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APPENDIX A – Interview guide for semi-structured interviews

A. General feelings about *StoryTimes*

1. What was the game like? / What did you generally think about the game?
2. What did you like most about this game? / Was there something that stood out for you?
3. What did you like the least of the game? (Prompt: What would you change in the game and how would you change it?, What would you do differently?)

B. Who is this game for and how can it be used?

1. Who do you think is the target audience for this game? / Would you recommend this game to anyone you know?
2. How do you see this game best being used?

C. Player background

1. What is your gaming background? (Prompt: do you play games? Do you play games often? What platform do you use to play games? Does anyone in your household play games? How do you feel about playing games?)

D. The elements of the game (challenge/rules/narrative/goals)

1. How do you feel about the game world? (Prompt: the setting / the characters)
2. What do you think about the quizzes in the levels? (Prompt: were you able to figure out what to do in the game to continue to the next level?)

E. Learning / Seriousness

1. What do you think of using serious games? (Prompt: How would you define serious games? Have you played serious games before?)
2. What do you think is the content/message of *StoryTimes*? What do you think *StoryTimes* is about? (E.g., what did you learn or took away from this game?)
3. What do you think about using *StoryTimes* to learn the multiplication times tables?

F. Usability

1. How do you feel about *StoryTimes*' interface? (Prompt: in terms of the graphics / sound / navigation / using a tablet.)
2. What do you think about using tablets to play games like *StoryTimes*?
3. Did the game work as you expected it would work? (Prompt: Did you feel lost at any time?)
4. Did you encounter any errors / bugs?

APPENDIX B – Sample coding and annotations

Stage 1: Description	Participant A: Lines 58 – 65 (Translation follows on next page.)	Stage 2: Interpretation
<i>General thoughts about game?</i> • passport • travelling • achievement • next level <i>Liked most?</i> • lively characters <i>Liked least?</i> • dislike time tables • rebelling <i>Suggest changes? What and how?</i> • video after level completed • general knowledge	<i>Navorser: Wat het jy oor die algemeen gedink van die game?</i> Deelnemer: Ek hou van hoe hy lyk. Ek hou van die idee agter die <u>paspoort met die travel</u>, met [PAUSE] die verskillende stages wat jy besoek en <u>die achievement wat jy kry deur een klaar te maak</u> en dan <u>na die volgende een te gaan</u>. Ek hou van die hele konsep daarvan. <i>Navorser: Waarvan het jy die meeste gehou?</i> Deelnemer: Ek dink die karaktertjies. Hulle is oulik, ja, <u>hulle is lewendig</u>, dis nie asof dit sulke dooie goetjies is nie. Hulle is lewendig. Dis oulik. <i>Navorser: En die ding waarvan jy die minste gehou het? En jy kan dood eerlik wees!</i> Deelnemer: Ag, dis die maaltafels! [LAG]. Plain en eenvoudig <u>hou ek nie van maaltafels nie</u>, maar ek dink <u>dis meer rebels</u> as enige iets anders. Ek dink as jy op 'n ou ouderdom kom en jy ken dit nog nie is dit omdat mens vasgeskop het, en om daai stigma verby te kry [is moeilik]. <i>Navorser: Wat sou jy verander en hoe sou jy dit verander?</i> Deelnemer: Enigste ding wat ek sou wou verander het is die... <u>as die stage klaar is kort hy 'n videotjie</u>. Jy kan dalk regte diere [gebruik], dalk meer van die diertjie vertel. Dalk 'n live ding van een is 'n potlood, hoe word potlode dalk gemaak? <u>So general knowledge ding</u>. 'n Storieltjie maak met jou karakters. Met jou normale game play as jy klaar is, is daar gewoonlik 'n video en dan gaan jy aan.	Enjoys seeing progression through the game and being rewarded for making progress. [coded: track progress, rewards] Game characters come to "life" and are more interesting and attention grabbing through animations and sound. [coded: attention span, audio and visual] Negative experiences with mathematics in school affect attitude later in life. [coded: negative feelings toward math and learning] Wants to be properly rewarded for completing a stage, for example being shown a video. Video could incorporate incidental learning. [coded: rewards, incidental learning]

