



Terms and Conditions of Use of Digitised Theses from Trinity College Library Dublin

Copyright statement

All material supplied by Trinity College Library is protected by copyright (under the Copyright and Related Rights Act, 2000 as amended) and other relevant Intellectual Property Rights. By accessing and using a Digitised Thesis from Trinity College Library you acknowledge that all Intellectual Property Rights in any Works supplied are the sole and exclusive property of the copyright and/or other IPR holder. Specific copyright holders may not be explicitly identified. Use of materials from other sources within a thesis should not be construed as a claim over them.

A non-exclusive, non-transferable licence is hereby granted to those using or reproducing, in whole or in part, the material for valid purposes, providing the copyright owners are acknowledged using the normal conventions. Where specific permission to use material is required, this is identified and such permission must be sought from the copyright holder or agency cited.

Liability statement

By using a Digitised Thesis, I accept that Trinity College Dublin bears no legal responsibility for the accuracy, legality or comprehensiveness of materials contained within the thesis, and that Trinity College Dublin accepts no liability for indirect, consequential, or incidental, damages or losses arising from use of the thesis for whatever reason. Information located in a thesis may be subject to specific use constraints, details of which may not be explicitly described. It is the responsibility of potential and actual users to be aware of such constraints and to abide by them. By making use of material from a digitised thesis, you accept these copyright and disclaimer provisions. Where it is brought to the attention of Trinity College Library that there may be a breach of copyright or other restraint, it is the policy to withdraw or take down access to a thesis while the issue is being resolved.

Access Agreement

By using a Digitised Thesis from Trinity College Library you are bound by the following Terms & Conditions. Please read them carefully.

I have read and I understand the following statement: All material supplied via a Digitised Thesis from Trinity College Library is protected by copyright and other intellectual property rights, and duplication or sale of all or part of any of a thesis is not permitted, except that material may be duplicated by you for your research use or for educational purposes in electronic or print form providing the copyright owners are acknowledged using the normal conventions. You must obtain permission for any other use. Electronic or print copies may not be offered, whether for sale or otherwise to anyone. This copy has been supplied on the understanding that it is copyright material and that no quotation from the thesis may be published without proper acknowledgement.

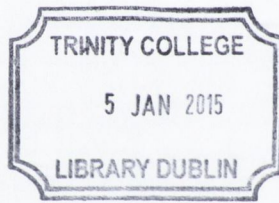
**Text-to-Speech Synthesis in
Computer-Assisted Language
Learning for Irish:
Development and Evaluation**

Neasa Ní Chiaráin

Volume 2

Thesis submitted for the degree of Doctor of Philosophy
School of Linguistic, Speech and Communication Sciences
Trinity College, Dublin

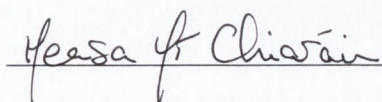
2014



Declaration

I declare that this thesis has not been submitted as an exercise for a degree at this or any other university and it is entirely my own work.

I agree to deposit this thesis in the University's open access institutional repository or allow the Library to do so on my behalf, subject to Irish Copyright Legislation and Trinity College Library conditions of use and acknowledgement.

_____

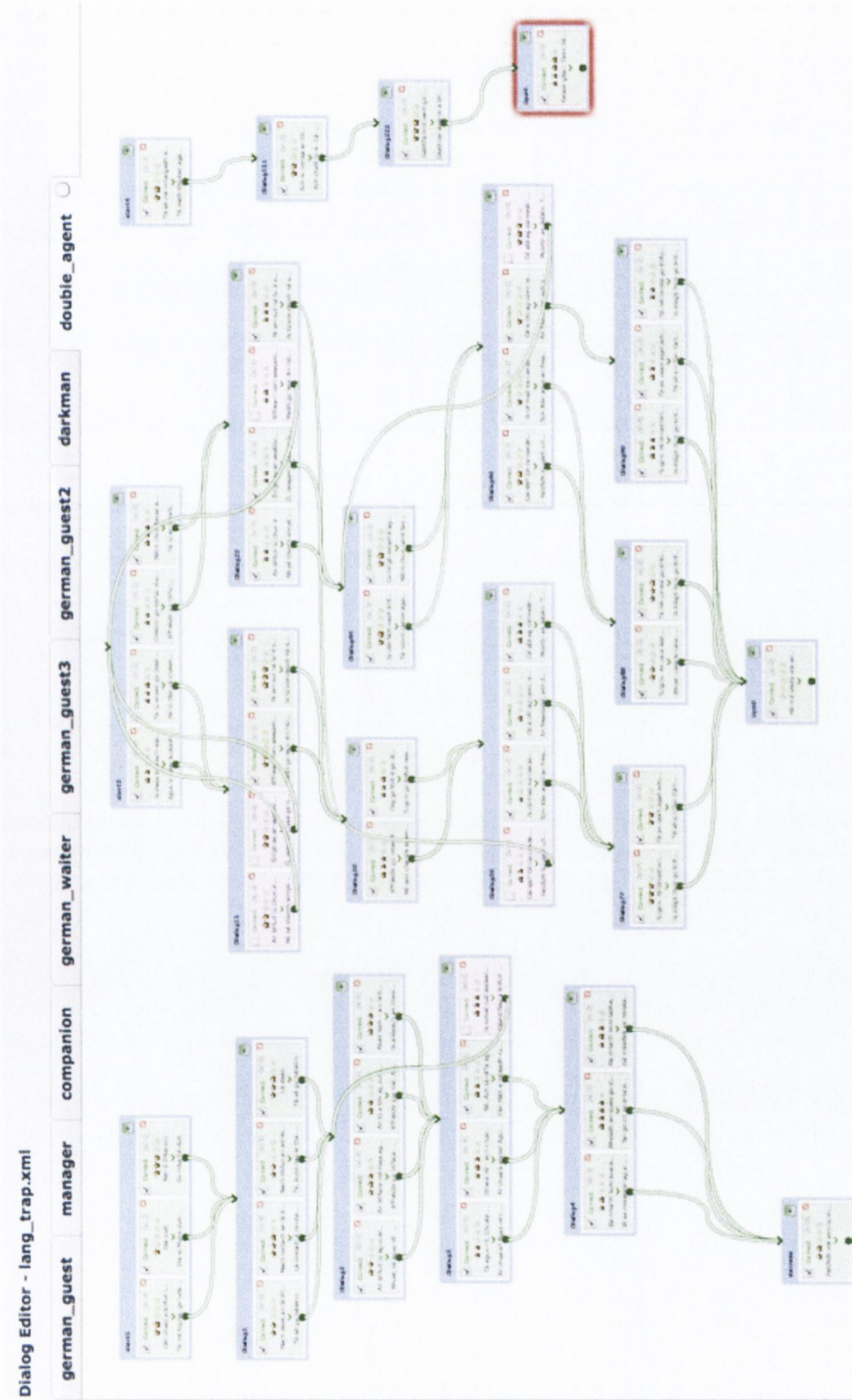
Neasa Ní Chiaráin, September 2014

Contents

	Page
Appendix A	347
A1: Digichaint Development.....	347
A2: Fáilte go TCD	348
A3: Taidhgín.....	350
Appendix B.....	356
B1: Teacher Pre-Test Questionnaire.....	356
B2: Teacher Test.....	358
B3: Sentences used in Teacher Evaluation	359
B4: Teacher Post-Test Questionnaire.....	361
Appendix C.....	362
C1: Pupil Pre-Game Questionnaire	362
C1.1: Irish Language Version:.....	362
C1.2: English Language Version:.....	364
C2: Pupil Post-Game Questionnaire: Digichaint.....	367
C3: Pupil Post-Game Questionnaire: Fáilte go TCD	372
C4: Pupil Post-Game Questionnaire: Taidhgín.....	376
Appendix D	380
D1: Teacher Evaluation Results	380
D2: Calculation of Intelligibility and Clarity Index.....	382
Appendix E.....	384
E1: Post-Game Questionnaire Results (Descriptive Results): Digichaint	384
E2: Post-Game Questionnaire Results (Descriptive Results): Fáilte go TCD...	389
E3: Post-Game Questionnaire Results (Descriptive Results): Taidhgín.....	392
Appendix F	395
F1: Kruskal-Wallis Test Results: Digichaint.....	395
F2: Kruskal-Wallis Test Results: Fáilte go TCD.....	417
F3: Kruskal-Wallis Test Results: Taidhgín.....	440
Appendix G	456
G1: Spearman's Rank Correlation Coefficient for Digichaint.....	456
G2: Spearman's Rank Correlation Coefficient for Fáilte go TCD	459
G3: Spearman's Rank Correlation Coefficient for Taidhgín.....	461
Appendix H	463
H1: Digichaint Statistical Analysis	463
H2: Fáilte go TCD Statistical Analysis.....	473
H3: Taidhgín Statistical Analysis.....	478

Appendix A

A1: Digichaint Development



Digichaint narrative showing progression through conversation turns

A2: Fáilte go TCD

Transcript of Scene in Front Square

Cailín: Bhí mé ag smaoineamh ar dhul go Meirceá an samhradh seo chun obair a fháil, ach anois ní gá dom. Fuair mé post inné –

Fear 1: Ó...

Cailín: treoraí le comhlacht turasóireachta – tá mé ar bís mar gheall air mar tá airgead maith le déanamh air agus beidh mé ag dul timpeall na tíre chun na háiteanna suimiúla ar fad a fheiceáil – go Tír Chonaill, Corcaigh, Cill Airne, Port Láirge agus cá bhfios cé na háiteanna eile. Tá mé ag dréim go mór le bheith ag dul trasna na tíre

Fear 1: Muise, fair play dhuit

Cailín: Agus – rud eile – caithfidh mé tosú Dé Sathairn seo chugainn – tá grúpa de 120 Seapánach ag teacht agus fágadh fúmsa é Baile Átha Cliath a thaispeáint dóibh. Tugadh cead dom beirt a fhostú chun cabhrú liom Dé Sathairn – tá an grúpa rómhór do threoraí amháin – an mbeadh aon spéis agaibhse sa phost? Íocann siad 100euro don lá.

Fear 1: Cinnte, bheadh spéis agamsa ina leithéid – an t-aon fhadhb atá agam ná go bhfuilim le bheith ag imirt cluiche go meánlae Dé Sathairn. An gceapann tú go mbeadh obair réasúnta leanúnach ar fáil leis an gcomhlacht seo? Dá mbeadh, ní bhacfaínn leis an gcluiche. Caithfidh mé teacht ar airgead an samhradh seo – ní bheidh mé ábalta teacht ar ais go dtí an coláiste seo an bhliain seo chugainn muna mbíonn airgead agam.

Cailín: Bhuel, ní féidir liom aon gheallúint a thabhairt, ach deir siad go bhfuil go leor leor cuairteoirí le bheith ag teacht go dtí an tír seo i mbliana – tá go leor daoine le bheith ag teacht ó Mhór-Roinn na hEorpa – beidh ga le treoraithe le teangacha éagsúla.

Fear 2: Bheadh an-spéis agamsa ann. Tá Francís líofa agam agus tá Spáinnis réasúnta maith agam chomh maith. Is ón Fhrainc mo mháthair agus Francís a labhair sí linn sa bhaile nuair a bhíomar óg. Bheadh an-spéis agam teangacha éagsúla a úsáid agus is beag rud nach bhfuil ar eolas agam faoin tír seo. Ceapaim go mbeinn an-oiriúnach don chineál seo oibre. Tá sé thar a bheith tábhachtach go bhfaigheadh cuairteoirí ar an tír seo léargas maith uirthi – tá íomhá na tíre ag brath ar a leithéid seo.

Aural Comprehension Test Questions:

1. Cén fáth nach bhfuil cainteoir 1 ag dul go Meirceá? / Why is speaker 1 not going to America?
2. Cén lá a bheidh sí ag tosú ina post nua? / What day will she start her new job?
3. Cén plean a bhí ag an dara cainteoir don Satharn? / What plan had speaker 2 for

Saturday?

4. Cén fáth a bhfuil spéis ag cainteoir 2 sa phost? / Why is Speaker 2 interested in the job?

5. Cén teanga a labhair cainteoir 3 sa bhaile lena mháthair nuair a bhí sé óg? / What language did speaker 3 speak to his mother when he was young?

Translation of Transcription:

Girl: I was thinking of getting work in America this summer, but now I don't need to. I got a job yesterday –

Guy 1: Oh...

Girl: a tour guide with a tour company – I'm delighted with it because you can make good money at it and I'll be going around the country visiting lots of interesting places – Donegal, Cork, Killarney, Waterford, and who knows what other places. I'm really looking forward to travelling around the country

Guy 1: Well, fair play to you

Cailín: And – another thing – I have to start next Saturday – there's a group of 120 Japanese coming and it's up to me to show them around Dublin. I'm allowed to employ two more people to help me on Saturday – the group is too big for one tour guide – would either of you be interested in the job? They pay 100euro for the day.

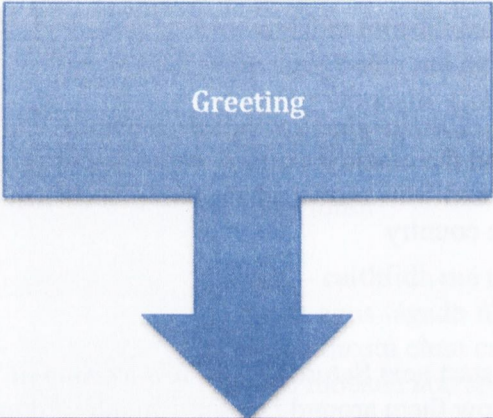
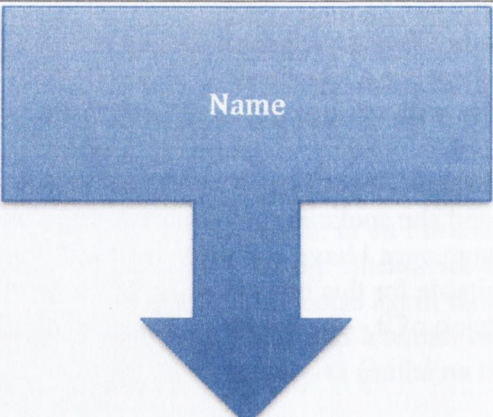
Guy 1: Sure, I'd be interested – the only problem I have is that I'm supposed to be playing a match that goes on until midday Saturday. Do you think there'd be reasonably regular work available with this company? If there were, I wouldn't bother with the match. I have to make some money this summer – I won't be able to come back to this college next year if I don't have money.

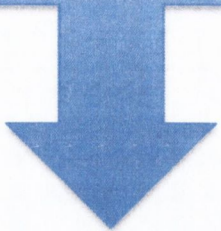
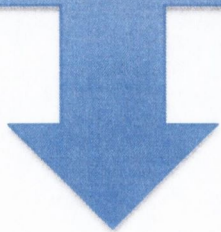
Cailín: Well, I can't make any promises, but they do tell me that they're expecting a lot of visitors to this country this year – there are a lot of people expected from mainland Europe – they'll need tourguides with various different languages.

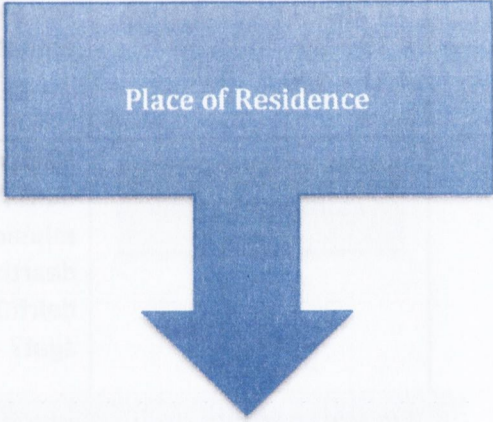
Guy 2: I would be very interested in it. I speak fluent French and I have reasonably good Spanish too. My mother's French and she spoke French to us when we were young. I would love to use the various languages I have and there is little I don't know about this country. I think I'd be very suitable for this type of work. It's crucial that visitors to the country get a good impression of it – the country's image is depending on this kind of thing.

