow Hassanzadeh 28

Information for the Teacher

Stories Around the World

The Tropenmuseum is one of Europe's leading ethnographic museums, renowned for its collection. The permanent and temporary exhibitions display objects, photographs, paintings, music and film from around the world. Thousands of stories, beautiful artwork and amazing objects bring different cultures to life. A trip to the Tropenmuseum is a journey through time and the world.

Stories Around the World is a new participative programme for international primary schools in English. *Stories Around the World* supplements learning in the classroom about stories and storytelling and complement units in the International Primary Curriculum (IPC) and the International Baccalaureate Primary Years Programme (IB PYP) based on similar themes. Students will explore the theme of stories and storytelling by looking at and connecting with a series of carefully selected objects located in different parts of the museum. At each object, they will discover for themselves how objects can tell stories about people, ideas and places. In *Stories Around the World* students will investigate different types of stories and learn about characters, settings and narratives.

All of the objects selected in *Stories Around the World* encourage detailed observation and spark curiosity. Thinking routines, part of an approach called 'Visible Thinking', will be used as a method of engaging and involving the students in lively discussion at each object.

Stop! Look! Think.
is based on 5 principles:

1. Learning how to look at objects carefully and slowly, to investigate and find out information and construct meaning.
2. Developing critical thinking skills in observation, description, interpretation and reasoning with evidence.
3. Nurturing ability to work and think in a group – for example, by developing listening skills, respect for alternative viewpoints and appreciating different cultures and traditions.
4. Using open-ended questioning to motivate and engage students in learning and elicit fresh and dynamic ideas.
5. Equal participation and involvement for all in the discussion regardless of age, ability and background.

Stop! Look! Think.

The Tropenmuseum has developed a new method for *Stories Around the World* called *Stop! Look! Think*. We aim to encourage slow, detailed exploration of objects using thinking routines from Visible Thinking. Your class will explore 4 objects carefully with the museum teacher.

Thinking routines allow students to spend more time looking carefully at objects and promotes discussion about what they have observed. In *Stories Around the World* the routines are used as a tool to help loosely guide students' thought processes. The routines are short, easy-to-learn, mini-strategies that extend and deepen thinking. Students will actively engage with objects in the Tropenmuseum by asking questions, testing ideas and wondering aloud. The routines are repeated throughout the programme to allow the students to get used to the simple steps involved. Through the use of thinking routines, students will be developing important looking and thinking skills that can be used in other contexts. You might want to try them out in class before you visit the museum - through repeated use, these routines become part of the shared language of the class and can be used by students with increasing independence.

Museum objects have enormous potential as tools for learning and thinking. Objects are suitable for use with all ages in groups, pairs or individual work. In *Stories Around the World* the emphasis is on open-ended questions and encouraging students to talk about the objects themselves. There is less emphasis on trying to elicit the 'right answer' and more on trying to uncover students thinking about the objects. In this way, all students feel at ease taking part in the discussion and contributing to the thoughts of the group. Through group work using thinking routines, students learn how to participate in meaningful discussions where their ideas and those of others are valued and listened to. The museum teacher guides the programme and acts as a facilitator throughout, adding useful contextual information if and when necessary.

Practical Information

The museum is housed in an historic building near to the city centre in East Amsterdam (Amsterdam Oost), near the Oosterpark and Artis. The permanent exhibitions are Africa, Latin America and the Caribbean, Man and Environment, World of Music, Netherlands East Indies, New Guinea, Round and About India, Travelling Tales, West Asia and North Africa and Southeast Asia. There is an on-going series of temporary exhibitions in the Great Hall, Gallery and Park Hall. Tropenmuseum Junior is also part of the Tropenmuseum. Aimed at 6-13 year olds, Tropenmuseum Junior runs exhibitions for 2 1/2 years on different themes. *Stories Around the World* takes place within the permanent exhibitions.

The museum has four floors: the basement (-1), the ground floor (0), and the first (1) and second (2) floors. You enter the museum at basement level. There you will find a cloakroom, lockers for your belongings and toilet facilities. From there, stairs go up to the ground floor. The centre of the ground floor contains the Great Hall where temporary exhibitions are held. You will also find the museum shop and café (Ekeko) here. At the rear of the Great Hall there is a staircase on either side leading to the first and second floors. The museum has a lift to all floors.

Acknowledgements
The Tropenmuseum has worked with teachers from international schools in the Netherlands to develop this new programme. We would like to extend our gratitude to Melanie Smith of the International School of Amsterdam, Ian Clarke from Amsterdam International Community School, Roger Chapman from the British School of Amsterdam and Daniele Sinniger from Violenschool International Primary School for their enthusiasm and guidance in helping to develop this programme.

Practical Information

Tropenmuseum
Linnaeusstraat 2, 1092 CK Amsterdam
Bookings Office: +31 (0)20 568 8300
Bookings Office Opening Hours:
Tuesday to Friday 10 AM – 5 PM
E-mail: educatie@kit.nl

By public transport
Bus 22, Tram 3, 7, 9, 10, 14

Programme Information

- ★ This pack is intended for use with the older primary years (8-12 years). There is a second teacher's pack for the lower primary years (6-7 years).
- ★ The programme lasts 2 hours. The museum teacher will be with the group for 90 minutes.
- ★ There will be 30 minutes free-time in the exhibition 'Travelling Tales' at the end of the programme (supervised by teachers). There are suggested free-time activities at the end of this teacher's pack. Please choose an appropriate activity sheet to photocopy and bring with you for your class to complete in their free-time.
- ★ At the museum your class will be divided into groups with a maximum of 15 students per museum teacher. Teachers are welcome to divide the groups themselves before arrival. Not all groups will see the same objects – for example, when a class is split into 2 groups, one will focus on the story of the Ramayana whilst the other group will study the story of Layla and Majnun.

Key Concepts of the Programme by Object

	Madonna	Layla & Majnun	Pustaha	Planets in my Head	Ramayana	Sigi
Stories around the world, similarities & differences		✓			✓	
Story types		✓		✓	✓	
Story themes		✓			✓	
Story versions		✓			✓	
Story structure		✓			✓	
Story sequencing		✓			✓	
Art of storytelling		✓			✓	✓
Puppets And storytelling						✓
How objects tell stories	✓	✓	✓	✓		✓
How to look at an object	✓		✓	✓		✓
Making interpretations	✓		✓	✓		
Reasoning with evidence	✓		✓	✓		

The Visit

You will see a selection of the following objects:

Preparation for your visit

To get the most out of your visit, please prepare your students by engaging in a discussion about the museum visit before your arrival (For more information, see Before: Our Visit to the Tropenmuseum) and by reading the stories of both the Ramayana and Layla and Majnun (see Appendix I: Stories)

You can learn more about these objects by visiting our Collection Online at: http://collectie.tropenmuseum.nl

Introduction: Stories Around the World

What is a story?