APPENDIX B (continued) – Sample coding and annotations

Stage 1: Description	Participant A: Lines 58 - 65	Stage 2: Interpretation
<i>General thoughts about game?</i> • passport • travelling • achievement • next level <i>Liked most?</i> • lively characters <i>Liked least?</i> • dislike time tables • rebelling <i>Suggest changes? What and how?</i> • video after level completed • general knowledge	<i>Researcher: "What did you generally think about the game?"</i> Participant: "I like how it looks. I like the idea behind the passport with the travel, with [PAUSE] the different stages that you visit, and the achievement that you get by completing one and then moving on to the next. I like the whole concept." <i>Researcher: "What did you like the most?"</i> Participant: "I think the characters... They are very cute, yes, they are lively. It's not as if they are these dreary little things. They are lively. It is cute." <i>Researcher: "And the thing you liked the least? And you can be entirely honest!"</i> Participant: "Oh, it's the multiplication tables! [LAUGH]. Plain and simple, I do not like multiplication tables, but I think it is more rebelling than anything else. I think if you get to an old age and you still do not know it, it is because one kicked against it, and to overcome that stigma [is difficult]." <i>Researcher: "What would you change and how would you change it?"</i> Participant: "Only thing which I would change is the... if the stage is complete it needs a short video. You could maybe [use] real animals... maybe tell more about the little animals. Maybe a live thing of one is a pencil, how are pencil maybe made? A type of general knowledge thing. Make a little story with your characters. With normal game play there is usually a video and then you continue."	Enjoys seeing progression through the game and being rewarded for making progress. [coded: track progress, rewards] Game characters come to "life" and are more interesting and attention grabbing through animations and sound. [coded: attention span, audio and visual] Negative experiences with mathematics in school affect attitude later in life. [coded: negative feelings toward math and learning] Wants to be properly rewarded for completing a stage, for example being shown a video. Video could incorporate incidental learning. [coded: rewards, incidental learning]

APPENDIX B (continued) – Sample coding and annotations

Stage 1: Description	Participant B: Lines 11 – 16 (Translation follows on next page)	Stage 2: Interpretation
<i>Liked most?</i> - preferred platform - touch - computers - lively characters	N: "Okay, so van die game, waarvan het jy die meeste gehou?" D: "Ag ek dink maar dis soos ek sê, dis die konsep, dat jy al drie daai goetjies bymekaar bring. Dit is vir my nice. Natuurlik die <u>tablets maak dit lekker</u> en die <u>touch</u> screens; dis maklik – veral vir klein kindertjies –om te verstaan. Dis nie <u>soos n muis</u> wat hulle sukkel, want ek weet my dogtertjie sukkel met die muis, sy kop dit nie so lekker nie. Met die touchscreen; jy weet jy tap op die goed en dit maak dit nice so ek weet nie, dis n nice omgewing en dis n nice konsep."	Comparing computer use with tablet use. Relates that children struggles with using the mouse but tablet use comes much more naturally because of the touch screen capabilities. Tablets appear to be the platform of choice. [coded: <i>gaming platforms</i>]
<i>Liked least?</i> - too many hints - difference in age	N: "Okay, waarvan het jy die minste gehou? Jy kan eerlik wees! Wees krities!" D: "Aan die begin is daar dalk n bietjie te veel om te wys, maar ek meen dit hang af nou weer van die vlak user wat jy gaan he. Dat jy die <u>hints</u> gee wat vir my na die eerste hint of wat ook al dans ek miskien al daar en dan kom daar dalk nog n hint of twee <u>wat dalk bietjie iriterend is maar soos ek se weereens is jy nou n jong kind nou voor dit gaan sit dan gaan dit dalk heelwaarskynlik heel appropriate wees</u>. So dis moeilik vir my om te sê, maar nee, daar is nie rerig iets wat ek kan sê nie."	Too many hints (in the form of arrows) are being given. A sense that the game is too easy, although it may be appropriate for younger players. [coded: <i>arrows, player age</i>]
<i>Probe topic of hints</i> - automatic hints - artificial intelligence	N: "So jy sê om dalk 'n setting te hê om daai hints aan en af te sit?" D: "Kan dit dalk probeer. 'n Ou kan dit dalk maak dat [die game] dit <u>optel</u> jy weet as 'n ou te veel sukkel okay gee vir hom nog n paar <u>hints</u>, as die ou reg kom los dit dan los jy die hints so tipe van n <u>AI</u> effek."	If a player struggles, the arrows should appear automatically if the player struggles. A sense that the game must adapt and provide automatic guidance for players. [coded: <i>arrows, artificial intelligence</i>]