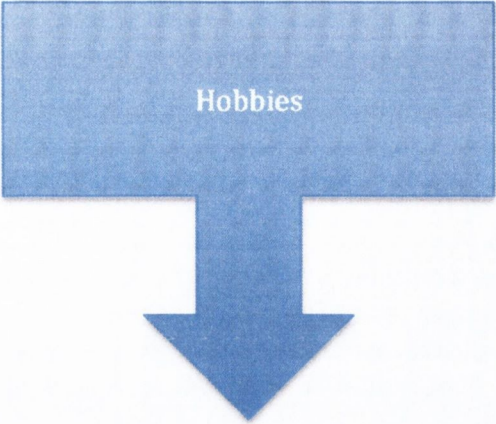
A3: Taidhgín


A sample conversation between a student and *Taidhgín* is included here showing one possible path through the Taidhgín system. The student (middle column) begins the conversation and Taidhgín's responses are in the 3rd column.

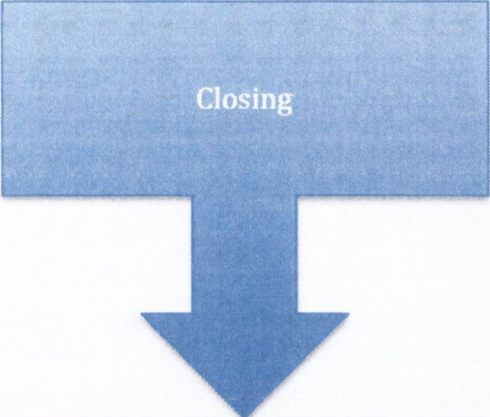
General Topics	Sample Student Input	Taidhgín's Responses
 <p style="text-align: center;">Greeting</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px; text-align: center;">Dia Dhuit</div> <p><i>Hello</i></p>	<p>Dia is Muire dhuit, cén chaoi a bhfuil tú?</p> <p><i>Hello, how are you?</i></p>
	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px; text-align: center;">Go maith, go raibh maith agat</div> <p><i>Great, thanks</i></p>	<p>Tá sé sin go maith! Cén t-ainm atá ort?</p> <p><i>That's good! What's your name?</i></p>
 <p style="text-align: center;">Name</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px; text-align: center;">[AINM] is ainm dom</div> <p><i>[NAME] is my name</i></p>	<p>Deas bualadh leat, a [AINM]! Cén aois thú?</p> <p><i>Nice to meet you [NAME]! What age are you?</i></p>

<p style="text-align: center;">Age</p> 	<p style="text-align: center; border: 1px solid black; padding: 5px;">17 bliain d'aois</p> <p>if 1 – 3 if 4 – 12 if 13 – 15 * if 16 – 18 → if 19 – 30 if 31 – 100</p> <p><i>17 years old</i></p> <p>if 1 – 3 if 4 – 12 if 13 – 15 * if 16 – 18 → if 19 – 30 if 31 – 100</p>	<p>Ó seacht mbliana déag d'aois. An bhfuil tú fós ar scoil?</p> <p><i>Oh seventeen years old. Are you still in school?</i></p>
	<p style="text-align: center; border: 1px solid black; padding: 5px;">Táim fós ar scoil</p> <p><i>I'm still at school</i></p>	<p>Nach méanar duit! Agus cé mhéad deartháir agus deirfiúr atá agat?</p> <p><i>Isn't it well for you! Any how many brothers and sisters do you have?</i></p>
<p style="text-align: center;">Family</p> 	<p style="text-align: center; border: 1px solid black; padding: 5px;">Tá 2 deirfiúr agam</p> <p>if páiste aonair if 1 deartháir if 1 deirfiúr if 1 deartháir & 1 deirfiúr if >1 deartháir * if >1 deirfiúr → if >1 deartháir & >1 deirfiúr etc.</p> <p>I have 2 sisters</p>	<p>Beirt deirfiúr! Agus an bhfuil na deirfiúracha seo níos óige nó níos sine ná tusa?</p>

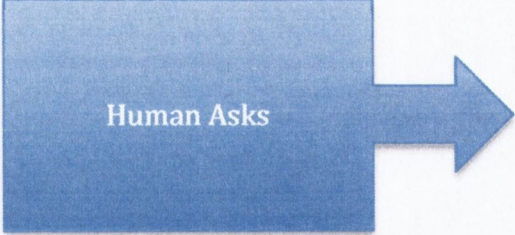
	<p>if only child if 1 brother if 1 sister if 1 brother & 1 sister if >1 brother * if >1 sister → if >1 brother & >1 sister etc.</p>	<p><i>Two sisters! And are these sisters younger or older than you?</i></p>
	<p>Tá siad níos óige ná mé</p> <p><i>They're younger than me</i></p>	<p>Nach deas é sin! Agus, cá bhful tú i do chónaí?</p> <p><i>Isn't that nice! And, where are you living?</i></p>
<p>Place of Residence</p> 	<p>i mBaile Átha Cliath</p> <p>* if Baile Átha Cliath → if Contae X if X etc.</p> <p><i>if Dublin</i> → <i>if County X</i> <i>if X</i> etc.</p>	<p>Cén chuid de Bhaile Átha Cliath? Táimse i gColáiste na Tríonóide!</p> <p><i>What part of Dublin? I'm in Trinity College!</i></p>
	<p>i nDroim Conrach</p> <p><i>Drumcondra</i></p>	<p>Is deas an ceantar é sin ceart go leor! Céard a bhíonn agat mar chaitheamh aimsire ann?</p> <p><i>That's a nice area alright! What hobbies have you there?</i></p>

 <p style="text-align: center;">Hobbies</p>	<p style="text-align: center;">Imrím peil</p> <p>if imirt → if seinnt if léamh if éisteacht if téigh if gan caitheamh aimsire if X etc.</p> <p><i>I play football</i></p> <p>If play (sport) → If play (music) If read If listen If go If without hobby If X etc.</p>	<p>Cén club lena bhfuil tú?</p> <p><i>What club are you with?</i></p>
	<p style="text-align: center;">Imrím leis an gclub áitiúil - Na Fianna</p> <p><i>I play with the local club – Na Fianna</i></p>	<p>Tá sé sin suimiúil! An bhfuil a fhios agat, níl aon rud is fearr liomsa ná taisteal! An maith leat féin taisteal?</p> <p><i>That's interesting! Do you know something, I prefer nothing more than travelling! Do you like travelling?</i></p>
	<p style="text-align: center;">Is breá liom taisteal</p>	<p>Inis dom faoi na laethanta saoire ab fhéarr a bhí agat riamh...</p>

	<p><i>I love travelling</i></p>	<p><i>Tell me about the best holidays you've ever had...</i></p>
	<p>Chuamar go dtí an Spáinn anuraidh</p> <p>if chaith if chuaigh → if d'eitil if d'fhan if d'imigh if X etc.</p> <p><i>We went to Spain last year</i></p> <p>if spent → if went if flew if stayed if departed if X</p>	<p>An ndeachaigh? Bíonn sé go deas imeacht mar sin anois is arís. An mbeadh fonn ort dul ar ais?</p> <p><i>Did you (go)? It's nice to go away like that every now and then. Would you like to go back there?</i></p>
	<p>Ba bhreá liom cuairt a thabhairt ar an Spáinn arís</p> <p><i>I would love to visit Spain again</i></p>	<p>Ní bhfuair eas féin laethanta saoire riamh i mo shaol! An bhfuil a fhios agat, caithfidh mise bailiú liom! Tá mol mór oibre le déanamh fós agam!</p> <p><i>I never got a holiday ever in my life! Do you know something, I have to head</i></p>

		<i>off! I've a pile of work still to do!</i>
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Ceart go leor – go n-éirí leat mar sin</div> <p><i>Ok – good luck so</i></p>	<p>Bhí sé an deas labhairt leat, a [AINM].</p> <p><i>It was very nice to talk to you [NAME].</i></p>
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Slán go fóill</div> <p><i>Bye for now</i></p>	<p>Slán, a [AINM], ba dheas bualadh leat!</p> <p><i>Bye [NAME], it was nice to meet you!</i></p>

Taidhgín can also answer questions from pupils on any of the above topics – e.g.:

	Learner:	Taidhgín:
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Cé thusa?</div> <p><i>Who are you?</i></p>	<p>Is mise Taidhgín – an chéad róbat le Gaeilge. Tá súil agam go mbeidh glúnta eile robait le Gaeilge ag teacht i mo dhiaidh! ...An bhfuil aon cheist eile agat?</p> <p><i>I'm Taidhgín – the first robot that speaks Irish. I hope there will be generations of Irish-speaking robots coming after me! ...Do you have any other question?</i></p>

Appendix B

B1: Teacher Pre-Test Questionnaire

(Screenshot)



Ceistneoir

Céim 1 as 5



A mhúinteoir,

Táimid an-bhuíoch díot as páirt a ghlacadh sa taighde seo. Táimid ag díriú anseo ar ghuthanna sintéiseacha (cruthaithe mar chuid den tionscadal ABAIR.IE) agus a n-úsáid i gcluichí idirghníomhacha atá curtha in oiriúint go speisialta do mhúineadh/d'fhoghlaim na Gaeilge.

Tá ceithre chéim sa mhéid a leanas:

- (1) líon isteach réamh-cheistneoir chun eolas ginearálta a thabhairt dúinn fút féin;
- (2) féach ar fhíseán a thaispeánann 3 nóiméad den cluiche duit (dalta á imirt);
- (3) ar an leathanach céanna leis an bhfíseán tá 20 ceist le freagairt

(an aidhm atá anseo againn ná féachaint an bhfuil na habairtí a roghnaíomar intuigthe & cé chomh héasca is atá sé iad a thuscint)

- (4) líon isteach ceistneoir eile chun do chuid tuairimí faoi na guthanna a thabhairt dúinn.

Beidh do chuid tuairimí an-tábhachtach dúinn agus sinn ag pleandáil bogearraí nua d'fhoghlaimoirí Gaeilge.

Cliceáil thíos chun tuilleadh eolais a fháil ar:

+ Guthanna Sintéiseacha

+ Treoracha don Cheistneoir

+ An Físeán

Ba cheart go dtógfadh sé tuairim is 20 nóiméad an ceistneoir seo a líonadh isteach. Má bhíonn aon cheist agaibh faoi aon ghné den obair seo ní gá ach rphost a sheoladh chuig nichiarn@tcd.ie.

Go raibh míle maith agaibh!

Neasa Ní Chiaráin

Taighdeoir,
An tSaotharlann Urlabhra & Foghraíochta,
Coláiste na Tríonóide.

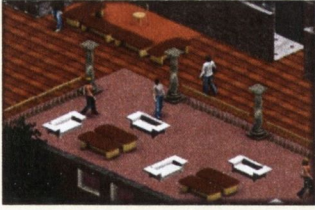
Rannóg 1: SONRAÍ PEARSANTA

Ainm Úsáideora: _____

Seoladh Ríomhphoist: _____

Inscne: Fireann Baineann

Aoisghrúpa: 10-20 20-30 30-40 40-50 50-60 60+



Ceistneoir
Céim 2 as 5



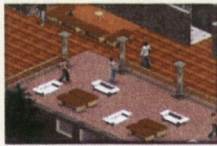
Rannóg 2: SONRAÍ PEARSANTA (ar lean)

Ar tógadh sa Ghaeltacht tú? Tógadh Níor tógadh

- Má tógadh, cé acu ceann?

- Munar tógadh, cén contae inar tógadh tú?

Cén chanúint is mó a bhfuil tú ar do chompord léi?



Ceistneoir
Céim 3 as 5



Rannóg 3: GUTHANNA SINTÉISEACHA

Bíonn guthanna sintéiseacha le fáil go forleathan na laethanta seo

- cloiseann tú iad in ardaitheoirí, in aerfoirt, in óstáin agus úsáidtear iad chun na teileafóin a fhreagairt i gcomhlachtaí móra agus i mbainc, mar shampla.

Cad é do thuairim féin faoi ghuth sintéiseach?

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is fuath liom é	Ceart go leor ach b'fhearr liom guth daonna	Is cuma liom guth daonna nó guth sintéiseach fad is go dtuigim é	Braithim go mbíonn an guth sintéiseach oiriúnach uaireanta	Bíonn guth sintéiseach níos oiriúnaí ná guth daonna uaireanta

B2: Teacher Test

Teachers first viewed a 3-minute video of how *Digichaint* operates. They were then presented with 20 soundfiles in random order and asked to orthographically transcribe each and simultaneously rate the ease with which they could do so. Only 2 of the 20 are included in this screenshot.



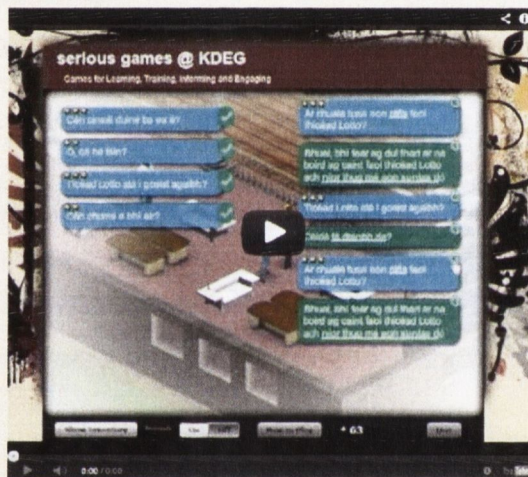
Ceistneoir
Céim 4 as 5



Rannóg 4: DIGICHAINT

Cliceáil ar an fomhá thíos chun féachaint ar an bhfiseán:

(B' cinnte go bhfuil na socruithe fúsaime cearta ar an ríomhaire ionas gur féidir léall na carachtair a chlosteáil gan aon stró)



Sampla den chaint ón gcluiche.

An príomhcharactar (an dalta) ag labhairt leis an ngarralódóir, le Tom Bán agus le cúpla cuairteoir eile atá ag fanacht san óstán.

Treoracha:

Fiche ceist ar fad atá le freagairt.

Scríobh na habairtí isteach sa bhosca bán faoi (1).

Usáid gnáthlitriú na Gaeilge chomh fada agus is féidir.

Ceist 1

Cliceáil 'Seinn' ar an mbeirne uirlisí thíos:

00:00 — 00:00

(1) Déan trascriobh ar an méid a chuala tú:

(2) Cad a déarfá faoin abairt seo? Bhí sí...

An-deacair le tuiscint Deacair le tuiscint Réasúnta soiléir le tuiscint Éasca le tuiscint An-éasca le tuiscint

Ceist 2

Cliceáil 'Seinn' ar an mbeirne uirlisí thíos:

00:00 — 00:00

(1) Déan trascriobh ar an méid a chuala tú:

(2) Cad a déarfá faoin abairt seo? Bhí sí...