A story is a tale of real or fictitious events. It follows one or more characters through a series of events. At the end, the story arrives at a destination.

Why do people tell stories? Storytelling is one of the oldest arts; in the past stories were told to try and explain how the world works and to make sense of things. They were also a form of entertainment and enjoyment long before the advent of television, radio and computers. Stories are used to pass on knowledge – whilst we learn much of what we need to know at school and by reading and writing, before the 20th century illiteracy was common-place and thus stories were a way of finding out important information. They were often used by older members of a community to pass on history and heroic tales. Telling stories is also a way of teaching people how to behave – many characters in traditional tales are forced to suffer pain or embarrassment through their own stupidity, greed or dishonesty.

People all over the world tell stories. A story can show us the world, or ourselves, differently. Many traditional tales all over the world have parallels and themes in common with each other.

Story structure

Most stories have a beginning, middle and an end. A story will usually begin by describing when and where things are taking place. It can also create an expectation about something that has already happened or will take place in the future. This beginning is also called the orientation.

The story then moves through a series of events, one of which causes disruption to the world that has been introduced in the beginning section. Usually this disruption involves a problem, a conflict or an issue to be resolved. This change is also known as the complication.

The remainder of the story usually sets about resolving the problem. The story ends when events are resolved to a satisfactory order – the resolution.

Objects and stories

Both museums and objects tell stories on many different levels. Museum interpretation work involves identifying what stories objects will tell within the display case and developing a structure for these narratives. The objects in the display cases also tell stories in a multitude of ways: sometimes literally, for example a puppet, or sometimes they represent a character or event in a story. All objects tell other stories too – of their functional, symbolic or historical meanings. Some objects are unfamiliar to us and students can use observation to get clues to the story associated with them. Stories about objects can help students to understand similarities and differences between their lives and others, now and in the past.

All objects have stories to tell in a museum – collector's stories, curator's stories, personal stories and so on. In *Stories Around the World* students will be uncovering the stories themselves.

Madonna (after Omomá and Céline)
(Ground Floor)

Roy Villevoye. 2008.
Plastic sculpture.
Inv. No. 6392-1

CAREFUL LOOKING CAMPAIGN!
STOP! LOOK! THINK.

Key concepts

- How objects tell stories
- How to look at an object – close observation and slow-looking
- Making interpretations
- Reasoning with evidence

Preparation Instructions for the Teacher

We recommend that you do not talk to your students about this object before the visit to the museum. The emphasis during the visit will be on the student's interpretations rather than what they already know about it.

The Artist

Roy Villevoye was born in 1960 in Maastricht. After studying at the State Academy of Fine Arts in Amsterdam, he was then hired as an assistant to the famous American artist Sol LeWitt. Villevoye exhibits his work at home and abroad and uses a variety of mediums: paintings, photographs, installations and films. In 1992 Villevoye radically changed his direction after he first visited the Asmat region of Papua, the largest and easternmost province of Indonesia. Papua comprises most of the western half of the island of New Guinea and nearby islands. During the colonial era the region was known as part of "Dutch New Guinea" or "Netherlands New Guinea". Since his first trip Villevoye has made frequent trips to the region and these tours have become a major impetus for the development of his work. Elements and people of Papua are a recurring theme in Roy Villevoye's work.

Contemporary art in the Tropenmuseum

This is one of the museum's most recent acquisitions (2010). Some visitors may find it surprising to see a contemporary sculpture by a Dutch artist in the Tropenmuseum. However, this is in line with recent changes in the museum to include contemporary art in the collections policy.

The Tropenmuseum chooses artists that work from their roots and identity to reflect on the world around them and those that deal with themes that the museum feels are important.

Background to Madonna (after Omomá and Céline)

Artist Roy Villevoye had the statue made by Remie Bakker at Manimalworks. This sculpture is of a man called Omomá, a friend of the artist from Papua. He is holding a baby which is based on the artist's new-born daughter, Céline.
This work is special because it forces viewers to ask questions. It makes the viewer work out what it means for themselves. There is very little information given with this sculpture. The artist, Roy Villevoye, feels that an explanation might limit thoughts and remove the focus from the figure itself. As a museum, the Tropenmuseum wants to tell stories but it also wants visitors to give their own meanings to objects. Therefore, what questions does it inspire in you? What does this sculpture make you think when you look at it?

It is an intriguing and provocative image. Is it partly a reference to a sculpture that used to be in the museum of a Papua man combing the hair of a little boy? Or does it refer to the Christian Madonna: Mary with the baby Jesus in her arms. Except in this image, there is a black man holding a white baby girl. The juxtaposition provokes reactions from viewers.

By using such a figure, Villevoye has also made reference to the figures that used to play a prominent role in Western anthropological museums. In the past they represented anonymous figures without their own story as evidence of a person from a particular part of the world – 'a Javanese' for example. On the first floor, the Tropenmuseum has seven such figures on display. However, at the Tropenmuseum, the people shown really existed or are literary characters with stories to tell. Painter and adventurer Charles Sayers, Governor-General De Jonge, tobacco planter Jacob Cremer, missionary wife Anna Elink-van Maarseveen, KNIL officer 'Himpies' Kleyntjes, housewife Margaretha Engelen-Koets and local civil servant Toean Anwar (from a novel by H.J. Friedericy) describe how they lived and the things they did. They all have stories to tell. These figures are in contrast to three older mannequins also on display representing a Javanese teacher, a seamstress and a clerk, none of which have a personal story nor an identity.

Thinking routines: *See-Think-Wonder*

This routine is composed of three steps:

- What do you **see**?
- What do you **think** about that?
- What does it make you **wonder**?

Students will spend a couple of moments observing the sculpture carefully.

They will then be asked to state what they **see** in front of them, what they have observed and to list the various details. This part makes everyone in the group much more aware of what they are looking at and helps people to see things that they may not have seen themselves.