APPENDIX B (continued) – Sample coding and annotations

Stage 1: Description	Participant B: Lines 11 - 16	Stage 2: Interpretation
<i>Liked most?</i> • preferred platform • touch • computers • lively characters	R: "Okay, so of the game, what did you like the most?" P: "Oh I think, it's like I said, it's the concept that you bring those three things together. That was nice for me. Of course, the tablets make it nice and the touch screens; it is easy – especially for small children – to understand. It is not like a mouse where they struggle, because I know my daughter struggles with the mouse, she doesn't understand it so well. With the touch screen; you know you tap on the stuff and that makes it nice. So I don't know, it's a nice environment and it's a nice concept."	Comparing computer use with tablet use. Relates that children struggles with using the mouse but tablet use comes much more naturally because of the touch screen capabilities. Tablets appear to be the platform of choice. [coded: <i>gaming platforms</i>]
<i>Liked least?</i> • too many hints • difference in age	R: "Okay, what did you like the least? You can be honest! Be critical!" P: "At the beginning, there is maybe too much being showed. But I mean, again, it depends on the level of the user that you will have. After the first hint or whatever, when I'm there, and then there appears another hint or two, which could be a little irritating. But if you put a young child in front of it, it will most probably be appropriate. So it is difficult for me to say, but no, there is not really something I can say."	Too many hints (in the form of arrows) are being given. A sense that the game is too easy, although it may be appropriate for younger players. [coded: <i>arrows, player age</i>]
<i>Probe topic of hints</i> • automatic hints • artificial intelligence	R: "So you're saying to maybe have a setting to put those hints on and off?" P: "Can maybe try that. One can maybe make it so that [the game] picks it up, you know, if one struggles too much, okay, give him a few more hints, if one gets it right, leave it, then you leave the hints, a type of AI effect."	If a player struggles, the arrows should appear automatically if the player struggles. A sense that the game must adapt and provide automatic guidance for players. [coded: <i>arrows, artificial intelligence</i>]

APPENDIX C – Themes and sub-themes from data analysis

	Sources	Quotations
Technology use and mobile devices	5	50
capability to use technology	4	11
convenience	3	5
gaming platforms	5	29
mobility	4	5
The player's attention	5	19
attention span	5	14
attention vs. audio	4	4
distractions	1	1
Player's feeling toward subject content	5	34
different teaching approaches	5	8
feelings that maths is important	2	5
incidental learning	4	5
need more serious games	1	1
negative feelings toward math and learning	5	9
practice and repetition	4	6
The player's feelings toward in-game challenges	5	63
customise	3	7
encourage	1	3
make more challenging	2	3
memory association	5	27
pace	3	8
replay	2	3
rewards	3	5
track progress	2	7
The player's feelings about the serious game world	5	41
a game for children	4	9
audio and visual	5	9
playing while learning	3	7
story	5	11
usability	3	5
Assistance with the serious game	5	31
arrows	4	13
artificial intelligence	1	1
guidance from people	3	6
need more guidance	1	2
school setting	5	9
Challenges associated with wide target audiences	5	20
gender	1	1
player age	1	5
reading and writing skills	2	11
skills are different	1	3

APPENDIX D – Translation of quotations

The quotations appear in the order in which they were reported on in Chapter 5.