An-deacair le tuiscint Deacair le tuiscint Réasúnta soiléir le tuiscint Éasca le tuiscint An-éasca le tuiscint

B3: Sentences used in Teacher Evaluation

Connaught Voice

5 categories: 2 examples of each

Category 1: Reduction

1. Tá mé togha, **go raibh maith agat**
2. **Tá**, bhfuil fhios **ad** cá bhfuil Tom Bán?

Category 2: Long Vowels (4+ long vowel sounds)

3. Céard **tá tú a rá?**
4. Cén **gró** **atá** agatsa le **déanamh** liomsa?

Category 3: Short Vowels (4+ short vowel sounds)

5. Bhí sé ard, caol le **gruaig** **dhubh** agus **culaith** bhán
6. Ní bhraithim go **maith** **san áit** seo

Category 4: Fricatives (Focal element of sentence have fricative)

7. Déanfaidh mé pé rud is **féidir** liom, más **fiú** dhom é
8. Tiocfaidh an **samhradh** is **fásfaidh** an **féar**

Category 5: Stops

9. Ní dóigh liom go bhfuil **tada** sa scéal ach **píosa spraoi**
10. Déan **pé** rud a **cheapann** **tú féin**

Ulster Voice

5 categories: 2 examples of each

Category 1: Reduction

11. **Gabh mo leithscéal** – bhfuil fhios **agat** cá bhfuil Tom Bán?
12. Caidé **dúirt** tú faoin bhruscar?

Category 2: Long Vowels (4+ long vowel sounds)

13. Caidé faoin **oíche** aréir?
14. **Ó**, cé **hé féin?**

Category 3: Short Vowels (4+ short vowel sounds)

15. An **cara** leat an **freastalaí** seo?
16. An bhfaca mé **tusa** ag **dul thart anseo** aréir?

Category 4: Fricatives (Focal element of sentence have fricative)

17. B'fhearr liom **seasamh** go **fóill**, má tá **sé sin** ceart go leor leatsa
18. Ar éigean go n-aithneoinn é dá **siúlfaidh sé** isteach an **doras** anois

Category 5: Stops (Focal element of sentence has stop)

19. An bhfuil aon chineál **pictiúr** de i do cheann agat?
20. **Tá** **turas** eagraithe dúinn inniu

Translation of Teacher Test Sentences:

Connaught Voice

5 categories: 2 examples of each

Category 1: Reduction

1. *I'm well, thank you*
2. *Yes, do you know where Tom Bán is?*

Category 2: Long Vowels (4+ long vowel sounds)

3. *What are you saying?*
4. *What business have you with me?*

Category 3: Short Vowels (4+ short vowel sounds)

5. *He was tall, thin with black hair and a white suit*
6. *I don't feel well in this place*

Category 4: Fricatives (Focal element of sentence have fricative)

7. *I'll do everything I can, if it's worthwhile to me*
8. *The summer will come and the grass will grow*

Category 5: Stops

9. *It's only a bit of fun - I don't think there's more to the story*
10. *Do whatever you think yourself*

Ulster Voice

5 categories: 2 examples of each

Category 1: Reduction

11. *Excuse me – do you know where Tom Bán is?*
12. *What did you say about the rubbish?*

Category 2: Long Vowels (4+ long vowel sounds)

13. *What about lastnight?*
14. *Oh, who's he?*

Category 3: Short Vowels (4+ short vowel sounds)

15. *Is this waiter a friend of yours?*
16. *Did I see you around here lastnight?*

Category 4: Fricatives (Focal element of sentence have fricative)

17. *I would prefer to stand for the moment, if that's ok with you*
18. *Hardly would I recognise him if he were to walk in the door now*

Category 5: Stops (Focal element of sentence has stop)

19. *Do you have any picture of him in your head?*
20. *There's a trip organised for us today*

B4: Teacher Post-Test Questionnaire

(Screenshot)



Ceistneoir

Céim 5 as 5

abair.ie

Rannóg 5: AISEOLAS

(1) An gceapann tú go mbeadh caint shintéiseach ag an leibhéal seo oiriúnach do chluiche ar nós *Digichaint*?

(Cliceáil ar an gcnéipe bán chun d'fhreagra a roghnú)

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ní bheadh in aon chor	B'fhearr guth daonna ná guth sintéiseach	Is cuma guth sintéiseach nó guth daonna	Tá an guth sintéiseach beagáinín níos oiriúnaí don chluiche seo ná an guth daonna	Bheadh, cinnte

(2) An dóigh leat go mbeadh guthanna mar seo tarraingteach d'fhoghlaimoirí sinsearach meánscoile?

(Marcáil ar an scála thíos é)

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	2	3	4	5
Gan a bheith tarraingteach				An-tarraingteach

(3) Cad a cheapann tú de chaighdeán labhartha na Gaeilge ag ABAIR.IE?

(Marcáil ar an scála thíos é)

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	2	3	4	5
An-lag				Ar fheabhas

(4) Breac síos sa bhosca thíos, le do thoil, aon aiseolas a ritheann leat faoi na guthanna, faoin gcluiche, faoin gcoincheap go ginearálta, nó aon ní eile bainteach leis an dtrial seo:

(Tá do chuid tuairimí rithábhachtach domsa ag an staid seo den taighde agus bheinn an-bhuíoch díot aon tuairimí/moltaí a ritheann leat a chló isteach anseo.)

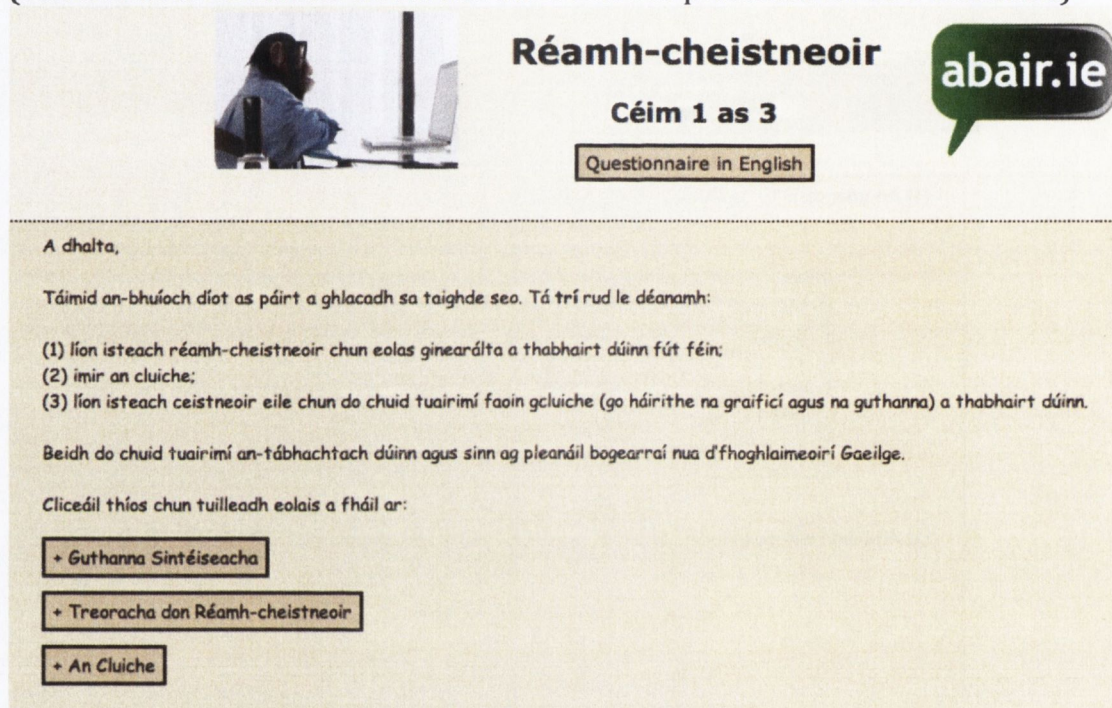
Ar Aghaidh

Appendix C

C1: Pupil Pre-Game Questionnaire

C1.1: Irish Language Version:

(Screenshot of Directions Given: this same text was presented for all 3 Platforms)



Réamh-cheistneoir
Céim 1 as 3
Questionnaire in English

abair.ie

A dhalta,

Táimid an-bhuíoch díot as páirt a ghlacadh sa taighde seo. Tá trí rud le déanamh:

(1) líon isteach réamh-cheistneoir chun eolas ginearálta a thabhairt dúinn fút féin;
(2) imir an cluiche;
(3) líon isteach ceistneoir eile chun do chuid tuairimí faoin gcluiche (go háirithe na graificí agus na guthanna) a thabhairt dúinn.

Beidh do chuid tuairimí an-tábhachtach dúinn agus sinn ag pleanáil bogearraí nua d'fhoghlaimoirí Gaeilge.

Cliceáil thíos chun tuilleadh eolais a fháil ar:

+ Guthanna Sintéiseacha

+ Treoracha don Réamh-cheistneoir

+ An Cluiche

(Questionnaire Items:)

Rannóg 1: SONRAÍ PEARSANTA

1. Ainm Úsáideora: _____

2. Inscne:

Fireann	Baineann
---------	----------

3. Rang ar scoil:

4ú bliain	5ú bliain	6ú bliain
-----------	-----------	-----------

4. An bhfuil tú ag freastal ar:

Scoil Bhéarla	Gaelscoil	Scoil Ghaeltachta
---------------	-----------	-------------------

Rannóg 2: FIÚNTAS AN CHLUICHE MAR ÁIS FHOGHLAMA

5. Cé chomh minic is a imríonn tú cluichí ar an ríomhaire?

Gach lá	Ar a laghad ar bhonn seachtainiúil	Go hannamh	Ní imrím cluichí ríomhaire riamh
---------	------------------------------------	------------	----------------------------------

Rannóg 3: ÁBHAIR SCOILE

6. Cén leibhéal tuisceana atá agat ar ghnáth-Ghaeilge labhartha, dar leat?

Cúpla focal nuair a labhraítear go mall iad	Cúpla frása simplí nuair a labhraítear go mall iad	Píosaí de chomhrá	Formhór na gcomhráite nuair a bhíonn an chaint soiléir	Beagnach gach comhrá le gnáth-luas cainte
---------------------------------------------	----------------------------------------------------	-------------------	--------------------------------------------------------	-------------------------------------------

7. Cé acu Gnáthleibhéal nó Ardleibhéal Gaeilge a thóg tú sa **Teastas Sóisearach**?

Gnáthleibhéal	Ardleibhéal
---------------	-------------

8. Cé acu Gnáthleibhéal nó Ardleibhéal Gaeilge a cheapann tú a thógfaidh tú don **Ardteistiméireacht**?

Gnáthleibhéal	Ardleibhéal
---------------	-------------

9. Déan liosta de do rogha cúig ábhar a dhéanann tú ar scoil ag tosú leis an gceann is fearr leat:

An t-ábhar is fearr liom:	
2ú ábhar is fearr liom:	
3ú ábhar is fearr liom:	
4ú ábhar is fearr liom:	
5ú ábhar is fearr liom:	

Rannóg 4: GUTHANNA SINTÉISEACHA

10. Cad é do thuairim féin faoi ghuth sintéiseach?

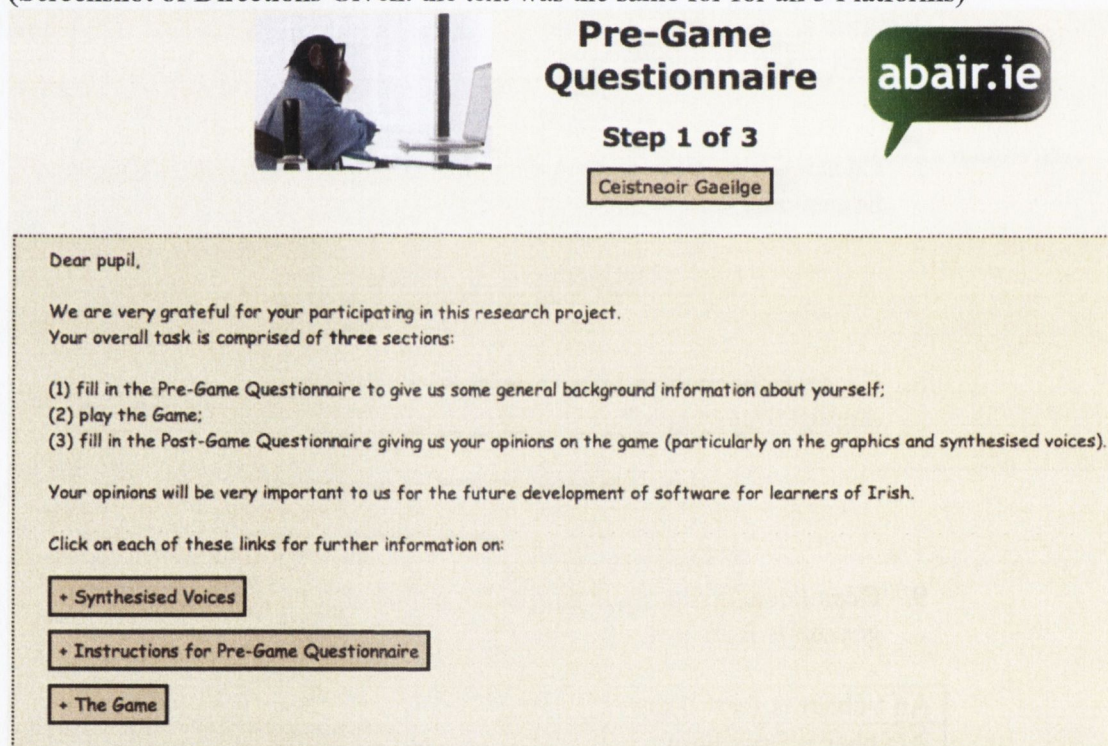
Is fuath liom	Ceart go leor ach b'fhearr	Is cuma liom guth daonna nó guth	Braithim go mbíonn an guth	Bíonn guth sintéiseach níos oiriúnaí
---------------	----------------------------	----------------------------------	----------------------------	--------------------------------------

é	liom guth daonna	sintéiseach fad is go dtuigim é	sintéiseach oiriúnach uaireanta	ná guth daonna uaireanta
---	------------------	---------------------------------	---------------------------------	--------------------------

Breac síos anseo, le do thoil, aon aiseolas eile a ritheann leat faoi aon ghné den cheistneoir seo:

C1.2: English Language Version:

(Screenshot of Directions Given: the text was the same for for all 3 Platforms)



Pre-Game Questionnaire

Step 1 of 3

Ceistneoir Gaeilge

Dear pupil,

We are very grateful for your participating in this research project.
Your overall task is comprised of **three** sections:

- (1) fill in the Pre-Game Questionnaire to give us some general background information about yourself;
- (2) play the Game;
- (3) fill in the Post-Game Questionnaire giving us your opinions on the game (particularly on the graphics and synthesised voices).

Your opinions will be very important to us for the future development of software for learners of Irish.

Click on each of these links for further information on:

- + Synthesised Voices
- + Instructions for Pre-Game Questionnaire
- + The Game

(Questionnaire Items:)

Section 1: BACKGROUND INFORMATION

1. Username: _____

2. Gender:

Male	Female
------	--------

3. Year in School:

4 th year	5 th year	6 th year
----------------------	----------------------	----------------------

4. Do you attend:

an English-medium school	Gaelscoil	Gaeltacht school
--------------------------	-----------	------------------

Section 2: COMPUTER GAMES

5. How often do you play games on the computer?

Daily	At least weekly	Rarely	Never
-------	-----------------	--------	-------

Section 3: SCHOOL SUBJECTS

6. How would you describe your general ability to understand spoken Irish?

Only a few words spoken slowly	A few simple phrases spoken slowly	Parts of a conversation	Most conversations when spoken clearly	Almost all conversations at natural speaking speed
--------------------------------	------------------------------------	-------------------------	----------------------------------------	----------------------------------------------------

7. Did you study Irish at ordinary level or at higher level for the **Junior Certificate**?

Ordinary Level Irish	Higher Level Irish
-------------------------	-----------------------

8. Do you expect to take ordinary level or higher level Irish for the **Leaving Certificate**?

Ordinary Level Irish	Higher Level Irish
-------------------------	-----------------------

9. What are your 'Top 5' favourite subjects in school?

Favourite Subject:	
2 nd favourite subject:	
3 rd favourite subject:	
4 th favourite subject:	
5 th favourite subject:	

Section 4: SYNTHESISED VOICES

10. What is your own opinion of synthesised voices?

I hate them	A human voice is more suitable in all contexts	I have no preference as long as the voice is intelligible	Synthesised voices can be suitable in certain contexts	Synthesised voices are more attractive than human voices in certain contexts
-------------	------------------------------------------------	-----------------------------------------------------------	--------------------------------------------------------	------------------------------------------------------------------------------

Please type in the box below any extra information you would like to include about any aspect of this questionnaire:

C2: Pupil Post-Game Questionnaire: Digichaint

(Screenshot of Directions Given)

- Note: pupils were free to answer the questionnaires either through Irish or through English. The Irish language questionnaires are included here in Appendix C and the English language translations are included in Appendix E (with the results)



Ceistneoir faoin gCluiche

abair.ie

Céim 3 as 3

Questionnaire in English

Líon isteach, le do thoil, an Iar-cheistneoir chun do chuid tuairimí faoin gcluiche *Digichaint* a chur in iúl.