Based on the observations, the group will then be asked 'What does this object make you **think**?' or 'What else is going on here?' This stage is asking for interpretations about what students think the object is about. Asking 'What do you see that makes you say that?' requests students to provide supporting evidence to their response. The aim is to build up layers of tentative interpretations.

Finally we will ask what students are **wondering** about based on what they have seen and have been thinking. This is about asking broader questions that push thinking into new areas of interpretation.

This routine is very simple and memorable and is wonderful at generating interest in a topic and opening up areas for exploration. It is also useful in generating questions that might guide the future inquiry of the group.

At the end of the discussion, if there is sufficient time, the museum teacher will ask the students to spend a few moments thinking about a title* that summarises or captures the most important aspect of this object. What would that title be?

** 'Title' is an adaptation of the Visible Thinking 'Headlines' Routine.*

Pustaha

***South-East Asia* (First Floor)**

Indonesia, 1852-1857,
inv. No. A-1389

CAMPAIGN! CAREFUL LOOKING
STOP! LOOK! THINK.

Key concepts

- Story Types: biographical, story of an object, creation myths
- How objects tell stories
- How to look at an object – close observation and slow-looking
- Making interpretations
- Reasoning with evidence

Background to the object

This is one of the most treasured objects in the Indonesian collection of the Tropenmuseum. This ancient book was used by Batak priests in North Sumatra. Although every priest had such a book, called a *Pustaha*, this one is unique because of its size, age and rich decoration. It was made before 1850 and belonged to a long line of Batak priests. It was collected around 1852 and has been on public display since then; firstly at the Ethnographic Museum of the Zoological Society in Amsterdam (Artis), then the Colonial Museum and now the Tropenmuseum.

The Tropenmuseum has 150 *Pustaha* in its collection, most of which have plain wooden covers. The text is written on tree bark that folds in a zigzag fashion. When the 56 pages of this *Pustaha* are unfolded, it reaches almost 17 metres in length.

These books were composed by priests or priest-magicians who used them as notebooks for recipes, healing remedies, incantations and songs, predictive calendars, and notes on magic. The books are written in Batak script using a ritual language that only the priests could read. The writer of this book was the priest Guru Tumurun Hata ni adji.

On the top of the book there is a large carved figure thought to be originally a *Singa* (mythical lion) and later as a *Naga padoha* (mythical snake). The nature of the animal is still highly debated. The top of the book is made of light wood and is detached from it. The lower part acts as a stand with its 4 legs. There are still elements of mystery surrounding this object – for example, why is there a handle on the top? How did the priest use the book? Did he read from it or sing parts of it aloud? If so, who was listening? Where did this take place?

Story Type: Biographical - Herman Neubronner van der Tuuk

The book was collected by the linguist Herman Neubronner van der Tuuk when he lived in North Sumatra.

Herman Neubronner van der Tuuk

Story type: Story of an Object

The first role of the *Pustaha* was as a source of sacred knowledge to Batak priests. Then it became a source of information on the Batak language for Van der Tuuk. Finally, when the book entered the museum, it became part of a world where researchers and curators decide how the object should be 'read'. The *Pustaha* is now displayed on its own in a display case – illustrating how it is the most important example of the dragon symbol. The carved creature on the top is now considered to be a *Naga padoha,* or dragon-serpent, the ruler of the underworld, who played an important role in the creation of the earth in Batak myths.

Story type: Creation myth

Creation myths tell how people and the world were formed. Creation myths were originally passed down through oral tradition but have sometimes been written down in local languages. European scholars have collected Batak tales since the mid-19th and recorded them in European languages, mostly in Dutch.

For the Bataks, the Gods lived at the top of the universe, men and women were in the middle and *Naga padoha* lived in the underworld. They believed that the mountains and valleys of the earth owe their formation to the wriggling of the dragon-serpent *Naga padoha*. He objected to the formation of the earth on his back. He groaned under the weight and tried to get rid of it by rolling around. The earth was nearly lost. *Naga padoha* was eventually overcome with a sword and laid in an iron block. It is said that whenever he twists an earthquake occurs.

This is his story:

Herman Neubronner van der Tuuk was born in Malacca (part of the former Dutch East Indies) in 1824. He was sent to school in Netherlands at the age of about 12. He studied law like his father but his interest lay elsewhere in the field of linguistics – the study of human languages. In 1851 Van der Tuuk was sent to the Netherlands East Indies by the Netherlands Bible Society to translate the Bible into the Batak language of north Sumatra. The interior regions of north Sumatra were still largely unknown to Europeans at the time and he was the first European to be recorded as having seen the sacred Lake Toba. After 6 years he left due to recurrent health problems and returned to Holland. Upon his return, he worked on translating the books of the Bible into Batak and on publishing his Batak-Dutch Dictionary (1861). Van der Tuuk had interest in and respect for Batak culture and beliefs. Van der Tuuk noted that Dutch civil servants were condescending to the Batak who thought they should be Christianised as soon as possible His dictionary contained 108 objects including this particular pustaha. In 1862, he gave about 200 of his objects to the Zoological Society Natura Artis Magistra.

Thinking routines: *See-Think-Wonder*

This routine is composed of three steps:

- What do you **see**?
- What do you **think** about that?
- What does it make you **wonder**?

Students will spend a couple of moments observing the sculpture carefully.

They will then be asked to state what they **see** in front of them, what they have observed and to list the various details. This part makes everyone in the group much more aware of what they are looking at and helps people to see things that they may not have seen themselves.

Based on the observations, the group will then be asked 'What does this object make you **think**?' or 'What else is going on here?' This stage is asking for interpretations about what students think the object is about. Asking 'What do you see that makes you say that?' requests students to provide supporting evidence to their response. The aim is to build up layers of tentative interpretations.

Finally we will ask what students are **wondering** about based on what they have seen and have been thinking. This is about asking broader questions that push thinking into new areas of interpretation.

This routine is very simple and memorable and is wonderful at generating interest in a topic and opening up areas for exploration. It is also useful in generating questions that might guide the future inquiry of the group.

At the end of the discussion, if there is sufficient time, the museum teacher will ask the students to spend a few moments thinking about a title* that summarises or captures the most important aspect of this object. What would that title be?