Theme 1: The use of technology and convenience of mobile devices

Quotation	Translation
<i>Deelnemer 1: "...met 'n rekenaar is dit meer gekompliseerd, met 'n muis en keys en goed, waar met die tablet is dit automaties, hy wys jou waar om te druk en jy druk daar."</i>	<i>Participant 1: "...with a computer it is more complicated, with a mouse and keys and things, whereas with the tablet it is automatic, it shows you where to press and you press there."</i>
<i>Deelnemer 2: "Ek dink die tablet en die touch screen omgewing is baie makliker. Sy kan nie op die rekenaar met 'n muis werk nie... gee vir haar 'n tablet, en kyk watse oulike goedjies kry sy daarmee reg."</i>	<i>Participant 2: "I think the tablet and touch screen environment is much easier. She cannot work on the computer with a mouse...give her a tablet and look at everything she can accomplish with it."</i>
<i>Deelnemer 1: "Ek dink die ander consoles moet mens eers meer gewoond raak."</i>	<i>Participant 1: "I think one has to get more used to the other consoles first."</i>
<i>Deelnemer 4: "...die kinders begin vroeg met rekenaars... Hulle het 'n rekenaar periode... van graad 1 af gaan hulle een keer 'n week."</i>	<i>Participant 4: "...the children start early with computers...They have a computer period... from grade 1 they go once a week."</i>
<i>Deelnemer 4: "...dis wonderlik. Hulle like touch screens, hulle ken touch screens. Die kinders is regtig gegear vir hierdie goed."</i>	<i>Participant 4: "...it's wonderful. They like touch screens, they know touch screens. The children are really geared up for these things."</i>
<i>Deelnemer 5: "Weet jy daar's skole wat nou die kleintjies met iPads en tablets issue in graad R al?"</i>	<i>Participant 5: "You know, there are schools that now issue the small children iPads and tablets in grade R already?"</i>
<i>Deelnemer 3: "Hulle moet nou leer skryf. So waar hulle die pattern agt moet maak, waar hulle van een tot twee die dots moet verbind, en weet jy my driejarige dogtertjie doen dit."</i>	<i>Participant 3: "They now have to learn to write. So where they have to make the pattern eight, where they must connect the dots from one to two, and you know, my three year old does this."</i>

APPENDIX D (continued) – Translation of quotations

Deelnemer 4: "Veral as ons by mense gaan kuier wat nie kinders het nie of die kinders is al groot. Dan vind ek dit moeilik want dan's daar niks om hom mee besig te hou nie. En dan dink ek sal dit nogal goed wees."	Participant 4: "Especially if we are visiting persons who do not have children or their children are grown up. Then I find it difficult to keep him occupied and then I think that it will be quite good."
Deelnemer 3: "So ook op pad vakansie toe en sulke goed, instede dat ons elke keer vir hulle videos op die laptop aansit, sit ek die games op en dan leer hulle."	Participant 3: "Also when we are travelling on holiday we load games instead of videos on the laptop which also means that they are learning."
Deelnemer 1: "Want wat lekker is, jy kan een adventure doen en dan los en dan kan jy weer 'n ander adventure doen. Kan jy in die middel van die ding stop?"	Participant 1: "Because what is nice is you can do one adventure and then leave it and then you can do another. Can you stop in the middle of [the game]?"

Theme 2: The player's attention

Quotation	Translation
Deelnemer 2: "Daar's partykeer wat ek gevoel het dit gaan te stadig maar weer eens, wat ek ook gesien het met myself en die ander memory games wat ek speel, daar kom 'n stadium wat jou konsentrasie levels net begin val, waar jy dalk nie meer heeltemal so konsentreer soos wat jy moet nie."	Participant 2: "There were a few times that I felt it went too slow but then again, what I've seen with myself and other memory games I've played, there comes a stage that your concentration levels just begin to fall, where maybe you don't concentrate as fully as you need to."
Deelnemer 1: "...en dan 'pop' 'n email! PING! ...en dan trek dit die aandag af... Dat mens so half amper wil sê as jy [in die game] gaan dan is jy vas, jy mag nie uitgaan tot jy klaar is nie. [LAG]. Dis dalk nie ideaal nie maar dit sal goed wees dit help met die fokus daarvan."	Participant 1: "...and then an email 'pops'! PING! ...and it detracts your attention... That one can almost say that when you go [into the game] then you are trapped there and you may not leave until you are finished. [LAUGH]. It's maybe not ideal but it would be good to help to focus on it."