Is spéis linn do chuid tuairimí thar cúig mhór-réimse:

- na graificí atá in úsáid;
- an mhaitheas a bhaineann le cluiche cosúil leis an gceann seo;
- plota an chluiche;
- na guthanna sintéiseacha;
- cluichí mar áis fhoghlama.

Úsáidfean an t-eolas seo chun tuilleadh forbartha agus taighde a dhéanamh ar ghuthanna sintéiseacha agus ar chluichí idirghníomhacha don Ghaeilge.

Go raibh míle maith agaibh!

Ainm Úsáideora:

Breac síos, le do thoil, an chéad rud a ritheann leat faoin gcluiche seo, bíodh sé dearfach nó diúltach:

(Marcáil ar scála ó 1 go 5)

Rannóg 1: NA GRAFAICÍ

1. Léirigh do thuairim faoi na grafaicí a úsáideadh sa chluiche.

An-lag	Lag	Réasúnta	Maith	An-mhaith
--------	-----	----------	-------	-----------

2. Go teicniúil, ar bhraith tú go raibh an cluiche...

An-deacair le himirt	Deacair le himirt	Réasúnta	Éasca le himirt	An-éasca le himirt
----------------------	-------------------	----------	-----------------	--------------------

Rannóg 2: FIÚNTAS AN CHLUICHE MAR ÁIS FHOGHLAMA

3. Phioc mé suas cúpla frása/focal/pointe gramadaí nua fad is a bhí mé ag imirt an cluiche.

Easaontaím go hiomlá	Easaontaím	Neodrach	Aontaím	Aontaím go hiomlán
----------------------	------------	----------	---------	--------------------

4. Bhí an foclóir áisiúil mar chabhair le foghlaim na Gaeilge sa chluiche seo.

Easaontaím go hiomlán	Easaontaím	Neodrach	Aontaím	Aontaím go hiomlán
-----------------------	------------	----------	---------	--------------------

5. Léirigh do thuairim faoin gcluiche áirithe seo mar áis fhoghlama teanga:

An-mhíthaitneamhach	Míthaitneamhach	Neodrach	Taitneamhach	An-taitneamhach
---------------------	-----------------	----------	--------------	-----------------

Rannóg 3: AN SCÉAL A ÚSÁIDEADH SA CHLUICHE

6. Bhí an plota soiléir dom ó thús an chluiche.

Ní raibh in aon chor	Ní raibh	Neodrach	Measartha soiléir	Bhí an plota soiléir ón tús
----------------------	----------	----------	-------------------	-----------------------------

7. An raibh an plota réadúil don chluiche seo?

Ní raibh an plota réadúil in aon chor	Ní raibh an plota réadúil	Neodrach	Bhí an plota measartha réadúil	Bhí an plota réadúil
---------------------------------------	---------------------------	----------	--------------------------------	----------------------

8. D'fhanas dírithe ar an gcluiche agus mé á imirt.

Easaontaím go hiomlán	Easaontaím	Neodrach	Aontaím	Aontaím go hiomlán
-----------------------	------------	----------	---------	--------------------

9. Bhíos níos mó dírithe ar phlota an chluiche ná mar a bhí ar struchtúr na teanga a bhí in úsáid.

Easaontaím go hiomlán	Easaontaím	Neodrach	Aontaím	Aontaím go hiomlán
-----------------------	------------	----------	---------	--------------------

10. Tá cothromaíocht mhaith idir spráíúlacht agus seansanna foghlama teanga sa chluiche seo.

Easaontaím go hiomlán	Easaontaím	Neodrach	Aontaím	Aontaím go hiomlán
-----------------------	------------	----------	---------	--------------------

Rannóg 4: CAIGHDEÁN NA NGUTHANNA SINTÉISEACHA SA CHLUICHE

--

Ba mhaith linn do thuairim faoi **chaighdeán na nguthanna sintéiseacha** agus a n-oiriúntacht d'áis fhoghlama mar seo. Ba mhaith linn idirdhealú a dhéanamh idir na guthanna sintéiseacha agus dhá cheist eile:

- (a) leibhéal **deacrachta** na Gaeilge
- (b) do thaithí féin le **canúintí** éagsúla

--

11. Ceapaim go bhfuil leibhéal deacrachta na Gaeilge oiriúnach domsa.

Ní aontaím ar chor ar bith	Ní dóigh liom é	Neodrach	Aontaím a bheag nó a mhór	Aontaím go hiomlán
----------------------------	-----------------	----------	---------------------------	--------------------

11.2 Má cheapann tú **nach** bhfuil leibhéal deacrachta na Gaeilge oiriúnach, an é go bhfuil sé...

Ró-dheacair	Ró-éasca
-------------	----------

12. Tá na guthanna sintéiseacha sách soiléir chun an chaint a thuiscint.

Ní aontaím in aon chor	Ní dóigh liom é	Neodrach	Aontaím a bheag nó a mhór	Aontaím go hiomlán
------------------------	-----------------	----------	---------------------------	--------------------

13. Ar bhraith tú deacracht leis na canúintí atá in úsáid sa chluiche?

Deacrachtaí móra leis na canúintí	Roinnt deacrachtaí leis na canúintí	Neodrach	Gan mórán deacrachtaí leis na canúintí	Gan aon deacracht leis na canúintí
-----------------------------------	-------------------------------------	----------	----------------------------------------	------------------------------------

14. Bhí sé chomh héasca céanna an guth sintéiseach a thuiscint sa chluiche is a bheadh sé le guth nádúrtha.

Easaontaím go hiomlán	Easaontaím	Neodrach	Aontaím	Aontaím go hiomlán
-----------------------	------------	----------	---------	--------------------

15. Ceapaim go dtugann guthanna sintéiseacha atmaisféar níos fearr do chluichí ríomhaireachta ná mar a dhéanann guthanna nádúrtha de ghnáth.

Easaontaím go hiomlán	Easaontaím	Neodrach	Aontaím	Aontaím go hiomlán
-----------------------	------------	----------	---------	--------------------

16. Cheapas go raibh an guth sintéiseach oiriúnach don chluiche seo.

Easaontaím go hiomlán	Easaontaím	Neodrach	Aontaím	Aontaím go hiomlán
-----------------------	------------	----------	---------	--------------------

Rannóg 5: CLUICHÍ (GO GINEARÁLTA) MAR ÁIS FHOGHLAMA

Níl sa chluiche a d'imir tú anois ach sampla amháin de chluiche idirghníomhach a úsáideann grafaicí agus guthanna sintéiseacha. Sa rannóg seo, ba mhór againn do chuid tuairimí faoi na ceisteanna thíos:

17.1 Cén **fiúntas** a bhaineann le cluiche idirghníomhach le guthanna sintéiseacha a chur ar fáil mar áis chun cleachtadh a dhéanamh ar do chuid Gaeilge?

Ní fiú faic é	Ní fiú mórán é	Neodrach	Tá fiúntas ag baint leis	Is fiú go mór é
---------------	----------------	----------	--------------------------	-----------------

17.2 An bhfuil **caighdeán** na nguthanna sintéiseacha, mar atá faoi láthair, inghlactha don chomhthéacs ina bhfuil siad in úsáid sa chluiche seo?

Níl an caighdeán maith go leor	Tá an caighdeán réasúnta íseal	Neodrach	Tá an caighdeán inghlactha	Tá an caighdeán inghlactha go hiomlán
--------------------------------	--------------------------------	----------	----------------------------	---------------------------------------

17.3 Cé chomh **tarraingteach** is atá na guthanna sintéiseacha i gcomhthéacs cluiche mar seo?

An- mhítharraingteach	Mítharraingteach	Neodrach	Tarraingteach	An- tarraingteach
--------------------------	------------------	----------	---------------	----------------------

18. Breac síos anseo, le do thoil, aon aiseolas eile a ritheann leat faoin gcluiche, faoi na guthanna, faoin gcoincheap go ginearálta, nó aon ní eile bainteach leis an dtrial seo:

C3: Pupil Post-Game Questionnaire: Fáilte go TCD



Ceistneoir faoin gCluiche

abair.ie

Céim 3 as 3

Questionnaire in English

Líon isteach, le do thoil, an Iar-cheistneoir chun do chuid tuairimí faoi na graificí a chonaic tú ar an leathanach roimhe seo a chur in iúl.

Is spéis linn do chuid tuairimí thar ceithre mhór-réimse:

- na graificí atá in úsáid;
- an mhaitheas a bhaineann le físeán cosúil leis an gceann seo;
- na guthanna sintéiseacha;
- cluichí mar áis fhoghlama.

Úsáidfean an t-eolas seo chun tuilleadh forbartha agus taighde a dhéanamh ar ghuthanna sintéiseacha agus ar chluichí idirghníomhacha don Ghaeilge.

Go raibh míle maith agaibh!

Ainm Úsáideora:

Breac síos, le do thoil, an chéad rud a ritheann leat faoin gcluiche seo, bíodh sé dearfach nó diúltach:

(Marcáil ar scála ó 1 go 5)

Rannóg 1: NA GRAFAICÍ

1. Cad é do thuairim faoin gcúlra agus faoi na grafaicí sa bhfíseán seo?

An-mhítharraingteach	Mítharraingteach	Neodrach	Tarraingteach	An-tarraingteach
----------------------	------------------	----------	---------------	------------------

2. Cad é do thuairim faoi ghluaiseacht na gcarachtar agus mar a luíonn an ghluaiseacht leis an gcaint?

An-dona	Dona	Neodrach	Maith	An-mhaith
---------	------	----------	-------	-----------

3. Cé chomh maith is a chuireann na graificí le hinchreidiúint agus le soiléireacht chaint na gcarachtar?

An-dona	Dona	Neodrach	Maith	An-mhaith
---------	------	----------	-------	-----------

Rannóg 2: FIÚNTAS AN CHLUICHE MAR ÁIS FHOGHLAMA

4. Cé chomh cabhrach is a bheadh an saghas seo timpeallachta (na guthanna, na grafaicí agus an suíomh) i bhfoghlaim na cluasthuisceana?

Gan a bheith cabhrach in aon chor	Is beag an chabhair í	Neodrach	Cabhrach	An-chabhrach
-----------------------------------	-----------------------	----------	----------	--------------

5. An mbainfeá taitneamh as áis mar seo a úsáid agus tú ag foghlaim na Gaeilge, dá mbeadh teacht uirthi to héasca i do scoil?

Ní bhainfinn, in aon chor	Ní dóigh liom é	Neodrach	Bhainfinn	Bhainfinn go mór
---------------------------	-----------------	----------	-----------	------------------

6. Cé chomh spreagúil is a cheapfá go mbeadh a leithéid seo d'áis?

Gan a bheith spreagúil in aon chor	Gan a bheith spreagúil	Neodrach	Spreagúil	An-spreagúil
------------------------------------	------------------------	----------	-----------	--------------

7. An gceapann tú go ndéanfadh áis mar seo foghlaim na Gaeilge níos tarraingtí?

Ní dhéanfadh in aon chor	Ní dócha go ndéanfadh	Neodrach	Dhéanfadh	Dhéanfadh, cinnte
--------------------------	-----------------------	----------	-----------	-------------------

Rannóg 3: CAIGHDEÁN NA NGUTHANNA SINTÉISEACHA SA CHLUICHE

--

Ba mhaith linn do thuairim faoi **chaighdeán na nguthanna sintéiseacha** agus a n-oriúntacht d'áis fhoghlama mar seo. Ba mhaith linn idirdhealú a dhéanamh idir na guthanna sintéiseacha agus dhá cheist eile:

- (a) leibhéal **deacrachta** na Gaeilge
- (b) do thaithí féin le **canúintí** éagsúla

--

8. Ceapaim go bhfuil leibhéal deacrachta na Gaeilge oiriúnach domsa.

Ní aontaím ar chor ar bith	Ní dóigh liom é	Neodrach	Aontaím a bheag nó a mhór	Aontaím go hiomlán
----------------------------	-----------------	----------	---------------------------	--------------------

8.2 Má cheapann tú **nach** bhfuil leibhéal deacrachta na Gaeilge oiriúnach, an é go bhfuil sé...

Ró-dheacair	Ró-éasca
-------------	----------

9. Tá na guthanna sintéiseacha sách soiléir chun an chaint a thuiscint.

Ní aontaím in aon chor	Ní dóigh liom é	Neodrach	Aontaím a bheag nó a mhór	Aontaím go hiomlán
------------------------	-----------------	----------	---------------------------	--------------------

10. Ar bhrath tú deacracht leis na canúintí atá in úsáid in Taidhgín?

Deacrachtaí móra leis na canúintí	Roinnt deacrachtaí leis na canúintí	Neodrach	Gan mórán deacrachtaí leis na canúintí	Gan aon deacracht leis na canúintí
-----------------------------------	-------------------------------------	----------	----------------------------------------	------------------------------------

Rannóg 4: CLUICHÍ (GO GINEARÁLTA) MAR ÁIS FHOGHLAMA

Níl sa bhfíseán a léiríodh ach sampla amháin de chluiche a úsáideann grafaicí agus guthanna sintéiseacha. Sa rannóg seo, ba mhór againn do chuid tuairimí faoi na ceisteanna thíos:

11_1 Cén **fiúntas** a bhaineann le carachtar fíorúil idirghníomhach (*virtual conversational partner*) le guth sintéiseach a chur ar fáil mar áis chun cleachtadh a dhéanamh ar chomhrá Gaeilge?

Ní fiú faic é	Ní fiú mórán é	Neodrach	Tá fiúntas ag baint leis	Is fiú go mór é
---------------	----------------	----------	--------------------------	-----------------

11_2 An bhfuil **caighdeán** na nguthanna sintéiseacha, mar atá faoi láthair, inghlactha don chomhthéacs ina bhfuil siad in úsáid sa chluiche seo?

Níl an	Tá an		Tá an	Tá an caighdeán
--------	-------	--	-------	-----------------

caighdeán maith go leor	caighdeán réasúnta íseal	Neodrach	caighdeán inghlactha	inghlactha go hiomlán
-------------------------	--------------------------	----------	----------------------	-----------------------

11_3 Cé chomh **tarraingteach** is atá na guthanna sintéiseacha i gcomhthéacs cluiche mar seo?

An-mhítharraingteach	Mítharraingteach	Neodrach	Tarraingteach	An-tarraingteach
----------------------	------------------	----------	---------------	------------------

12. Breac síos anseo, le do thoil, aon aiseolas eile a ritheann leat faoin gcluiche, faoi na guthanna, faoin gcoincheap go ginearálta, nó aon ní eile bainteach leis an dtrial seo:

C4: Pupil Post-Game Questionnaire: Taidhgín



Ceistneoir faoin gCluiche

abair.ie

Céim 3 as 3

Questionnaire in English

Líon isteach, le do thoil, an Iar-cheistneoir seo chun do chuid tuairimí faoi áis mar *Taidhgín* a chur in iúl.