** 'Title' is an adaptation of the Visible Thinking 'Headlines' Routine.*

Ramayana Prints

Round and About India (First Floor)

Birth of Rama.
Inv. No. R-1085

Exile in the Forest.
Inv. No. 6286-9

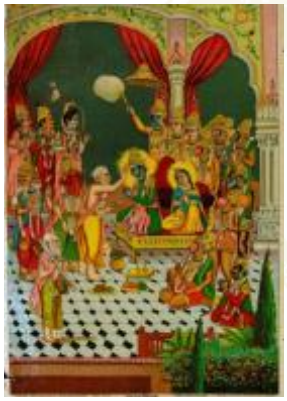
Ravana Abducts Sita. Inv. No. R-1086

Hanuman at Ravana's Palace.
Inv. No. R-1087

Hanuman's tail on fire. Inv. No. R-1088

Hanuman gets medicine.
Inv. No. R-1090

Ravana & Rama fight. Inv. No. R-1091



Rama & Sita in Ayodhya.
Inv. No. R-1092

Key concepts

- ★ Stories around the world similarities and differences
- ★ Story types: epic poetry, traditional
- ★ Story themes: heroes and heroines, good versus evil, love
- ★ Story versions
- ★ Story structure
- ★ Story sequencing
- ★ Art of storytelling

Preparation Instructions for the Teacher

Familiarise yourself with the background information and the story of the (see Appendix I: Stories). Tell the story of the Ramayana to your students. (Older children can be given a copy to read themselves). Hold a discussion about what they like, dislike and do not understand about the story. Document this discussion (either by you on a whiteboard or by collecting student's ideas on sticky notes) and tell the children we will be finding out more about this story at the museum.

The story of the Ramayana has inspired artists to create many works of art. During the visit we will be spending some time looking at 8 prints that each tell aspects of the story of the Ramayana. The prints all date from around the period 1930-1970. They depict scenes from the Ramayana from the beginning, through the middle and to the end.

Background to Indian Epics

The Ramayana is one of the two great tales of the Indian sub-continent, the other being the Mahabharata. These two tales are thousands of years old and still very popular – they are stories that are learned by every child and contain lessons on wisdom, behaviour and morality. Throughout India and South Asia, these stories are more than just familiar: they are part of living cultural and religious traditions. The protagonists of both the Ramayana and the Mahabharata are incarnations or *avatars* of the Hindu god Vishnu. Therefore both characters are the focus of intense devotional practices and are divinities who are worshipped today as they would have been thousands of years ago. Elements of both stories can be found in music, film, dance, theatre, sculpture and painting. The influence of the Ramayana can be felt throughout South East Asia. In Indonesia, the Ramayana is performed by shadow puppets called *wayang kulit*.

Every year North India celebrates the Ramlila festival and scenes from the Ramayana are acted out in street performances. During the festival of Diwali, Hindus in Northern India remember the story of Rama and Sita and celebrate their return from exile. The festival of Dussehra takes place in North India during the autumn. During this festival, people celebrate Rama's victory over Ravana. Actors perform scenes from the Ramayana to celebrate the fact that good has triumphed over evil. The story cinema in the India exhibition shows different performances of the Ramlila.

Storytelling in India

Professional storytellers in India were renowned for wandering through towns and villages with their scroll paintings telling heroic tales. Artists painted scenes from the life of a hero to which a bard or storyteller would sing his praises to an audience. Nowadays, television and film are becoming more popular than the traditional way of telling stories, but these narrative scrolls can be seen as the forerunners of cinema.

Story Type: Epic Poetry

The story of the Ramayana was thought to have been composed more than 2500 years ago and was first transmitted orally. It was believed to have been written down by Valmiki in 4th Century B.C. The influence of the Ramayana extends beyond India itself and the work has been written in many different languages.
Epics are a series of stories that revolve around one hero. Epics such as the Odyssey and the Aeneid are mainly about human heroes. In the Ramayana and the Mahabharata the heroes are of divine origin. The saga of Rama and Sita is a beloved tale of intrigue, adventure, and love. Rama is a human incarnation or avatar of the god Vishnu, the protector and preserver of the universe. Vishnu, in the form of his ten avatars, saves the world and mankind when danger threatens. Heroes are at the heart of every story in India.

Lessons of the Ramayana

Similar to many epic poems or heroic tales, the Ramayana is designed to impart lessons to its audience. Many cultures in South East Asia use the Ramayana as a guide for conduct and good moral behaviour in everyday life, whilst in India, it is used as a guideline for *dharmic* behaviour. *Dharma* is the duty each person has to do his or her job well, whatever his or her station in life; an important value in Hindu religion. This role is one of the reasons why this story still plays a significant role in Indian society today. Following one's *dharma* will result in the consistent and correct performance of one's duties, according to their responsibilities and station in life. The main characters in the Ramayana face a long list of obstacles that they must overcome. Rama, as a good character, always follows *dharma* and makes the right choices, while Ravana, as an evil character, fails to follow *dharma* and always makes the wrong choices.

The Ramayana also presents other examples of morality. Lakshman shows devotion to his brother, Lord Rama, when he follows him into the forest and Hanuman, the monkey general, consistently demonstrates the value of helping others (particularly when he goes to fetch the medicine for Lakshman). Sita, herself, is shown as the model of womanhood, exemplifying beauty, patience, loyalty and kindness.

Thinking Routines in action…
Five Times Two and *What Makes You Say That?*

The students will be divided into small groups and given a laminate of a scene from the story of the Ramayana to observe for a short period (of up to a minute). They will be asked to look closely and observe carefully. Students will then generate a list of 5 words or phrases on sticky notes for their scene.

Then, they will look at the image again in their small group and generate another list of 5 words. Students are asked to look a second time as the most obvious observations appear on the first list. When we come together we will create a word bank to generate a discussion of the key scenes of the story.

The aim is to tell the story of the Ramayana in sequence through the students observations. We will discuss scenes of the story, reflecting on the beginning, middle and end, the main characters and how they are portrayed and finally, talk about the story itself and why it is important.

Ahmad Khalili.
2006. Inv. No. 6256-1

Layla and Majnun

Travelling Tales (Ground Floor)

Key concepts

- Stories around the world similarities and differences
- Story types: traditional
- Story themes: heroes and heroines love
- Story versions
- Story structure
- Story sequencing
- Art of storytelling
- How objects tell stories

Preparation Instructions for the Teacher

Familiarise yourself with the background information and the story of Layla and Majnun (see Appendix I). Tell the story to your students (older children can read the story themselves). Hold a discussion about what they like, dislike and what puzzles them about the story. Document this discussion (on a whiteboard or by collecting student's ideas on sticky notes). You can even formulate a list of questions to bring to the museum.