APPENDIX D (continued) – Translation of quotations

<i>Deelnemer 5: "Hulle gaan, aandag afleibaar, opstaan, iets anders doen, en dan weer terugkom."</i>	<i>Participant 5: "They will lose attention, stand up, do something else, and then come back again."</i>
<i>Deelnemer 3: "...maar eintlik... ek het dit nie gelees nie... dis hoekom ek foute hier gemaak het."</i>	<i>Participant 3: "...but actually... I didn't read it... that is why I made mistakes here."</i>

Theme 3: Player's feelings toward subject content

Quotation	Translation
<i>Deelnemer 3: "...ek meen as alles net so geforseer word, en dis dan hoekom die kinders nie hou van wiskunde op skool nie."</i>	<i>Participant 3: "...I mean, if everything just gets forced then that is why the children don't like mathematics in school."</i>
<i>Deelnemer 2: "Jy weet mos as dit afgedwing word op jou dan is dit nie altyd dieselfde nie."</i>	<i>Participant 2: "You know, when it is forced upon you then it is not always the same."</i>
<i>Deelnemer 1: "Ek ken tot vandag toe nie my tafels nie, spesifiek net omdat [my onderwyser] my geslaan het omdat ek dit nie geken het nie."</i>	<i>Participant 1: "To this day I still do not know my tables, specifically since [my teacher] hit me because I didn't know it."</i>
<i>Deelnemer 4: "Vroeër jare toe ons op skool was, het hulle jou geslaan tot jy jou tafels geken het. Vandag gebeur dit nie."</i>	<i>Participant 4: "Years ago when we were at school, they would hit you until you knew your tables. That doesn't happen today."</i>
<i>Deelnemer 5: "Dis baie meer fun om dit so te doen as net uitskryf, uitskryf, uitskryf."</i>	<i>Participant 5: "It is much more fun to do it like this than just writing out, writing out, writing out."</i>
<i>Deelnemer 2: "Maar as jy ook nou weer die keuse het, okay, speel die speletjie of sit en skryf somme vir 'n half uur, gaan jy dalk die speletjie kies."</i>	<i>Participant 2: "But also if you have the choice to play the game or sit down and do sums for half an hour, you might perhaps elect to play the game."</i>
<i>Deelnemer 3: "...want ek weet dis hoe mens makliker leer, nie onder stres nie, waar jy eintlik speel terwyl jy leer en dit slaan vas, ek glo daaraan."</i>	<i>Participant 3: "...because I know that's how one learns easier, not under stress, where you actually play while you learn, and it sticks, I believe in that."</i>

APPENDIX D (continued) Translation of quotations

Deelnemer 3: "Dit is actually belangrik dat die kinders leer deur speel want hulle geniet dit dan. En dan kry hulle ook 'n liefde vir die vak."	Participant 3: "It is actually important that children learn by playing because then they enjoy it. And then they get a love for the subject."
Deelnemer 3: "Die wêreld ja, jy kan even hier leer in terme van watter land is watter nommer en jy kan daai assosiasies ook dan maak. Hulle kan even bietjie geography hier uitkry, nie net wiskunde nie. Die nege maal tafel is daar in Indië."	Participant 3: "The world, yes, you can even learn here in terms of which country is which number and you can make those associations too. They can even get a little geography out of this, not only mathematics. The nine times table is over there in India."
Deelnemer 2: "...maar wat 'n ou ook kan doen as jy sou wou, dalk die diere van sekere kontinente link met levels wat in daai kontinente plaasvind. So as jy in Australië is dan doen jy kangaroo's en daai goedjies en as jy in Suid-Afrika is dan doen jy leeus en luiperds en renosters."	Participant 2: "...but what one can also do if you wanted to, to maybe link the animals from certain continents with levels that take place in those continents. So if you are in Australia then you do kangaroo's and such things and if you are in South Africa then you do lions and leopards and rhinoceroses."