Is spéis linn do chuid tuairimí thar ceithre rannóg:

- na graificí atá in úsáid;
- an mhaitheas a bhaineann le cluiche cosúil leis an gceann seo;
- na guthanna sintéiseacha;
- cluichí mar áis fhoghlama.

Úsáidfean an t-eolas seo chun tuilleadh forbartha agus taighde a dhéanamh ar ghuthanna sintéiseacha agus ar chluichí idirghníomhacha don Ghaeilge.

Go raibh míle maith agaibh!

Ainm Úsáideora:

Breac síos, le do thoil, an chéad rud a ritheann leat faoin gcluiche seo, bíodh sé dearfach nó diúltach:

(Marcáil ar scála ó 1 go 5)

Rannóg 1: NA GRAFAICÍ

1. An mbraitheann tú go bhfuil na graificí (an moncaí) tarraingteach?

An- mhítharraingteach	Mítharraingteach	Neodrach	Tarraingteach	An- tarraingteach
--------------------------	------------------	----------	---------------	----------------------

2. An gcuireann an moncaí le spráúlacht an chluiche?

Ní chuireann in aon chor	Ní dóigh liom é	Neodrach	Cuireann	Cuireann go mór
-----------------------------	--------------------	----------	----------	--------------------

3. Cad a cheapann tú den tslí a luíonn gluaiseachtaí an mhoncaí leis an gcaint?

An-dona	Dona	Neodrach	Maith	An-mhaith
---------	------	----------	-------	-----------

Rannóg 2: FIÚNTAS AN CHLUICHE MAR ÁIS FHOGHLAMA

4. Cé chomh cabhrach is a bheadh an saghas seo áise (i. an idirghníomhaíocht agus an spraiúlacht) i gcleachtadh comhrá Gaeilge?

Gan a bheith cabhrach in aon chor	Is beag an chabhair í	Neodrach	Cabhrach	An-chabhrach
-----------------------------------	-----------------------	----------	----------	--------------

5. An mbainfeá úsáid as áis mar seo chun do chuid Gaeilge a chleachtadh dá mbeadh teacht uirthi go héasca i do scoil?

Ní bhainfinn riamh	Ní bhainfinn mórán	Neodrach	Bhainfinn ó am go chéile	Bhainfinn go rialta
--------------------	--------------------	----------	--------------------------	---------------------

6. Cé chomh spreagúil is a bheadh áis mar seo, dar leat?

Gan a bheith spreagúil in aon chor	Gan a bheith spreagúil	Neodrach	Spreagúil	An-spreagúil
------------------------------------	------------------------	----------	-----------	--------------

7. An gceapann tú go ndéanfadh áis mar Taidhgín foghlaim na Gaeilge níos tarraingtí?

Ní dhéanfadh in aon chor	Ní dócha go ndéanfadh	Neodrach	Dhéanfadh	Dhéanfadh, cinnte
--------------------------	-----------------------	----------	-----------	-------------------

Rannóg 3: CAIGHDEÁN NA NGUTHANNA SINTÉISEACHA SA CHLUICHE

Ba mhaith linn do thuairim faoi **chaighdeán na nguthanna sintéiseacha** agus a n-oiriúntacht d'áis fhoghlama mar *Taidhgín*. Ba mhaith linn idirdhealú a dhéanamh idir na guthanna sintéiseacha agus dhá cheist eile:

- (a) leibhéal **deacrachta** na Gaeilge (na focail/frásaí a d'úsáid *Taidhgín*)
- (b) taithí na ndaltaí le **canúintí** éagsúla

8. Ceapaim go bhfuil leibhéal deacrachta na Gaeilge oiriúnach domsa

Ní aontaím in aon chor	Ní dóigh liom é	Neodrach	Aontaím a bheag nó a mhór	Aontaím go hiomlán
------------------------	-----------------	----------	---------------------------	--------------------

- a. Má cheapann tú **nach** bhfuil leibhéal deacrachta na Gaeilge oiriúnach, an é go bhfuil sé...

Ró-dheacair	Ró-éasca
-------------	----------

9. Tá na guthanna sintéiseacha sách soiléir chun an chaint a thuiscint

Ní aontaím in aon chor	Ní dóigh liom é	Neodrach	Aontaím a bheag nó a mhór	Aontaím go hiomlán
------------------------	-----------------	----------	---------------------------	--------------------

10. Ar bhrath tú deacracht leis na canúintí atá in úsáid in Taidhgín?

Tá siad ag cruthú deacrachtaí móra	Tá siad ag cruthú roinnt deacrachtaí	Neodrach	Níl siad ag cruthú mórán deacrachtaí	Níl siad ag cruthú aon deacrachtaí
------------------------------------	--------------------------------------	----------	--------------------------------------	------------------------------------

Rannóg 4: CLUICHÍ (GO GINEARÁLTA) MAR ÁIS FHOGHLAMA

Níl sa mhéid a léiríodh ach sampla amháin de chainteoir fíorúil a úsáideann guth sintéiseach. Sa rannóg seo, ba mhór againn do chuid tuairimí faoi na ceisteanna thíos:

11_1 Cén **fiúntas** a bhaineann le carachtar fíorúil idirghníomhach (*virtual conversational partner*) le guth sintéiseach a chur ar fáil mar áis chun cleachtadh a dhéanamh ar chomhrá Gaeilge?

Ní fiú faic é	Ní fiú mórán é	Neodrach	Tá fiúntas ag baint leis	Is fiú go mór é
---------------	----------------	----------	--------------------------	-----------------

11_2 An bhfuil **caighdeán** na nguthanna sintéiseacha, mar atá faoi láthair, inghlactha don chomhthéacs ina bhfuil siad in úsáid in Taidhgín?

Níl an caighdeán maith go leor	Tá an caighdeán réasúnta íscal	Neodrach	Tá an caighdeán inghlactha	Tá an caighdeán inghlactha go hiomlán
--------------------------------	--------------------------------	----------	----------------------------	---------------------------------------

11_3 Cé chomh **tarraingteach** is atá na guthanna sintéiseacha i gcomhthéacs cluiche mar seo?

An- mhítharraingteach	Mítharraingteach	Neodrach	Tarraingteach	An- tarraingteach
--------------------------	------------------	----------	---------------	----------------------

12. Breac síos anseo, le do thoil, aon aiseolas eile a ritheann leat faoin gcluiche, faoi na guthanna, faoin gcoincheap go ginearálta, nó aon ní eile bainteach leis an dtrial seo:

Appendix D

D1: Teacher Evaluation Results

Mean, Median & Mode: 20 Sentences; 31 Respondents.																												
Cat. 1: Elision					Cat. 2: Long Vowels					Cat. 3: Short Vowels					Cat. 4: Fricatives					Cat. 5: Stops								
CM*		GD**		Sentence	CM		GD		Sentence	CM		GD		Sentence	CM		GD		Sentence	CM		GD		Sentence	CM		GD	
1	2	11	12		3	4	13	14		5	6	15	16		7	8	9	10		17	18	19	20					
Qualitative Evaluation Results																												
Mean	4.1	3.3	3.5	2.7	4	3	3.4	1.9	3.3	3.9	3.5	3.8	3	4	1.6	3.7	3.5	3.2	2.8	1.7								
Median	4	3	4	3	4	3	3	2	3	4	4	4	3	4	1	4	3	3	3	2								
Mode	4	3	4	2	4	3	3	1	4	4	4	4	4	4	1	4	3	3	3	1								
Quantitative Evaluation Results																												
Mean	4.9	4.8	4.8	4.6	4.9	4.4	4.8	3.2	4.5	4.8	4.9	5	4.8	4.9	3.2	5	4.8	4.6	4.5	3.6								
Median	5	5	5	5	5	5	5	4	5	5	5	5	5	5	3	5	5	5	5	3								
Mode	5	5	5	5	5	5	5	4	5	5	5	5	5	5	3	5	5	5	5	3								

*CM = Conamara sentences

**GD = Gaoth Dobhair sentences

The top section of the table deals with the qualitative data and gives the mean, median and mode of the opinion scores for each sentence, as scored by each of the 31 respondents. The bottom section of the same table gives the

corresponding quantitative data, in accordance with the criteria devised for marking the transcriptions (Chapter 4.3.3.1.1: Criteria for marking responses to 'intelligibility' test).

D2: Calculation of Intelligibility and Clarity Index

Calculating an Intelligibility and Clarity Index for Connaught dialect: application of formula, as presented in Chapter 4.3.3.2 of the thesis

Person	Performance (mean score)	Opinion (mean score)	5 - P	5 - O	(5 - P) + (5 - O)
1	4.9	4.4	0.1	0.6	0.7
2	4.4	4.1	0.6	0.9	1.5
3	5	3.8	0	1.2	1.2
4	5	3.7	0	1.3	1.3
5	4.5	2.4	0.5	2.6	3.1
6	4.5	2.8	0.5	2.2	2.7
7	4.8	3.2	0.2	1.8	2
8	4.7	3	0.3	2	2.3
9	4.8	3.2	0.2	1.8	2
10	5	3.2	0	1.8	1.8
11	4.7	3.2	0.3	1.8	2.1
12	4.8	3.4	0.2	1.6	1.8
13	4.7	3.6	0.3	1.4	1.7
14	5	4.3	0	0.7	0.7
15	5	4.7	0	0.3	0.3
16	4.9	3.4	0.1	1.6	1.7
17	3.5	1.3	1.5	3.7	5.2
18	4.8	3.8	0.2	1.2	1.4
19	4.5	3	0.5	2	2.5
20	3.5	2.9	1.5	2.1	3.6
21	4.8	3.1	0.2	1.9	2.1
22	4.9	3.7	0.1	1.3	1.4
23	5	4	0	1	1
24	5	3.8	0	1.2	1.2
25	5	4	0	1	1
26	4.9	4.3	0.1	0.7	0.8
27	5	4	0	1	1
28	5	3.7	0	1.3	1.3
29	4.5	3.8	0.5	1.2	1.7
30	5	3.9	0	1.1	1.1
31	5	3.7	0	1.3	1.3
SUM:					53.5
DIVIDE BY 62:					0.862903226
(5 - 0.86)					
FINAL ANSWER	Connaught Clarity Index:				4.137096774

Calculating an Intelligibility and Clarity Index for Ulster dialect: application of formula, as presented in Chapter 4.3.3.2 of the thesis

Person	Performance (mean score)	Opinion (mean score)	5 - P	5 - O	(5 - P) + (5 - O)
1	4.3	2.7	0.7	2.3	3
2	4.7	4.3	0.3	0.7	1
3	4.5	3.2	0.5	1.8	2.3
4	4.4	3.4	0.6	1.6	2.2
5	3.6	2.1	1.4	2.9	4.3
6	3.7	1.6	1.3	3.4	4.7
7	4.1	2.5	0.9	2.5	3.4
8	4.3	2.7	0.7	2.3	3
9	4.2	2	0.8	3	3.8
10	4.7	2.6	0.3	2.4	2.7
11	4.2	2.3	0.8	2.7	3.5
12	4.5	2.6	0.5	2.4	2.9
13	4.8	2.9	0.2	2.1	2.3
14	4.3	3.2	0.7	1.8	2.5
15	4.6	3.6	0.4	1.4	1.8
16	4.4	3.2	0.6	1.8	2.4
17	3.6	1.2	1.4	3.8	5.2
18	4.8	3.6	0.2	1.4	1.6
19	4.4	2.7	0.6	2.3	2.9
20	4.2	3	0.8	2	2.8
21	4.2	1.5	0.8	3.5	4.3
22	4.4	3.1	0.6	1.9	2.5
23	4.9	3.5	0.1	1.5	1.6
24	4.8	3.2	0.2	1.8	2
25	4.3	3.4	0.7	1.6	2.3
26	5	4.2	0	0.8	0.8
27	4.3	3.3	0.7	1.7	2.4
28	4.9	2.7	0.1	2.3	2.4
29	3	2.3	2	2.7	4.7
30	4.9	3.5	0.1	1.5	1.6
31	4.8	3.2	0.2	1.8	2
SUM:					84.9
DIVIDE BY 62:					1.369354839
(5 - 1.3693)					
FINAL ANSWER	Ulster Clarity Index:				<u>3.630645161</u>

Appendix E

Note: Pupils could respond either in Irish or in English for each of the 3 platforms. The text of the Irish questionnaire items is in Appendix C (without results) and the translation (the English questionnaire items) is included here (with results).

E1: Post-Game Questionnaire Results (Descriptive Results): Digichaint

		Digichaint	
Item	Digichaint: Total number of participants	250	
1	Rate the graphics used in this game on the scale below:		
	Very poor	6	2.4%
	Poor	28	11.2%
	Reasonable	66	26.4%
	Good	118	47.2%
	Very good	32	12.8%
2	Did you feel that the game was technically...		
	Very difficult to play	1	0.4%
	Difficult to play	11	4.4%
	Reasonable	47	18.8%
	Easy to play	128	51.2%
	Very easy to play	63	25.2%
3	I learned some new phrases/words/grammar points as I played the game		
	Completely disagree	6	2.4%
	Disagree	26	10.4%
	Neutral	52	20.8%
	Agree	127	50.8%
	Agree completely	39	15.6%
4	The dictionary is helpful as an aid to learning Irish in this game.		
	Completely disagree	3	1.2%
	Disagree	11	4.4%
	Neutral	37	14.8%
	Agree	138	55.2%
	Agree completely	61	24.4%

5	Rate your overall enjoyment of this particular game as a language learning experience.		
		Very unenjoyable	1 0.4%
		Unenjoyable	20 8%
		Neutral	56 22.4%
		Enjoyable	133 53.2%
		Very enjoyable	40 16%
6	The plot of this game was clear to me from the outset.		
		Completely disagree	5 2%
		Disagree	31 12.4%
		Neutral	22 8.8%
		Agree	112 44.8%
		Agree completely	80 32%
7	Was the plot credible for this type of game?		
		Definitely not credible	3 1.2%
		Probably not credible	26 10.4%
		Neutral	52 20.8%
		Reasonably credible	123 49.2%
		The plot was credible	46 18.4%
8	The game held my attention.		
		Completely disagree	5 2%
		Disagree	37 14.8%
		Neutral	43 17.2%
		Agree	130 52%
		Agree completely	35 14%
9	I was more focused on the plot of the game than I was on the language being used.		
		Completely disagree	5 2%
		Disagree	59 23.6%
		Neutral	52 20.8%
		Agree	113 45.2%
		Agree completely	21 8.4%