Story behind the object

In November 2005, the Tropenmuseum asked storyteller Vallioallah Torabi to tell the story of Layla and Majnun whilst artist Ahmad Khalili made sketches in the Azari coffee house in Tehran, Iran. The artist then consulted the 12th Century version of the story by Persian poet Nizami to inspire and complete his painting. In March 2006 a second telling of the story was performed in the same coffeehouse to accompany the finished painting. The recording of this event and the painting are both on display at the museum.

The narrative painting tells the story of Layla and Majnun in 19 scenes. The scenes unfold from left to right up until scene 4. Note that scene 5 is in the middle as it depicts the Holy Ka'ba in Mecca. From scene 6 onwards (top right-hand corner) the scenes spiral in a clockwise fashion. The story can be found in Appendix I at the end of this pack.

The scenes are as follows from the top left, key scenes are in bold:

1. **The first meeting between Layla and Majnun in the classroom.**
2. Majnun passes by the tent of Layla singing.
3. **Majnun's father asks for the hand of Layla in marriage.**
4. Majnun rips off his robe heartbroken.
5. **Majnun's father takes him to Mecca (centre of painting).**
6. **Majnun decides to go and live in the desert .The encounter between a passer-by and Majnun in the desert.**
7. Layla remembers Majnun's face and writes him a letter.
8. Layla goes with her friends to an orchard and sits under a tree.
9. **Ibn Salam asks Layla's father for her hand in marriage.**
10. Majnun's friend Nawfal consoles Majnun and takes him to his tribe.
11. In exchange for his horse Majnun frees the deer hunter.
12. Majnun, the hostage and the old woman.
13. Ibn Salam takes Layla to his home.
14. **Majnun's father, supported by a walking stick visits his son Majnun.**
15. Majnun unburdens his soul to the animals.
16. Uncle Salim Ameri visits Majnun.
17. Baqdadi Salim visits Majnun.
18. **Majnun visit the grave Layla and of his parents.**
19. **Layla and Majnun as king and queen in paradise.**

The Storyteller

In the early 17th Century in Iran, coffee houses were built in major cities. These were established as cultural centres where people from different backgrounds engaged in various activities, amongst which storytelling was popular. Storytelling became very widespread - in the early 20th Century, there were between 5000-10000 people engaged in the practice of storytelling. With the advent of television and radio, this declined sharply in the latter half of the 20th Century. Vallioallah Torabi has told stories in coffee-houses for nearly 50 years. He is a professional storyteller and knows many Iranian, religious and classical folk stories by heart. In the version of Layla and Majnun that he recorded for the Tropenmuseum he performs in the classical manner using singing and dramatic gestures and acting out all the roles. As a professional storyteller, the version of the story is uniquely his own - he mixes traditions with personal elements, embellishes parts and adds details.

The Artist and the Coffee-house Tradition

Ahmad Khalili was born in 1943. During his childhood he learnt woodcarving, painting and sculpting. In 1960 he began his career as a coffee-house painter; he was a student of one of the most well-known coffee-house artists, Mohammed Modabber. Coffee-house art is also known as tea-house art. Khalili believed that it was the job of the coffee-house painter to show the art, culture, customs and religion of the Iranian people. Coffee-house painters depict scenes of either a religious, literary or intangible nature. Khalili painted scenes from the Shahnameh (famous epic poem), the Koran and also from daily life. He believed that coffee-house painters paint with their hearts and therefore it is the purest form of painting. Following the commission from the Tropenmuseum in 2006, Khalili was asked to paint one of the most famous love stories of the Middle East - often compared to Shakespeare's Romeo and Juliet. Khalili had a strong connection to the story as he had a similar experience when he was young man. When he was 23, he met the love of his life but circumstances never allowed them to marry. Although Khalili went on to be happily married to another woman and to have 4 sons, he insisted that this previous experience had changed his life forever. Ahmad Khalili died in 2008.

Alternative versions of the story

Close to the painting by Khalili there is another version of the Layla and Majnun story. This version is based on the Turkish one written by the poet Fuzuli in the 16th century. The story and the puppets are performed by Metin Özlen, a professional puppet maker and performer. He works in the tradition of Karagöz, traditional Turkish shadow puppet plays. This tradition aims to entertain and to make people laugh. Therefore, a happy ending is constructed for the tragic story of Layla and Majnun. A 'witch granny' is invented by Özlen who tells Layla's father that she will die if she cannot marry Majnun. So, Layla's father sets Majnun three tasks to complete in order to marry his daughter. Majnun succeeds and can marry Layla. Özlen is using the traditional framework of the Karagöz plays and the narrative of the story of Layla and Majnun and adding his own personal embellishment.

Thinking Routines in action… *Five Times Two* and *What Makes You Say That?*

The students will be divided into small groups and given a laminate of a key scene from the story of Layla and Majnun to observe for a short period (of up to a minute). They will be asked to look closely and observe carefully. Students will then generate a list of 5 words or phrases on sticky notes for their scene.

Then, they will look at the image again in their small group and generate another list of 5 words. Students are asked to look a second time as the most obvious observations appear on the first list. When we come together we will create a word bank to generate a discussion of the key scenes of the story.

The aim is to tell the story of Layla and Majnun in sequence through the students observations. We will discuss the key scenes of the story, reflecting on the beginning, middle and end, the main characters and how they are portrayed and finally, talk about the story itself and why it is important.

(Note: there is not sufficient time to discuss all 19 scenes portrayed in this painting but the key scenes are the ones relating to the abbreviated version of the story in the Appendix).

Sigi

Africa (Second Floor)

Carved by Mamari Fane in Kirango, Mali. 1994. Inv. No. 5566-10a

CAMPAIGN! CAREFUL LOOKING STOP! LOOK! THINK.

Key concepts

- Art of Storytelling
- Puppets and storytelling
- How objects tell stories
- How to look at an object – close observation and slow looking

The Story of Sigi

There are many different types of puppets: finger, glove, sock, string puppets or marionettes, shadow puppets and finally rod puppets. Puppets and puppet theatre can be found all over the world in many different forms. Shadow puppets are often used to tell the story of the Ramayana (see section on Ramayana Prints and Appendix I: Stories). There are many examples of puppets on display at the Tropenmuseum. There is a not a strong tradition of puppetry in many African cultures. String puppets were introduced in the second half of the 20th century.