Theme 4: The player's feelings toward in-game challenges

Quotation	Translation
Deelnemer 4: "...maar mens kan die ou halfpad motiveer: 'Well done!' Veral as hy vashaak... want hy weet dalk rêrig nie die antwoord nie. Dat iemand dalk net sê: 'Ag, probeer weer...' ja, dalk dit: 'Don't worry, try again!' of so: 'Oh No!' of so iets... Ek dink dit kan nogals oulik raak vir hulle."	Participant 4: "...but one can sort of motivate him with 'Well done!' Especially if he gets stuck... because he may really not know the answer. That someone maybe just says: 'Oh, try again...' yes, maybe this: 'Don't worry, try again!' or so: 'Oh No!' or something like that...I think it can be fine for them."
Deelnemer 1: "Enigste ding wat ek sou wou verander het is die... as die stage klaar is kort hy 'n videotjie. Jy kan dalk regte diere [gebruik]... dalk meer van die diertjie vertel."	Participant 1: "Only thing which I would change is the... if the stage is complete it needs a short video. You could maybe [use] real animals... maybe tell more about the little animals."

APPENDIX D (continued) – Translation of quotations

Deelnemer 3: "Gewoonlik as jy iets reg gedoen het en dan's dit 'well done', dis balonne, so sy assosieer haar regte antwoord met 'n balon of 'n ding, like in a celebration. Maar die balonne en goed gaan gewoonlik met 'n sound."	Participant 3: "Usually if you do something right then it is 'well done', it's balloons, so she associates her correct answer with a balloon or something, like in a celebration. But the balloons and things are usually accompanied by a sound."
Deelnemer 5: "Ek wonder, sou jy weer daai quiz kon doen en jou punte verander?"	Participant 5: "I wonder, could you do that quiz again and change your marks?"
Deelnemer 1: "Daar kan dalk meer vragies wees. Dit voel vir my net te kort. Kan ek weer terug gaan na die review? Gaan hy dan vir my ander vrae vra?"	Participant 1: "Maybe there can maybe be more questions. It just feels too short for me. Can I go back to the review? Will it then ask me different questions?"
Deelnemer 4: "...maar as jy dalk net die quizzes kan skip, verstaan jy, waar as my kind nou graad 1 is dan wil ek quiz 1 heeltyd doen of miskien [quiz] 2. Maar as jou kind ouer is, dan moet hy dalk [quiz] 3 kan doen; moet hy [aldrie] kan doen."	Participant 4: "...but if you could just skip the quizzes, you understand, where my child is in grade 1 now and then I want to do quiz 1 the whole time or maybe [quiz] 2. But if your child is older, then maybe he has to do [quiz] 3; he must do [all three]."

Theme 5: The player's feeling toward the serious game world

Quotation	Translation
Deelnemer 1: "Ek hou van hoe hy lyk. Ek hou van die idee agter die passpoort met die travel, met [PAUSE] die verskillende stages wat jy besoek en die achievement wat jy kry deur een klaar te maak en dan na die volgende een te gaan. Ek hou van die hele konsep van dit."	Participant 1: "I like how it looks. I like the idea behind the passport with the travel, with [PAUSE] the different stages that you visit, and the achievement that you get by completing one and then moving on to the next. I like the whole concept."