10	There is a good balance between enjoyment and language learning in this game.	<table border="1"> <tr> <td>Completely disagree</td> <td>2</td> <td>0.8%</td> </tr> <tr> <td>Disagree</td> <td>16</td> <td>6.4%</td> </tr> <tr> <td>Neutral</td> <td>45</td> <td>18%</td> </tr> <tr> <td>Agree</td> <td>153</td> <td>61.2%</td> </tr> <tr> <td>Agree completely</td> <td>34</td> <td>13.6%</td> </tr> </table>	Completely disagree	2	0.8%	Disagree	16	6.4%	Neutral	45	18%	Agree	153	61.2%	Agree completely	34	13.6%
Completely disagree	2	0.8%															
Disagree	16	6.4%															
Neutral	45	18%															
Agree	153	61.2%															
Agree completely	34	13.6%															
11	The overall standard of the Irish used in this game is at about the right level for me.	<table border="1"> <tr> <td>Completely disagree</td> <td>4</td> <td>1.6%</td> </tr> <tr> <td>Disagree</td> <td>40</td> <td>16%</td> </tr> <tr> <td>Neutral</td> <td>30</td> <td>12%</td> </tr> <tr> <td>Agree</td> <td>130</td> <td>52%</td> </tr> <tr> <td>Agree completely</td> <td>46</td> <td>18.4%</td> </tr> </table>	Completely disagree	4	1.6%	Disagree	40	16%	Neutral	30	12%	Agree	130	52%	Agree completely	46	18.4%
Completely disagree	4	1.6%															
Disagree	40	16%															
Neutral	30	12%															
Agree	130	52%															
Agree completely	46	18.4%															
11a	If you feel the Irish used is not at the right level, is this because it was...	<table border="1"> <tr> <td>Too difficult</td> <td>54</td> <td>48.6%</td> </tr> <tr> <td>Too easy</td> <td>57</td> <td>51.4%</td> </tr> </table>	Too difficult	54	48.6%	Too easy	57	51.4%									
Too difficult	54	48.6%															
Too easy	57	51.4%															
12	The synthesised voices were sufficiently clear to make the speech intelligible.	<table border="1"> <tr> <td>Completely disagree</td> <td>14</td> <td>5.6%</td> </tr> <tr> <td>Disagree</td> <td>55</td> <td>22%</td> </tr> <tr> <td>Neutral</td> <td>42</td> <td>16.8%</td> </tr> <tr> <td>Agree</td> <td>115</td> <td>46%</td> </tr> <tr> <td>Agree completely</td> <td>24</td> <td>9.6%</td> </tr> </table>	Completely disagree	14	5.6%	Disagree	55	22%	Neutral	42	16.8%	Agree	115	46%	Agree completely	24	9.6%
Completely disagree	14	5.6%															
Disagree	55	22%															
Neutral	42	16.8%															
Agree	115	46%															
Agree completely	24	9.6%															
13	Did you experience particular difficulties with the dialects that are used in <i>Digichaint</i> ?	<table border="1"> <tr> <td>Definitely some difficulty</td> <td>1</td> <td>0.4%</td> </tr> <tr> <td>Probably some difficulty</td> <td>75</td> <td>30%</td> </tr> <tr> <td>Neutral</td> <td>44</td> <td>17.6%</td> </tr> <tr> <td>Probably no difficulty</td> <td>107</td> <td>42.8%</td> </tr> <tr> <td>Definitely no difficulty</td> <td>23</td> <td>9.2%</td> </tr> </table>	Definitely some difficulty	1	0.4%	Probably some difficulty	75	30%	Neutral	44	17.6%	Probably no difficulty	107	42.8%	Definitely no difficulty	23	9.2%
Definitely some difficulty	1	0.4%															
Probably some difficulty	75	30%															
Neutral	44	17.6%															
Probably no difficulty	107	42.8%															
Definitely no difficulty	23	9.2%															

14	<p>I found it no more difficult to understand the computer-generated voice than I would if natural voices were used.</p> <table border="1"> <tr><td>Completely disagree</td></tr> <tr><td>Disagree</td></tr> <tr><td>Neutral</td></tr> <tr><td>Agree</td></tr> <tr><td>Agree completely</td></tr> </table>	Completely disagree	Disagree	Neutral	Agree	Agree completely	<table border="1"> <tr><td>6</td><td>2.4%</td></tr> <tr><td>78</td><td>31.2%</td></tr> <tr><td>43</td><td>17.2%</td></tr> <tr><td>96</td><td>38.4%</td></tr> <tr><td>27</td><td>10.8%</td></tr> </table>	6	2.4%	78	31.2%	43	17.2%	96	38.4%	27	10.8%
Completely disagree																	
Disagree																	
Neutral																	
Agree																	
Agree completely																	
6	2.4%																
78	31.2%																
43	17.2%																
96	38.4%																
27	10.8%																
15	<p>In general, I think that computer-generated voices give a better atmosphere to computer games than natural voices do.</p> <table border="1"> <tr><td>Completely disagree</td></tr> <tr><td>Disagree</td></tr> <tr><td>Neutral</td></tr> <tr><td>Agree</td></tr> <tr><td>Agree completely</td></tr> </table>	Completely disagree	Disagree	Neutral	Agree	Agree completely	<table border="1"> <tr><td>17</td><td>6.8%</td></tr> <tr><td>84</td><td>33.6%</td></tr> <tr><td>56</td><td>22.4%</td></tr> <tr><td>73</td><td>29.2%</td></tr> <tr><td>20</td><td>8%</td></tr> </table>	17	6.8%	84	33.6%	56	22.4%	73	29.2%	20	8%
Completely disagree																	
Disagree																	
Neutral																	
Agree																	
Agree completely																	
17	6.8%																
84	33.6%																
56	22.4%																
73	29.2%																
20	8%																
16	<p>I found the computer-generated voice suitable for this computer game.</p> <table border="1"> <tr><td>Completely disagree</td></tr> <tr><td>Disagree</td></tr> <tr><td>Neutral</td></tr> <tr><td>Agree</td></tr> <tr><td>Agree completely</td></tr> </table>	Completely disagree	Disagree	Neutral	Agree	Agree completely	<table border="1"> <tr><td>5</td><td>2%</td></tr> <tr><td>32</td><td>12.8%</td></tr> <tr><td>54</td><td>21.6%</td></tr> <tr><td>142</td><td>56.8%</td></tr> <tr><td>17</td><td>6.8%</td></tr> </table>	5	2%	32	12.8%	54	21.6%	142	56.8%	17	6.8%
Completely disagree																	
Disagree																	
Neutral																	
Agree																	
Agree completely																	
5	2%																
32	12.8%																
54	21.6%																
142	56.8%																
17	6.8%																
17_1	<p>Give your opinion on...: ...the usefulness of the concept of producing an interactive language learning game in order to practise Irish:</p> <table border="1"> <tr><td>Of little or no use</td></tr> <tr><td>Not particularly useful</td></tr> <tr><td>Neutral</td></tr> <tr><td>Useful</td></tr> <tr><td>Very useful</td></tr> </table>	Of little or no use	Not particularly useful	Neutral	Useful	Very useful	<table border="1"> <tr><td>1</td><td>0.4%</td></tr> <tr><td>10</td><td>4%</td></tr> <tr><td>36</td><td>14.4%</td></tr> <tr><td>135</td><td>54%</td></tr> <tr><td>68</td><td>27.2%</td></tr> </table>	1	0.4%	10	4%	36	14.4%	135	54%	68	27.2%
Of little or no use																	
Not particularly useful																	
Neutral																	
Useful																	
Very useful																	
1	0.4%																
10	4%																
36	14.4%																
135	54%																
68	27.2%																
17_2	<p>...the quality of the synthesised voices: to what extent do you think the voices are adequate for the type of game presented here?</p> <table border="1"> <tr><td>Completely inadequate</td></tr> <tr><td>Inadequate</td></tr> <tr><td>Neutral</td></tr> <tr><td>Adequate</td></tr> <tr><td>Totally adequate</td></tr> </table>	Completely inadequate	Inadequate	Neutral	Adequate	Totally adequate	<table border="1"> <tr><td>3</td><td>1.2%</td></tr> <tr><td>49</td><td>19.6%</td></tr> <tr><td>44</td><td>17.6%</td></tr> <tr><td>134</td><td>53.6%</td></tr> <tr><td>20</td><td>8%</td></tr> </table>	3	1.2%	49	19.6%	44	17.6%	134	53.6%	20	8%
Completely inadequate																	
Inadequate																	
Neutral																	
Adequate																	
Totally adequate																	
3	1.2%																
49	19.6%																
44	17.6%																
134	53.6%																
20	8%																

17_3	...the attractiveness of the voices:		
	Very unattractive	12	4.8%
	Unattractive	75	30%
	Neutral	58	23.2%
	Attractive	92	36.8%
	Very attractive	13	5.2%

**E2: Post-Game Questionnaire Results (Descriptive Results):
Fáilte go TCD**

		Fáilte go TCD																	
Item	Fáilte go TCD: Total number of participants	252																	
1	How would you describe your judgment of the background setting and the graphics in the video? <table border="1" style="width: 100%;"> <tr><td>Very unattractive</td></tr> <tr><td>Unattractive</td></tr> <tr><td>Neutral</td></tr> <tr><td>Attractive</td></tr> <tr><td>Very attractive</td></tr> </table>	Very unattractive	Unattractive	Neutral	Attractive	Very attractive	<table border="1" style="width: 100%;"> <thead> <tr> <th>Num.</th> <th>%</th> </tr> </thead> <tbody> <tr><td>7</td><td>2.8%</td></tr> <tr><td>51</td><td>20.2%</td></tr> <tr><td>39</td><td>15.5%</td></tr> <tr><td>122</td><td>48.4%</td></tr> <tr><td>33</td><td>13.1%</td></tr> </tbody> </table>	Num.	%	7	2.8%	51	20.2%	39	15.5%	122	48.4%	33	13.1%
Very unattractive																			
Unattractive																			
Neutral																			
Attractive																			
Very attractive																			
Num.	%																		
7	2.8%																		
51	20.2%																		
39	15.5%																		
122	48.4%																		
33	13.1%																		
2	How would you describe your judgment of the body movements of the figures and their alignment to speech? <table border="1" style="width: 100%;"> <tr><td>Very badly aligned</td></tr> <tr><td>Badly aligned</td></tr> <tr><td>Acceptable</td></tr> <tr><td>Well aligned</td></tr> <tr><td>Very well aligned</td></tr> </table>	Very badly aligned	Badly aligned	Acceptable	Well aligned	Very well aligned	<table border="1" style="width: 100%;"> <tbody> <tr><td>6</td><td>2.4%</td></tr> <tr><td>43</td><td>17.1%</td></tr> <tr><td>66</td><td>26.2%</td></tr> <tr><td>120</td><td>47.6%</td></tr> <tr><td>17</td><td>6.7%</td></tr> </tbody> </table>	6	2.4%	43	17.1%	66	26.2%	120	47.6%	17	6.7%		
Very badly aligned																			
Badly aligned																			
Acceptable																			
Well aligned																			
Very well aligned																			
6	2.4%																		
43	17.1%																		
66	26.2%																		
120	47.6%																		
17	6.7%																		
3	To what extent do the movements of the characters add credibility and clarity to the conversational exchanges? <table border="1" style="width: 100%;"> <tr><td>Very little credibility & clarity</td></tr> <tr><td>Low credibility & clarity</td></tr> <tr><td>Neutral</td></tr> <tr><td>Credible & clear</td></tr> <tr><td>Very great credibility & clarity</td></tr> </table>	Very little credibility & clarity	Low credibility & clarity	Neutral	Credible & clear	Very great credibility & clarity	<table border="1" style="width: 100%;"> <tbody> <tr><td>8</td><td>3.2%</td></tr> <tr><td>53</td><td>21%</td></tr> <tr><td>62</td><td>24.6%</td></tr> <tr><td>118</td><td>46.8%</td></tr> <tr><td>11</td><td>4.4%</td></tr> </tbody> </table>	8	3.2%	53	21%	62	24.6%	118	46.8%	11	4.4%		
Very little credibility & clarity																			
Low credibility & clarity																			
Neutral																			
Credible & clear																			
Very great credibility & clarity																			
8	3.2%																		
53	21%																		
62	24.6%																		
118	46.8%																		
11	4.4%																		
4	To what extent do you think this type of learning platform (the voices, the graphics and the setting) would help in practising listening comprehension? <table border="1" style="width: 100%;"> <tr><td>Not at all helpful</td></tr> <tr><td>Not helpful</td></tr> <tr><td>Neutral</td></tr> <tr><td>Helpful</td></tr> <tr><td>Very helpful</td></tr> </table>	Not at all helpful	Not helpful	Neutral	Helpful	Very helpful	<table border="1" style="width: 100%;"> <tbody> <tr><td>6</td><td>2.4%</td></tr> <tr><td>33</td><td>13.1%</td></tr> <tr><td>38</td><td>15.1%</td></tr> <tr><td>114</td><td>45.2%</td></tr> <tr><td>61</td><td>24.2%</td></tr> </tbody> </table>	6	2.4%	33	13.1%	38	15.1%	114	45.2%	61	24.2%		
Not at all helpful																			
Not helpful																			
Neutral																			
Helpful																			
Very helpful																			
6	2.4%																		
33	13.1%																		
38	15.1%																		
114	45.2%																		
61	24.2%																		

5	<p>Would you enjoy using this type of activity to develop your aural Irish skills, should it be available and easily accessible in your school?</p> <table border="1"> <tr><td>Definitely not</td></tr> <tr><td>Probably not</td></tr> <tr><td>Neutral</td></tr> <tr><td>Probably</td></tr> <tr><td>Definitely</td></tr> </table>	Definitely not	Probably not	Neutral	Probably	Definitely	<table border="1"> <tr><td>7</td><td>2.8%</td></tr> <tr><td>24</td><td>9.5%</td></tr> <tr><td>31</td><td>12.3%</td></tr> <tr><td>122</td><td>48.4%</td></tr> <tr><td>68</td><td>27%</td></tr> </table>	7	2.8%	24	9.5%	31	12.3%	122	48.4%	68	27%
Definitely not																	
Probably not																	
Neutral																	
Probably																	
Definitely																	
7	2.8%																
24	9.5%																
31	12.3%																
122	48.4%																
68	27%																
6	<p>How motivating do you find this type of activity?</p> <table border="1"> <tr><td>Not at all motivating</td></tr> <tr><td>Not particularly motivating</td></tr> <tr><td>Neutral</td></tr> <tr><td>Motivating</td></tr> <tr><td>Very motivating</td></tr> </table>	Not at all motivating	Not particularly motivating	Neutral	Motivating	Very motivating	<table border="1"> <tr><td>5</td><td>2%</td></tr> <tr><td>41</td><td>16.3%</td></tr> <tr><td>46</td><td>18.2%</td></tr> <tr><td>134</td><td>53.2%</td></tr> <tr><td>26</td><td>10.3%</td></tr> </table>	5	2%	41	16.3%	46	18.2%	134	53.2%	26	10.3%
Not at all motivating																	
Not particularly motivating																	
Neutral																	
Motivating																	
Very motivating																	
5	2%																
41	16.3%																
46	18.2%																
134	53.2%																
26	10.3%																
7	<p>Do you think this type of activity would make the learning of Irish more attractive?</p> <table border="1"> <tr><td>Definitely not</td></tr> <tr><td>Probably not</td></tr> <tr><td>Neutral</td></tr> <tr><td>Probably</td></tr> <tr><td>Definitely</td></tr> </table>	Definitely not	Probably not	Neutral	Probably	Definitely	<table border="1"> <tr><td>3</td><td>1.2%</td></tr> <tr><td>20</td><td>8%</td></tr> <tr><td>34</td><td>13.5%</td></tr> <tr><td>139</td><td>55.1%</td></tr> <tr><td>56</td><td>22.2%</td></tr> </table>	3	1.2%	20	8%	34	13.5%	139	55.1%	56	22.2%
Definitely not																	
Probably not																	
Neutral																	
Probably																	
Definitely																	
3	1.2%																
20	8%																
34	13.5%																
139	55.1%																
56	22.2%																
8	<p>The overall standard of the Irish used is at about the right level for me.</p> <table border="1"> <tr><td>Completely disagree</td></tr> <tr><td>Disagree</td></tr> <tr><td>Neutral</td></tr> <tr><td>Agree</td></tr> <tr><td>Agree completely</td></tr> </table>	Completely disagree	Disagree	Neutral	Agree	Agree completely	<table border="1"> <tr><td>4</td><td>1.6%</td></tr> <tr><td>38</td><td>15.1%</td></tr> <tr><td>33</td><td>13.1%</td></tr> <tr><td>139</td><td>55.1%</td></tr> <tr><td>38</td><td>15.1%</td></tr> </table>	4	1.6%	38	15.1%	33	13.1%	139	55.1%	38	15.1%
Completely disagree																	
Disagree																	
Neutral																	
Agree																	
Agree completely																	
4	1.6%																
38	15.1%																
33	13.1%																
139	55.1%																
38	15.1%																
8.1	<p>If you feel the Irish used is not at the right level, is this because it was...</p> <table border="1"> <tr><td>Too difficult</td></tr> <tr><td>Too easy</td></tr> </table>	Too difficult	Too easy	<table border="1"> <tr><td>34</td><td>31%</td></tr> <tr><td>76</td><td>69%</td></tr> </table>	34	31%	76	69%									
Too difficult																	
Too easy																	
34	31%																
76	69%																
9	<p>The synthesised voices were sufficiently clear to make the speech intelligible.</p> <table border="1"> <tr><td>Completely disagree</td></tr> </table>	Completely disagree	<table border="1"> <tr><td>15</td><td>5.9%</td></tr> </table>	15	5.9%												
Completely disagree																	
15	5.9%																