Sigi's head and the *maaninw* (small puppets) were carved in 1994 by Mamari Fane, a blacksmith living in Kirango, Mali especially for an exhibition at the Tropenmuseum in 1996 called 'Distant Friends of Punch. Puppetry in Africa and Asia'. Every year during the *masquerade* or mask festival in the village of Kirango large puppets in the shape of mythical animals *(sogow)* 'dance' accompanied by singing and drumming. This is to celebrate the harvest. These mythical animals can be hyenas, antelopes, sheep or, as in the case, here a wild buffalo. They can be made entirely of straw, or with a straw body and a wooden head or also made of cloth and frame with a large wooden head (as it is here). The wild buffalo is called Sigi with a body approximately 2 metres long and 1.5 metres high. He symbolises strength and the power of traditions. He dances in a way that reflects his character – therefore, Sigi's dance is slow and stately. All *sogow* are accompanied by a man ringing a hand bell to show the way.

Drawing by Hetty Pearl, 1995

The puppets are operated by puppeteers hidden inside by a large cloth - as this drawing illustrates. The concealed puppeteers operate the head of the animal and the small rod puppets or *maaninw*. The *maaninw* are usually human figures carrying out daily activities – women pounding millet, musicians playing a drum and a xylophone, a farmer, fishermen in a boat and a man on a horse. These small puppets are also given a chance to dance in the masquerade according to their characters – the musicians play and the women start pounding the millet!

Mask dances are instruments for telling stories. They also confirm the cultural identity of the *Bamanan* farmers whilst also retaining their folklore and cultural heritage.

Thinking routines: *See-Think-Wonder*

This routine is composed of three steps:

- What do you **see**?
- What do you **think** about that?
- What does it make you **wonder**?

Students will spend a couple of moments observing the sculpture carefully.

They will then be asked to state what they **see** in front of them, what they have observed and to list the various details. This part makes everyone in the group much more aware of what they are looking at and helps people to see things that they may not have seen themselves.

Based on the observations, the group will then be asked 'What does this object make you **think**?' or 'What else is going on here?' This stage is asking for interpretations about what students think the object is about. Asking 'What do you see that makes you say that?' requests students to provide supporting evidence to their response. The aim is to build up layers of tentative interpretations.

Finally we will ask what students are **wondering** about based on what they have seen and have been thinking. This is about asking broader questions that push thinking into new areas of interpretation.

This routine is very simple and memorable and is wonderful at generating interest in a topic and opening up areas for exploration. It is also useful in generating questions that might guide the future inquiry of the group.

At the end of the discussion, if there is sufficient time, the museum teacher will ask the students to spend a few moments thinking about a title* that summarises or captures the most important aspect of this object. What would that title be?

** 'Title' is an adaptation of the Visible Thinking 'Headlines' Routine.*

Activities to do with your students: Before, During and After the Visit

Before: Our Visit to the Tropenmuseum

1. Hold an introductory discussion about the museum with the class to stimulate thinking about the visit. Pre-visit preparation helps to focus learning, stimulate interest and helps to acclimatise students to what to expect at the museum.

Discussion suggestions:

- ★ Who has heard of the Tropenmuseum? Who has been before? Where is it located?
- ★ What do you think you can see in the museum?
- ★ Why do you think we are going to the Tropenmuseum?
- ★ How do museums work? What is a curator? How do they select objects for display in a museum?
- ★ Allow pairs of students to access the Tropenmuseum website and gather information. www.tropenmuseum.nl
- ★ Students can come up with a preliminary set of questions for things they want to find out at the museum.
- ★ The day before the visit, discuss the programme with the students and include logistical information. Show a map with the galleries the group will be visiting. Discuss and agree on the purpose of the day with your class: for example, our purpose is looking, hearing and talking or learning about objects telling stories.

2. Use the KWL chart to focus your discussion. Fill in the first two columns before your visit. The last column can be completed when you return to the classroom.

What do you know?	What do you want to know?	What have you learned?

During Your Visit: Free-time Suggested Activities 1

The Travelling Tales exhibition is based on three themes: Love, Courage and Cunning. Your group will have approximately 30 minutes to spend here completing one of the following suggested tasks or activities on the next pages.

Explore... LOVE

Find out more about the story of Layla and Majnun. Aside from the painting that we looked at, there is another painting by Huseynov, a sculpture and the shadow puppet performance of the Turkish version of the story. Circle the one that tells the story best?

Painting **Sculpture** **Shadow puppets**

What makes you say that?

Send a Layla and Majnun e-card to someone you love!

Explore... CUNNING

Watch a shadow puppet play from Indonesia. Press the yellow button.
There are 4 different stories about Kancil, the clever mouse deer.
If you want to act out the play yourself, press the button on the right-hand side of the screen. Now it's your turn to tell the story!

Look at the wayang puppets in the display case.

Explore... COURAGE

- ★ Spot our friend Hanuman from the Ramayana story of Rama and Sita? Do you see anyone else with him from the story?
- ★ Build a temple for Hanuman out of the blocks provided.
- ★ Play one of the computer games with Hanuman as the main character. Test your own strength, faith and courage!

During Your Visit: Free-time Suggested Activities 2: Close-Looking at Objects.

Choose an object that you like. Draw a picture of the object.

Describe your object carefully (hints: colours, shapes, patterns , texture):

Draw a picture of the object here

Now write a museum label for your object.

Where is it from?

What do you want people to know about your object?

I like this object because :

During Your Visit: Free-time Suggested Activities 3

See APPENDIX II 'Terrorist' Khosrow Hassanzadeh *West Asia & North Africa* for detailed information.

This task can be completed at the museum or back in the classroom. The image can be found here: http://collectie.tropenmuseum.nl.

1. **Look at this print. Make 10 observations. (Look at the background, the size, the title, the main subject of the painting.)**

2. **If you were to write a headline for this art work, what would it be?**

After Your Visit:
Ramayana Shadow Puppet Theatre

1. Read the story of the Ramayana again to the students. Use the Ramayana paintings in this pack as 'sequence strips' – print out the pictures, cut out, ask students to arrange the pictures in the order of the story. Afterwards, older children can write down the events in the story from what they see in the paintings. They can then arrange these into the correct order for the story.