APPENDIX D (continued) – Translation of quotations

<i>Deelnemer 5: "Dis baie oulik, adventure in Afrika."</i>	<i>Participant 5: "It's very cute, adventure in Africa."</i>
<i>Deelnemer 1: "Ek dink die karaktertjies... hulle is oulik, ja, hulle is lewendig, dis nie asof dit sulke dooie goedjies is nie."</i>	<i>Participant 1: "I think the characters... they are very cute, yes, they are lively. It's not as if they are these dreary little things."</i>
<i>Deelnemer 4: "Nee, dis goed wat hulle ken, dis goed wat hulle kan identifiseer mee. Hulle almal ken dit in stories en al sulke goeters. Ek meen die sneeuman is in Frozen, en jy kan al daai goed actually na een of ander animation toe trek, glo my!"</i>	<i>Participant 4: "No, it's stuff that they know, it is stuff that they can identify with. They all know it in stories and such things. I mean the snowman is in Frozen, and you could trace all those things back to some or other animation, believe me!"</i>
<i>Deelnemer 5: "Kinders love harde tablets. Harde alles, harde radio, harde tablet, harde televisie."</i>	<i>Participant 5: "Kids love loud tablets. Loud everything, loud radio, loud tablet, loud television."</i>
<i>Deelnemer 3: "My dogter hou van background music, as sy net begin wil sy hom hard sit."</i>	<i>Participant 3: "My daughter likes background music, if she just starts then she wants to turn up the volume."</i>
<i>Deelnemer 2: "...maar dis dalk iets wat julle kan probeer. Dit kan mos maar rustig wees, want dan breek dit bietjie die stilte."</i>	<i>Participant 2: "...but maybe that is something you could try. It can even be serene, because then it breaks the silence a little."</i>
<i>Deelnemer 4: "Ja, vir as iemand so 'n program gebruik dan kan hulle dit praat terwyl hulle dit so moet intik dat hulle dit sien, hulle moet dit sê en hulle werk daarmee. So ek dink dit kan nogal werk."</i>	<i>Participant 4: "Yes, for if someone uses a program like this then they can speak it while they are typing it so that they can see it, they must say it and they work with it. So I think that can kind of work."</i>
<i>Deelnemer 3: "Ek hou van die feit, hy score jou, so jy weet presies hoeveel jy gekry het, dit help jou om track te hou van wat weet jy en wat jy nie weet nie."</i>	<i>Participant 3: "I like the fact, it scores you, so you know exactly how much you got, it helps you to keep track of what you know and what you don't know."</i>
<i>Deelnemer 1: "En wat dan oulik [is], dan gaan hy oor na die volgende adventure toe."</i>	<i>Participant 1: "And what is nice then is that it goes on to the next adventure."</i>

<i>Deelnemer 3: "Die diamantjies, dit gee jou progress, jy kan track hou van waar jy is."</i>	<i>Participant 3: "The little diamonds, it gives you progress, you can keep track of where you are."</i>
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Theme 6: Assistance with the game

Quotation	Translation
<i>Deelnemer 1: "Ek dink vir 'n kleintjie... die game verduidelik mooi hoe jy dit moet doen, so jy het nie nodig om te 'Mamma, wat moet ek nou doen?' Want gewoonlik moet jy op die meeste van jou games vir hulle goed skryf en dan is hulle op 'n stadium waar hulle nog nie heeltemal verstaan nie."</i>	<i>Participant 1: "I think for a small child... the game explains well how you must do it so you don't have a need to 'Mom, what must I do now?' Because usually you have to write things for them on most of your games and then they are not at a stage where they completely understand."</i>
<i>Deelnemer 5: "Maar daar gaan sekerlik iemand wees by die kind? Jy moet net een keer wys en dan gaan hulle weet."</i>	<i>Participant 5: "But surely there will be someone with the child? You just have to show them once then they will know."</i>
<i>Deelnemer 4: "Maar ek dink oor die algemeen is die pyltjies goed genoeg om jou te wys wat jy moet doen en om te volg."</i>	<i>Participant 4: "But I think in general the arrows are good enough to show you what you must do and to follow it."</i>
<i>Deelnemer 2: "'n Ou kan dit dalk maak dat [die game] dit optel, jy weet, as 'n ou te veel sukkel, okay, gee vir hom nog n paar hints, as die ou regkom los dit, dan los jy die hints, so tipe van 'n [kunsmatige intelligensie] effek."</i>	<i>Participant 2: "One can maybe make it so that [the game] picks it up, you know, if one struggles too much, okay, give him a few more hints, if one gets it right, leave it, then you leave the hints, a type of [artificial intelligence] effect."</i>