	Disagree	74	29.4%
	Neutral	51	20.2%
	Agree	103	40.9%
	Agree completely	9	3.6%
10	Did you experience particular difficulties with the dialects that are used in the video?		
	Definitely some difficulty	22	8.7%
	Probably some difficulty	71	28.2%
	Neutral	33	13.1%
	Probably no difficulty	107	42.5%
	Definitely no difficulty	19	7.5%
11_1	Please give your opinion on: ...the usefulness of producing graphics with synthesised voices in order to practise aural comprehension.		
	Of little or no use	4	1.6%
	Not particularly useful	24	9.5%
	Neutral	26	10.3%
	Useful	151	60%
	Very useful	47	18.6%
11_2	...the quality of the synthesised voices: to what extent do you think the voices are adequate for the type of learning platform presented here?		
	Completely inadequate	6	2.4%
	Inadequate	64	25.4%
	Neutral	54	21.4%
	Adequate	121	48%
	Totally adequate	7	2.8%
11_3	...the attractiveness of the voices:		
	Very unattractive	15	6%
	Unattractive	80	31.7%
	Neutral	62	24.6%
	Attractive	88	34.9%
	Very attractive	7	2.8%

E3: Post-Game Questionnaire Results (Descriptive Results): Taidhgín

		Taidhgín																	
Item	Taidhgín Total number of participants	228																	
1	Do you feel the graphic display (the talking monkey) is suitable for this type of game/activity? <table border="1" style="width: 100%;"> <tr><td>Definitely not suitable</td></tr> <tr><td>Not really suitable</td></tr> <tr><td>Neutral</td></tr> <tr><td>Quite suitable</td></tr> <tr><td>Very suitable</td></tr> </table>	Definitely not suitable	Not really suitable	Neutral	Quite suitable	Very suitable	<table border="1" style="width: 100%;"> <thead> <tr> <th>Num.</th> <th>%</th> </tr> </thead> <tbody> <tr><td>1</td><td>0.4%</td></tr> <tr><td>12</td><td>5.3%</td></tr> <tr><td>17</td><td>7.4%</td></tr> <tr><td>98</td><td>43%</td></tr> <tr><td>100</td><td>43.9%</td></tr> </tbody> </table>	Num.	%	1	0.4%	12	5.3%	17	7.4%	98	43%	100	43.9%
Definitely not suitable																			
Not really suitable																			
Neutral																			
Quite suitable																			
Very suitable																			
Num.	%																		
1	0.4%																		
12	5.3%																		
17	7.4%																		
98	43%																		
100	43.9%																		
2	Do you feel the talking monkey adds to the overall playfulness of the exercise? <table border="1" style="width: 100%;"> <tr><td>Definitely not</td></tr> <tr><td>Probably not</td></tr> <tr><td>Neutral</td></tr> <tr><td>Probably does</td></tr> <tr><td>Definitely does</td></tr> </table>	Definitely not	Probably not	Neutral	Probably does	Definitely does	<table border="1" style="width: 100%;"> <tbody> <tr><td>2</td><td>0.9%</td></tr> <tr><td>10</td><td>4.4%</td></tr> <tr><td>11</td><td>4.8%</td></tr> <tr><td>95</td><td>41.7%</td></tr> <tr><td>110</td><td>48.2%</td></tr> </tbody> </table>	2	0.9%	10	4.4%	11	4.8%	95	41.7%	110	48.2%		
Definitely not																			
Probably not																			
Neutral																			
Probably does																			
Definitely does																			
2	0.9%																		
10	4.4%																		
11	4.8%																		
95	41.7%																		
110	48.2%																		
3	How would you describe the movements of the talking monkey and their alignment to speech? <table border="1" style="width: 100%;"> <tr><td>Very badly aligned</td></tr> <tr><td>Badly aligned</td></tr> <tr><td>Acceptable</td></tr> <tr><td>Well aligned</td></tr> <tr><td>Very well aligned</td></tr> </table>	Very badly aligned	Badly aligned	Acceptable	Well aligned	Very well aligned	<table border="1" style="width: 100%;"> <tbody> <tr><td>2</td><td>0.9%</td></tr> <tr><td>25</td><td>11%</td></tr> <tr><td>45</td><td>19.7%</td></tr> <tr><td>111</td><td>48.7%</td></tr> <tr><td>45</td><td>19.7%</td></tr> </tbody> </table>	2	0.9%	25	11%	45	19.7%	111	48.7%	45	19.7%		
Very badly aligned																			
Badly aligned																			
Acceptable																			
Well aligned																			
Very well aligned																			
2	0.9%																		
25	11%																		
45	19.7%																		
111	48.7%																		
45	19.7%																		
4	To what extent do you think this type of learning platform (i.e. the interaction and playfulness) would help in practising conversational Irish? <table border="1" style="width: 100%;"> <tr><td>Not at all helpful</td></tr> <tr><td>Not helpful</td></tr> <tr><td>Neutral</td></tr> <tr><td>Helpful</td></tr> <tr><td>Very helpful</td></tr> </table>	Not at all helpful	Not helpful	Neutral	Helpful	Very helpful	<table border="1" style="width: 100%;"> <tbody> <tr><td>3</td><td>1.3%</td></tr> <tr><td>9</td><td>3.9%</td></tr> <tr><td>20</td><td>8.8%</td></tr> <tr><td>116</td><td>50.9%</td></tr> <tr><td>80</td><td>35.1%</td></tr> </tbody> </table>	3	1.3%	9	3.9%	20	8.8%	116	50.9%	80	35.1%		
Not at all helpful																			
Not helpful																			
Neutral																			
Helpful																			
Very helpful																			
3	1.3%																		
9	3.9%																		
20	8.8%																		
116	50.9%																		
80	35.1%																		
5	Would you use a virtual conversation partner (like the talking monkey) should it be available and easily accessible in your school?																		

	<table border="1"> <tbody> <tr><td>Definitely not</td></tr> <tr><td>Probably not</td></tr> <tr><td>Neutral</td></tr> <tr><td>Probably</td></tr> <tr><td>Definitely</td></tr> </tbody> </table>	Definitely not	Probably not	Neutral	Probably	Definitely	<table border="1"> <tbody> <tr><td>5</td><td>2.2%</td></tr> <tr><td>20</td><td>8.8%</td></tr> <tr><td>22</td><td>9.6%</td></tr> <tr><td>104</td><td>45.6%</td></tr> <tr><td>77</td><td>33.8%</td></tr> </tbody> </table>	5	2.2%	20	8.8%	22	9.6%	104	45.6%	77	33.8%
Definitely not																	
Probably not																	
Neutral																	
Probably																	
Definitely																	
5	2.2%																
20	8.8%																
22	9.6%																
104	45.6%																
77	33.8%																
6	<p>To what extent would you be motivated by this type of activity?</p> <table border="1"> <tbody> <tr><td>Not at all motivated</td></tr> <tr><td>Not particularly motivated</td></tr> <tr><td>Neutral</td></tr> <tr><td>Motivated</td></tr> <tr><td>Very motivated</td></tr> </tbody> </table>	Not at all motivated	Not particularly motivated	Neutral	Motivated	Very motivated	<table border="1"> <tbody> <tr><td>3</td><td>1.3%</td></tr> <tr><td>12</td><td>5.3%</td></tr> <tr><td>26</td><td>11.4%</td></tr> <tr><td>129</td><td>56.6%</td></tr> <tr><td>58</td><td>25.4%</td></tr> </tbody> </table>	3	1.3%	12	5.3%	26	11.4%	129	56.6%	58	25.4%
Not at all motivated																	
Not particularly motivated																	
Neutral																	
Motivated																	
Very motivated																	
3	1.3%																
12	5.3%																
26	11.4%																
129	56.6%																
58	25.4%																
7	<p>Do you think a virtual conversation partner such as Taidhgín would make the learning of Irish more attractive?</p> <table border="1"> <tbody> <tr><td>Definitely not</td></tr> <tr><td>Probably not</td></tr> <tr><td>Neutral</td></tr> <tr><td>Probably</td></tr> <tr><td>Definitely</td></tr> </tbody> </table>	Definitely not	Probably not	Neutral	Probably	Definitely	<table border="1"> <tbody> <tr><td>1</td><td>0.4%</td></tr> <tr><td>7</td><td>3.1%</td></tr> <tr><td>20</td><td>8.8%</td></tr> <tr><td>111</td><td>48.7%</td></tr> <tr><td>89</td><td>39%</td></tr> </tbody> </table>	1	0.4%	7	3.1%	20	8.8%	111	48.7%	89	39%
Definitely not																	
Probably not																	
Neutral																	
Probably																	
Definitely																	
1	0.4%																
7	3.1%																
20	8.8%																
111	48.7%																
89	39%																
8	<p>The overall standard of the Irish used by Taidhgín is at about the right level for me.</p> <table border="1"> <tbody> <tr><td>Completely disagree</td></tr> <tr><td>Disagree</td></tr> <tr><td>Neutral</td></tr> <tr><td>Agree</td></tr> <tr><td>Agree completely</td></tr> </tbody> </table>	Completely disagree	Disagree	Neutral	Agree	Agree completely	<table border="1"> <tbody> <tr><td>10</td><td>4.4%</td></tr> <tr><td>32</td><td>14%</td></tr> <tr><td>33</td><td>14.5%</td></tr> <tr><td>105</td><td>46%</td></tr> <tr><td>48</td><td>21.1%</td></tr> </tbody> </table>	10	4.4%	32	14%	33	14.5%	105	46%	48	21.1%
Completely disagree																	
Disagree																	
Neutral																	
Agree																	
Agree completely																	
10	4.4%																
32	14%																
33	14.5%																
105	46%																
48	21.1%																
8.1	<p>If you feel the Irish used is not at the right level, is this because it was...</p> <table border="1"> <tbody> <tr><td>Too difficult</td></tr> <tr><td>Too easy</td></tr> </tbody> </table>	Too difficult	Too easy	<table border="1"> <tbody> <tr><td>20</td><td>21%</td></tr> <tr><td>75</td><td>79%</td></tr> </tbody> </table>	20	21%	75	79%									
Too difficult																	
Too easy																	
20	21%																
75	79%																
9	<p>The synthesised voices were sufficiently clear to make the speech intelligible.</p> <table border="1"> <tbody> <tr><td>Completely disagree</td></tr> <tr><td>Disagree</td></tr> </tbody> </table>	Completely disagree	Disagree	<table border="1"> <tbody> <tr><td>2</td><td>0.9%</td></tr> <tr><td>31</td><td>13.6%</td></tr> </tbody> </table>	2	0.9%	31	13.6%									
Completely disagree																	
Disagree																	
2	0.9%																
31	13.6%																

	Neutral	29	12.7%
	Agree	124	54.4%
	Agree completely	42	18.4%
10	Did you experience particular difficulties with the dialects that are used in Taidhgín?		
	Definitely some difficulty	4	1.8%
	Probably some difficulty	39	17.1%
	Neutral	31	13.6%
	Probably no difficulty	109	47.8%
	Definitely no difficulty	45	19.7%
11_1	Please give your opinion on: ...the usefulness of the concept of producing a virtual conversation partner who speaks with a synthesised voice in order to practise oral Irish:		
	Of little or no use	2	0.9%
	Not particularly useful	7	3.1%
	Neutral	31	13.6%
	Useful	110	48.2%
	Very useful	78	34.2%
11_2	...the quality of the synthesised voices: to what extent do you think the voices are adequate for the type of learning platform presented here?		
	Completely inadequate	5	2.2%
	Inadequate	27	11.8%
	Neutral	29	12.7%
	Adequate	144	63.2%
	Totally adequate	23	10.1%
11_3	...the attractiveness of the voices:		
	Very unattractive	5	2.2%
	Unattractive	45	19.7%
	Neutral	48	21%
	Attractive	106	46.5%
	Very attractive	24	10.6%

Appendix F

F1: Kruskal-Wallis Test Results: Digichaint

Expansion of Kruskal-Wallis Test for items showing significance in Table 5.9, Chapter 5. These expansions show the mean rank scores and the direction of the differences. They also give the post hoc analysis showing where the difference lies.

Gender

Ranks			Test Statistics ^{a,b}	
Gender	N	Mean Rank		Item 1
Item 1 Female	182	131.96	Chi-Square	6.120
Male	68	108.21	df	1
Total	250		Asymp. Sig.	.013

a. Kruskal Wallis Test
b. Grouping Variable: Gender

Kruskal-Wallis Test Statistics for Item 1:

$H(1)=6.120, p=0.013 *$

Between-School Differences

Item 1: Rate the graphics used in this game on a scale of 1 - 5

Ranks				Test Statistics ^{a,b}	
School Type	N	Mean Rank		Item 1	
Item 1 Gaeltacht	86	103.57	Chi-Square	23.133	
Gaelscoil	25	99.02	df	2	
English	139	143.83	Asymp. Sig.	.000	
Total	250		Sig.		

	a. Kruskal Wallis Test b. Grouping Variable: School Type
--	----------------------------------------------------------------

Kruskal-Wallis Test Statistics for Item 1:

$H(2)=23.133, p=0.000 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 1:

Gaeltacht x Gaelscoil: $H(1)=0.099, p=0.753$
 Gaeltacht x English: $H(1)=18.906, p=0.000 *$
 Gaelscoil x English: $H(1)= 9.499, p=0.002 *$

Item 3: I learned some new phrases/words/grammar points as I played through the game.

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 3
Item 3	Gaeltacht	86	105.59	Chi-Square	27.139
	Gaelscoil	25	87.44	df	2
	English	139	144.66	Asymp. Sig.	.000
	Total	250			

a. Kruskal Wallis Test
 b. Grouping
 Variable: School Type

Kruskal-Wallis Test Statistics for Item 3:

$H(2)=27.139, p=0.000 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 3:

Gaeltacht x Gaelscoil: $H(1)=2.207, p=0.137$
 Gaeltacht x English: $H(1)=19.109, p=0.000 *$
 Gaelscoil x English: $H(1)= 14.138, p=0.000 *$

Item 4: The dictionary is helpful as an aid to learning Irish in this game.

Ranks	Test Statistics ^{a,b}
-------	--------------------------------

Ranks				Item 4	
	School Type	N	Mean Rank	Chi-Square	
Item 4	Gaeltacht	86	98.22	df	26.624
	Gaelscoil	25	116.72	Asymp. Sig.	.000
	English	139	143.96		
	Total	250			

a. Kruskal Wallis Test
b. Grouping Variable: School Type

Kruskal-Wallis Test Statistics for Item 4:

$H(2)=26.624, p=0.000 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 4:

Gaeltacht x Gaelscoil: $H(1)=1.184, p=0.276$

Gaeltacht x English: $H(1)=19.109, p=0.000 *$

Gaelscoil x English: $H(1)= 3.348, p=0.067$

Item 5: Rate your overall enjoyment of this particular game as a language learning experience.