2. Provide art materials. Divide up the class so that tables can draw images of Rama, Sita, Lakshman, Ravana and Hanuman on card. Colour or paint the images.

3. Using sticky tape, attach a stick (or straw, ruler, paint brush) at right angles near the base of the puppet.

4. Make a screen for the puppet performance. Make a shadow puppet theatre. Use large sheets of white paper or thin sheets stuck along the edge of a table and to table legs. The top of the table becomes the roof of the puppet theatre. Put a lamp behind the stage so that the puppets can make shadows. Tip: Get a crisp outline by holding the puppets close to the screen.

5. Younger children can act out the play whilst you read the story aloud. Older children can act out and tell the story from their own versions (see above).

Extension: Divide the class into groups, give each group one of the main characters of the Ramayan. Ask them to describe the character and what happens to him or her during the story. They can then work out what lesson is presented by that character. Discuss the lessons that the Ramayana wishes to tell to its audience. What other stories can you think of that also teach us lessons? Can you think of other stories where 'good' triumphs over 'evil'? Can you make a list of fairy-tale goodies and baddies?

After Your Visit:
Layla and Majnun/Ramayana Digital Storytelling

There are many different forms of digital storytelling, but generally they all encompass the idea of combining stories with the use of digital multimedia (video, audio, images etc.). The story of Layla and Majnun is presented at the Tropenmuseum through a narrative painting with the a film of the story being told by a professional storyteller.

1. Print out the story of Layla and Majnun or the Ramayana (see APPENDIX I).
2. Students can choose to represent all or part of the story. They could even present a different version of the story (e.g. with a happy ending like the Turkish version of Layla and Majnun). Students should make a list of scenes they want to include.
3. Consider writing a storyboard for each scene. There are useful online tools to help with this or a template that can be downloaded and filled in. See Web Resources for more information on resources for storyboarding.
4. Students can use photographs from home, digital cameras, clip art or their own drawings to generate the slides for each scene. Students should choose or draw images for the main characters.
5. Open Microsoft PowerPoint and start a new presentation. Choose backgrounds and add in your images for each scene. Insert the images that have been chosen to represent the characters.
6. The script can also be audio-recorded using a headset microphone.
7. Save the file.
8. Playback the presentation to the class. The group can narrate the story using the PowerPoint slides as illustration.

After your visit: Looking at Objects: Discuss, Write, Create

Using either one of the objects you saw at the museum or using objects found on the collections database of the Tropenmuseum at: http://collectie.tropenmuseum.nl.

1. Class Discussion

- ★ Discuss how the object was made.
- ★ What materials did the artist use?
- ★ What is the object for? How is it used?
- ★ What does the object tell you about the people who made it or where they live?
- ★ Follow-up each observation by asking for evidence: 'What makes you say that?'
- ★ Document the discussion and make it visible by writing down suggestions on a white board or on post-it notes.

2. Written Exercise

- ★ Use the Thinking Routine: Colours, Shapes, Lines to analyse and observe an object.
- ★ From the observations, write a paragraph about the object. Try to describe the object carefully and think about what it tells you about the people who made it.

COLOURS What colours do you see? Describe them.	SHAPES What shapes or patterns do you see? Describe them.	LINES What kinds of lines do you see? Describe them.

3. Create a mini-museum

Based on one of the themes explored in this programme – stories, puppets, themes of heroes and heroines, love etc. Each student can bring in an object associated with the chosen theme. Each item must be labelled accurately with a description of the object and any other facts they have found out or want to include (e.g. what is made from, where it was made, date, country etc.). The objects should then be arranged carefully, like a museum, to tell a story or elements thereof. Talk about the display with the students and brainstorm ideas for how the items can be best displayed. Then invite other classes to come and visit!

Resources and Reference Materials

Vocabulary Words

Avatar The incarnation of a Hindu deity in human or animal form.

Bamana A cultural group of people native to Mali.

Dharma The duty each person has to do his or her job well, whatever his or her station in life; an important value in Hindu religion.

Maaninw Small rod puppets in the shape of human or animal figures carried on the back of a sogow.

Masquerade A party or performance in which people wear masks and costumes to represent characters from folktales or historical events.

Ramayana Story of Rama and Sita

Sogow A kind of puppet in the shape of a mythical animal.

Wayang kulit A type of puppet shadow play performed around in and around Indonesia using puppets made from leather.

Web Resources

The following websites may help to enrich your experience at the museum before and after the visit.

The making of Madonna (after Omomá and Céline) by Roy Villevoye:
http://www.manimalworks.com/pagesenglish/mixedpages/frameseteng.html

Information on the Ramayana:
http://asiasociety.org/countries/traditions/ramayana

http://www.elisabethdenotter.nl/site1/Homepage_of_Elisabeth_den_Otter/Puppetry.html

Film of the Bamanan masquerade of Kirango:
http://www.youtube.com/watch?v=AREsSXmsBbc

Installation of 'Planets in My Head, Literature' at Tropenmuseum"
https://www.facebook.com/media/set/?set=a.190185104384289.44809.110971792305621&type=3

Digital storytelling in PowerPoint – how to guide, step-by-step (includes template for storyboarding)
http://www.patricklowenthal.com/digitalstory/tie/jobaids/ppt+digitalstory.pdf

Online storyboard generator:
http://generator.acmi.net.au/storyboard

APPENDIX I Stories

The story of Rama and Sita from the 'Ramayana'

'This is a story about Prince Rama, the great warrior who was married to the beautiful Sita. Rama wanted to take over the throne from his father the king but is banished by his stepmother. He flees to the forest with his wife and brother, Lakshman. They live happily in the forest for many years.

One day when Rama and Sita are walking in the forest, they see a beautiful golden deer. Sita begs Rama to catch it for her. As soon as Sita is alone, Ravana the demon king, comes swooping down on a huge chariot pulled by monsters with wings and kidnaps her. Ravana is the most terrible of all the forest demons. He has twenty arms and ten heads and a mouth of yellow fangs. Despite being scared, Sita leaves a trail of her jewellery for Rama to follow.

The two brothers, Rama and Lakshman set off to rescue her. On their way, they meet the monkey king Sugriva and help him. In thanks, King Sugriva offers to raise an army of monkeys and bears led by Hanuman. Hanuman is clever and strong and an enemy of Ravana. Together with his monkey army, he manages to find Sita on the island of Lanka sitting in a garden refusing to marry Ravana. She gives Hanuman one of her remaining jewels, a pearl, to show Rama that Hanuman really has found her. Ravana's men then capture Hanuman and set his tail on fire. With his tail on fire, Hanuman hops from roof-top to roof-top setting fire to all of Lanka.