APPENDIX D (continued) – Translation of quotations

Theme 7: Challenges associated with a wide target audience

Quotation	Translation
<i>Deelnemer 1: "...waar...mens geneig is om as jy ouer is, wil jy hê hy moet vinnig gaan."</i>	<i>Participant 1: "...where... if you are older, one tends to want it to go faster."</i>
<i>Deelnemer 5: "En jy kan nie te dogtertjie of te seuntjie maak nie...so daar's nie baie pienks of blous nie, dis alles so neutral..."</i>	<i>Participant 5: "And you cannot make it too girly or too boyish...so there's not a lot of pinks or blues, it's all so neutral."</i>
<i>Deelnemer 4: "...of 'n graad 1 kind. Ek meen hy kan nog nie al daai quiz levels doen nie. Die derde quiz sal ek maar sê. My kind kan dit doen né, of hy behoort dit te kan doen. So ek dink mens moet half kyk dat jy quizzes... sekere levels kan skip."</i>	<i>Participant 4: "...or a grade 1 child. I mean he won't be able to do all those quiz levels. The third quiz, if I can call it that. My child can do it, right, or he is supposed to be able to do it. So I think one must sort of see if you can skip quizzes...certain levels."</i>
<i>Deelnemer 2: "En dit hang ook af van die outjie, waar is hy sterk? Hy gaan natuurlik fokus op dit wat vir hom sterk is, natuurlik. So as hy visueel is dan gaan jy prentjies gebruik, as hy wiskundig [is] gaan hy waarskynlik die syfers gebruik en as hy goed kan onthou, wel dan kan hy die prentjie net match."</i>	<i>Participant 2: "And it also depends on the little guy, where is he strong? He is naturally going to focus on where he is strong. So if he is visual, then you will use pictures, if he is mathematical he will probably use the digits and if he can remember well then he can just match the pictures."</i>
<i>Deelnemer 5: "Jy weet daai linkerebrein, regterbrein? Daai wat meer kreatief is, gaan dalk dit meer like, as opposed to die mense wat nie so kreatief is nie."</i>	<i>Participant 5: "You know that left-brain, right-brain? Those who are more creative, might enjoy it more, as opposed to the people who are not so creative."</i>
<i>Deelnemer 4: "...gee net 'n bietjie keuses."</i>	<i>Participant 4: "...just give a few choices."</i>
<i>Deelnemer 1: "So dis die probleem, dat jy dalk sy spoed bietjie vinniger kan stel of bietjie stadiger stel as hy te vinnig is. Dis dalk ietsie wat mens kan bysit. Ja, dat die spoed van die gameplay... dat mens dit dalk kan stel."</i>	<i>Participant 1: "So that is the problem, that you could maybe increase its speed a little or decrease it a little if it's too fast. It's maybe something that one could add. Yes, that the speed of the gameplay... that one could adjust it."</i>

APPENDIX E – Sample participant consent form

CONSENT FORM

TITLE OF PROJECT: Characterising HCI Principles for Evaluating the User Experience of a Serious Game

Name, position and contact information of researcher:

Lizanne Fitchat – Junior Lecturer
North-West University VTC
Hendrik van Eck blvd, Vanderbijlpark, 1911
Contact number: 016 910 3286

PROJECT INFORMATION: This research project involves the user experience evaluation of a serious game using a proposed characterisation scheme. Participants will play through a section of the game and comment on the game's user experience through an interview.

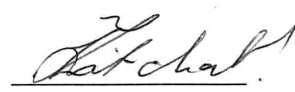
Please initial

1. I confirm that I have read and understand the information above and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw from the study at any point.
3. I agree to take part in the above study.





 15/07/2015 
Name of Participant Date Signature

L. FITCHAT 15/07/2015 
Name of Researcher Date Signature

APPENDIX F – List of referenced game titles

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