Rama is overjoyed that Sita has been found. So he gathers his army and marches to the sea. But the army are unable to cross the giant, stormy sea to where Sita is being kept. So Hanuman and his monkey army come to the rescue again and persuade other animals to join them. They throw stones and rocks into the sea until they have built a giant bridge to the island for Rama and his army to cross.

There follows a long and exhausting battle. In the battle, Lakshman gets injured. Hanuman offers to go and fetch the medicine from the Himalayas which will save him and in doing so shows courage and determination. After many days, Rama kills Ravana with his special bow and arrow and wins the long battle. All the world rejoiced as the reign of the demons was over. Together with Sita, they return to Northern India where Rama takes up his throne in the town of Ayodhya.'

Layla and Majnun: a love story

'Once upon a time, a father has a beautiful son with a golden future. His name is Qays. At school, Qays meets a girl called Layla for the first time. Layla is beautiful with long, dark hair after which she is named (Layla means 'night'). Qays and Layla fall in love with each other. Qays love is so strong that he writes love poems and tells them to everyone. He is so in love that everyone starts calling him 'Majnun', meaning 'the madman'.

As was the tradition, Majnun's father asks Layla's father for her hand in marriage to his son. Layla's father refuses because of Majnun's reputation as a madman. Majnun is heartbroken and goes on a pilgrimage to Mecca with his father to cure him of his love. However, his love for Layla just grows stronger and stronger. He decides to go and live in a cave in the desert and the desert animals become his friends. He devotes himself to composing poems and songs in honour of Layla. Majnun sleeps and does not eat – his love for Layla is the most important thing.

Layla's father promises her to another man – a wealthy, older man from a neighbouring village. She marries him but does not stop loving Majnun. Her husband is intelligent and kind and sadly accepts her love for Majnun.

Majnun and Layla remain separate for the rest of their days, only occasionally seeing (but not speaking to or touching) each other. Sometimes they exchange letters. Majnun continues to sing songs about Layla, and her love for him never falters. Majnun's friends are the desert animals who watch over him and accompany him as he walks through the desert. Many years pass and eventually Layla's husband dies. Layla dies alone soon after of a broken heart after all the years of faithfully loving Majnun. When Majnun hears the news of Layla's death, his world comes to an end. He visits her grave, weeps desperately and dies. After the death of Layla and Majnun, a good friend of theirs, Zaid, has a dream. He sees a beautiful paradise with two lovers walking – they are Layla and Majnun.

APPENDIX II 'Terrorist' Khosrow Hassanzadeh *West Asia & North Africa* (Second Floor)

Note: this is used as an activity for older primary-aged children in the free-time activities section. It can be completed at the museum or back in the classroom.

The Artist

Khosrow Hassanzadeh was born in 1963 in Tehran, Iran. After first selling fruit in the market and then serving as a volunteer in the Iran-Iraq war, he decided to study art at the Faculty of Painting of the University of Tehran (1989). After a few years, he also studied Persian literature. To earn a living, he worked as a fruit-seller by day and painted at night. He works mainly with painting, photography, collage and mixed media. His early works are reflections of family life, although more recently he has turned to more overtly political themes. All of his works have human figures, quite often women, as the focal point; he claims to be inspired by ordinary people. In terms of content, his work addresses social topics and recent Iranian history. He also tackles sensitive or controversial subjects such as war and the war on terror. As he has become more popular in the Western art scene, he has become more interested in the depictions of Iran in Western society. This painting entitled 'Terrorist' is one of a series of silk-screen paintings in which he has chosen images of his sisters and his mother with a label containing information about them – name, age, special characteristics in order to question the concept of 'terrorism' in international politics. For the purpose of this programme we will discuss the style, medium and message of this portrain and why they are important. What is the story behind this work of art? Why has he called this piece 'Terrorist'?

The medium: Silk-screen Printing

Silk-screen painting is a method of printing that uses stencils attached to a fine mesh (originally silk) that is stretched across a wooden frame. Then the screen is placed on top of the fabric and printing ink is drawn across the mesh with a squeegee which transfers the design to the fabric. The stencilled screen defines where the ink or dye will pass, and therefore how the image will appear. To add layers of different colour to the design, the process must be repeated with different coloured ink or dye. For these images, the artist used about 100 silkscreen stencils to which photographic images were transferred in the dark room. Hassanzadeh had to repeat the process 700 times to print the images onto the canvas and create the 7 editions for the series. The canvas is made up of 2 parts that were subsequently glued together because a canvas of such dimensions could not be sourced in Tehran. The technique is reminiscent of propaganda art created during the Iranian revolution. The size of the portrait is important as the artist wanted it to look like the giant propaganda portraits of martyrs that you can see painted on buildings all over Iran. The size feels imposing and makes the viewer feel small.

Story behind the art:

This is a portrait of Khosrow Hassanzadeh's sister Reyhan. She appears seated and looking at the camera. The background of the portrait uses images that the artist found at her home – religious prints and photos. In this portrait you can see images of two Shi'ite Imans that refer to the pilgrimages that Reyhan made to their shrines. The names of all twelve Imams are listed in calligraphy. On the right, there is a picture of Reyhan's husband. The other portraits in this series show Khosrow's mother, Najibeh and sisters Azimeh. There is also a self-portrait of the artist himself. His sisters and his mothers are all shown as 'caring but non-idealistic individuals without the slightest ambition to change the world. They represent genuine men and women with traditional, familial and religious preoccupations living their busy lives'. (Khosrow Hassanzadeh Official website).

Each portrait is accompanied by a label with information about the person with name, age and special features. Each label has an emphasis on religious belief. Reyhan's label reads:

'Terrorist'	Reyhan Hassanzadeh
Nationality:	Iranian
Religion:	Muslim
Age:	64
Occupation:	Housewife
Special features:	Wolf-bite scars on the neck from childhood.
Life history:	Has been on a pilgrimage to Syria, Kerbela and Mecca. Lives in Tehran. Has four children.

The Title

The artist intends to ask several rhetorical questions through this work of art. What is a terrorist? What does the word mean? Who defines it? Are these women in the portraits terrorists simply because of their nationality and religion? How does the West define people in the Middle East?

Colofon

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