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 5
Item 5	Gaeltacht	86	115.52	Chi-Square	29.324
	Gaelscoil	25	68.36	df	2
	English	139	141.95	Asymp. Sig.	.000
	Total	250			

a. Kruskal Wallis Test
b. Grouping Variable: School Type

Kruskal-Wallis Test Statistics for Item 5:

$H(2)=29.324, p=0.000 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 5:

Gaeltacht x Gaelscoil: $H(1)=12.337, p=0.000 *$

Gaeltacht x English: $H(1)=9.492, p=0.002 *$

Gaelscoil x English: $H(1)= 23.158, p=0.000 *$

Item 7: Was the plot credible for this type of game?

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 7
Item 7	Gaeltacht	86	115.55	Chi-Square	21.519
	Gaelscoil	25	77.26	df	2
	English	139	140.33	Asymp. Sig.	.000
	Total	250			

a. Kruskal Wallis Test
b. Grouping Variable: School Type

Kruskal-Wallis Test Statistics for Item 7:

$H(2)=21.519, p=0.000 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 7:

Gaeltacht x Gaelscoil: $H(1)=5.782, p=0.016 *$

Gaeltacht x English: $H(1)=7.212, p=0.007 *$

Gaelscoil x English: $H(1)= 19.079, p=0.000 *$

Item 8: The game held my attention.

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 8
Item 8	Gaeltacht	86	119.30	Chi-Square	19.302
	Gaelscoil	25	76.48	df	2
	English	139	138.15	Asymp. Sig.	.000
	Total	250			

a. Kruskal Wallis Test
b. Grouping Variable: School Type

Kruskal-Wallis Test Statistics for Item 8:

$H(2)=19.302, p=0.000 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 8:

Gaeltacht x Gaelscoil: $H(1)=10.337, p=0.001 *$

Gaeltacht x English: $H(1)=5.057, p=0.025 *$

Gaelscoil x English: $H(1)= 15.674, p=0.000 *$

Item 10: There is a good balance between enjoyment and language learning in this game.

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 10
Item 10	Gaeltacht	86	116.5	Chi-Square	6.794
			3	df	2
	Gaelscoil	25	106.5	Asymp. Sig.	.033
	English	139	134.4	a. Kruskal Wallis Test	
	Total	250	6	b. Grouping Variable: School Type	

Kruskal-Wallis Test Statistics for Item 10:

$H(2)=6.794, p=0.033 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 10:

Gaeltacht x Gaelscoil: $H(1)=0.628, p=0.428$

Gaeltacht x English: $H(1)=4.589, p=0.032 *$

Gaelscoil x English: $H(1)= 3.849, p=0.050$

Item 11: The overall standard of the Irish used in this game is at about the right level for me.

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 11
Item 11	Gaeltacht	86	123.62	Chi-Square	6.724
	Gaelscoil	25	158.02	df	2

English	139	120.82	Asymp. Sig.	.035
Total	250		a. Kruskal Wallis Test b. Grouping Variable: School Type	

Kruskal-Wallis Test Statistics for Item 11:

$H(2)=6.724, p=0.035 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 11:

Gaeltacht x Gaelscoil: $H(1)= 4.299, p=0.038 *$

Gaeltacht x English: $H(1)= 0.072, p=0.788$

Gaelscoil x English: $H(1)= 7.350, p=0.007 *$

Item 13: Did you experience particular difficulties with the dialects that are used in Digichaint?

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 13
Item 13	Gaeltacht	86	137.81	Chi-Square	6.114
	Gaelscoil	25	136.04	df	2
	English	139	115.99	Asymp. Sig.	.047
	Total	250		a. Kruskal Wallis Test b. Grouping Variable: School Type	

Kruskal-Wallis Test Statistics for Item 13:

$H(2)=6.114, p=0.047 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 13:

Gaeltacht x Gaelscoil: $H(1)=0.032, p=0.858$

Gaeltacht x English: $H(1)=1.951, p=0.162$

Gaelscoil x English: $H(1)= 5.385, p=0.020 *$

Item 14: I found it no difficult to understand the computer-generated voice than I would if natural voices were used.

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 14
Item 14	Gaeltacht	86	116.19	Chi-Square	6.739
	Gaelscoil	25	103.96	df	2
	English	139	135.13	Asymp. Sig.	.034
	Total	250		a. Kruskal Wallis Test b. Grouping Variable: School Type	

Kruskal-Wallis Test Statistics for Item 14:

$H(2)=6.739, p=0.034 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 14:

Gaeltacht x Gaelscoil: $H(1)=0.809, p=0.368$

Gaeltacht x English: $H(1)=4.209, p=0.040 *$

Gaelscoil x English: $H(1)= 4.001, p=0.045 *$

Item 17_1: Give your opinion on the usefulness of the concept of producing an interactive language learning game in order to practise Irish.

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 17_1
Item 17_1	Gaeltacht	86	115.49	Chi-Square	8.379
	Gaelscoil	25	102.96	df	2
	English	139	135.74	Asymp. Sig.	.015
	Total	250		a. Kruskal Wallis Test b. Grouping Variable: School Type	

Kruskal-Wallis Test Statistics for Item 17_1:

$H(2)=8.379, p=0.015 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 17_1:

Gaeltacht x Gaelscoil: $H(1)=0.773, p=0.379$
 Gaeltacht x English: $H(1)= 5.157, p=0.023 *$
 Gaelscoil x English: $H(1)= 5.187, p=0.023 *$

Frequency Playing Computer Games

Item 4: The dictionary is helpful as an aid to learning Irish in this game.

Ranks				Test Statistics ^{a,b}	
Frequency playing computer games		N	Mean Rank	Item 4	
Item 4	Never	49	120.46	Chi-Square	8.656
	Seldom	133	135.56	df	3
	Weekly	50	104.51	Asymp. Sig.	.034
	Daily	18	123.17	a. Kruskal Wallis Test	
	Total	250		b. Grouping Variable: Frequency playing computer games	

Kruskal-Wallis Test Statistics for Item 4:

$H(3) = 8.656, p=0.034 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 4:

(Key: 1 = Never; 2 = Seldom; 3 = Weekly; 4 = Daily)

1 x 2: $H(1) = 1.970, p=0.160$
 1 x 3: $H(1) = 1.731, p=0.188$
 1 x 4: $H(1) = 0.017, p=0.897$
 2 x 3: $H(1) = 7.912, p=0.005 *$
 2 x 4: $H(1) = 0.556, p=0.456$
 3 x 4: $H(1) = 1.198, p=0.274$

Item 5: Rate your overall enjoyment of this particular game as a language learning experience.

Ranks				Test Statistics ^{a,b}	
Frequency playing computer games		N	Mean Rank	Item 5	
Item	Never	49	108.83	Chi-Square	7.989
				df	3

5	Seldom	133	136.25	Asymp. Sig.	.046
	Weekly	50	115.22		
	Daily	18	120.00	a. Kruskal Wallis Test	
	Total	250		b. Grouping Variable: Frequency playing computer games	

Kruskal-Wallis Test Statistics for Item 5:

$$H(3) = 7.989, p=0.046 *$$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 5:

(Key: 1 = Never; 2 = Seldom; 3 = Weekly; 4 = Daily)

$$1 \times 2: H(1) = 5.785, p=0.016 *$$

$$1 \times 3: H(1) = 0.372, p=0.542$$

$$1 \times 4: H(1) = 0.439, p=0.508$$

$$2 \times 3: H(1) = 3.964, p=0.046 *$$

$$2 \times 4: H(1) = 1.050, p=0.306$$

$$3 \times 4: H(1) = 0.081, p=0.776$$

Item 8: The game held my attention.

Ranks				Test Statistics ^{a,b}	
	Frequency playing computer games	N	Mean Rank	Chi-Square	Item 8
Item 8	Never	49	103.27	df	3
	Seldom	133	137.44	Asymp. Sig.	.001
	Weekly	50	107.21	a. Kruskal Wallis Test	
	Daily	18	148.58	b. Grouping	
	Total	250		Variable: Frequency playing computer games	

Kruskal-Wallis Test Statistics for Item 8:

$$H(3) = 15.670, p=0.001 *$$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 8:

(Key: 1 = Never; 2 = Seldom; 3 = Weekly; 4 = Daily)

- 1 x 2: $H(1) = 9.716, p=0.002 *$
- 1 x 3: $H(1) = 0.116, p=0.733$
- 1 x 4: $H(1) = 5.420, p=0.020 *$
- 2 x 3: $H(1) = 7.764, p=0.005 *$
- 2 x 4: $H(1) = 0.607, p=0.436$
- 3 x 4: $H(1) = 4.283, p=0.038 *$

Item 10: There is a good balance between enjoyment and language learning in this game.

Ranks			Test Statistics ^{a,b}	
Frequency playing computer games	N	Mean Rank		Item 10
Item 10 Never	49	107.60	Chi-Square	9.033
Seldom	133	136.33	df	3
Weekly	50	116.92	Asymp. Sig.	.029
Daily	18	118.00	a. Kruskal Wallis Test	
Total	250		b. Grouping Variable: Frequency playing computer games	

Kruskal-Wallis Test Statistics for Item 10:

$$H(3) = 9.033, p=0.029 *$$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 10:

(Key: 1 = Never; 2 = Seldom; 3 = Weekly; 4 = Daily)

- 1 x 2: $H(1) = 7.329, p=0.007 *$
- 1 x 3: $H(1) = 0.438, p=0.508$
- 1 x 4: $H(1) = 0.634, p=0.426$
- 2 x 3: $H(1) = 3.176, p=0.075$
- 2 x 4: $H(1) = 1.635, p=0.201$
- 3 x 4: $H(1) = 0.026, p=0.873$

Item 12: The synthesised voices were sufficiently clear to make the speech intelligible.

Ranks			Test Statistics ^{a,b}	
Frequency playing computer games	N	Mean Rank		Item 12
Item 12 Never	49	108.10	Chi-Square	11.365
			df	3
			Asymp. Sig.	.010

Seldom	133	139.04	a. Kruskal Wallis Test b. Grouping Variable: Frequency playing computer games
Weekly	50	110.48	
Daily	18	114.53	
Total	250		

Kruskal-Wallis Test Statistics for Item 12:

$H(3) = 11.365, p=0.010 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 12:

(Key: 1 = Never; 2 = Seldom; 3 = Weekly; 4 = Daily)

1 x 2: $H(1) = 7.532, p=0.006 *$

1 x 3: $H(1) = 0.049, p=0.825$

1 x 4: $H(1) = 0.151, p=0.698$

2 x 3: $H(1) = 6.763, p=0.009 *$

2 x 4: $H(1) = 2.219, p=0.136$

3 x 4: $H(1) = 0.035, p=0.852$

Level of Understanding of Irish

Item 1: Rate the graphics used in this game on a scale of 1 – 5.

Ranks				Test Statistics ^{a,b}	
	Level of understanding of Irish	N	Mean Rank		Item 1
Item 1	1 = Lowest Level	2	159.50	Chi-Square	17.629
	2	3	61.17	df	4
	3	38	156.21	Asymp. Sig.	.001
	4	114	130.32	a. Kruskal Wallis Test	
	5 = Highest Level	93	108.38	b. Grouping Variable: Level of understanding of Irish	
	Total	250			

Kruskal-Wallis Test Statistics for Item 1:

$H(4) = 17.629, p=0.001 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 1:

(Key: Group 1 = Lowest level - Group 5 = Highest level of understanding of Irish)

1 x 2: $H(1) = 1.667, p=0.197$

1 x 3: $H(1) = 0.005, p=0.944$

1 x 4: $H(1) = 0.355, p=0.551$

1 x 5: $H(1) = 1.272, p=0.259$

2 x 3: $H(1) = 4.132, p=0.042 *$

2 x 4: $H(1) = 2.875, p=0.090$

2 x 5: $H(1) = 1.934, p=0.164$

3 x 4: $H(1) = 4.341, p=0.037 *$

3 x 5: $H(1) = 13.365, p=0.000 *$

4 x 5: $H(1) = 5.426, p=0.020 *$

Item 3: I learned some new phrases/words/grammar points as I played the game.

Ranks				Test Statistics ^{a,b}	
	Level of understanding of Irish	N	Mean Rank		Item 3
Item 3	1 = Lowest Level	2	103.25	Chi-Square	11.978
	2	3	105.17	df	4
	3	38	136.49	Asymp. Sig.	.018
	4	114	137.50		
	5 = Highest Level	93	107.44		
	Total	250			

a. Kruskal Wallis Test
b. Grouping Variable: Level of understanding of Irish

Kruskal-Wallis Test Statistics for Item 3:

$H(4) = 11.978, p=0.018 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 3:

(Key: Group 1 = Lowest level - Group 5 = Highest level of understanding of Irish)

1 x 2: $H(1) = 0.000, p=1.000$

1 x 3: $H(1) = 0.496, p=0.481$

1 x 4: $H(1) = 0.587, p=0.444$

1 x 5: $H(1) = 0.001, p=0.978$

2 x 3: $H(1) = 0.620, p=0.431$

2 x 4: $H(1) = 0.676, p=0.411$

2 x 5: $H(1) = 0.005, p=0.946$

3 x 4: $H(1) = 0.010, p=0.919$

3 x 5: $H(1) = 5.107, p=0.024 *$

4 x 5: $H(1) = 10.238, p=0.001 *$

Item 4: The dictionary is helpful as an aid to learning Irish in this game.

Ranks			Test Statistics ^{a,b}	
	Level of understanding of Irish	N	Mean Rank	Item 4
Item	1 = Lowest Level	2	170.25	Chi-Square
4	2	3	120.50	df
	3	38	145.01	Asymp. Sig.
	4	114	132.52	
	5 = Highest Level	93	108.12	a. Kruskal Wallis Test
	Total	250		b. Grouping Variable: Level of understanding of Irish

Kruskal-Wallis Test Statistics for Item 4:

$H(4) = 12.280, p=0.015 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 4:

(Key: Group 1 = Lowest level - Group 5 = Highest level of understanding of Irish)

1 x 2: $H(1) = 1.500, p=0.221$

1 x 3: $H(1) = 0.371, p=0.542$

1 x 4: $H(1) = 0.663, p=0.416$

1 x 5: $H(1) = 1.608, p=0.205$

2 x 3: $H(1) = 0.634, p=0.426$

2 x 4: $H(1) = 0.142, p=0.707$

2 x 5: $H(1) = 0.202, p=0.653$

3 x 4: $H(1) = 0.997, p=0.318$

3 x 5: $H(1) = 8.678, p=0.003 *$

4 x 5: $H(1) = 6.892, p=0.009 *$

Item 5: Rate your overall enjoyment of this particular game as a language learning experience.

Ranks			Test Statistics ^{a,b}	
	Level of understanding of Irish	N	Mean Rank	Item 5
Item	1 = Lowest Level	2	187.25	Chi-Square
				df
				12.972
				4

5	2	3	36.83	Asymp. Sig.	.011
	3	38	141.53		
	4	114	130.81	a. Kruskal Wallis Test	
	5 = Highest Level	93	113.97	b. Grouping	
	Total	250		Variable: Level of understanding of Irish	

Kruskal-Wallis Test Statistics for Item 5:

$$H(4) = 12.972, p=0.011 *$$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 5:

(Key: Group 1 = Lowest level - Group 5 = Highest level of understanding of Irish)

$$1 \times 2: H(1) = 3.158, p=0.076$$

$$1 \times 3: H(1) = 1.242, p=0.265$$

$$1 \times 4: H(1) = 1.516, p=0.218$$

$$1 \times 5: H(1) = 2.142, p=0.143$$

$$2 \times 3: H(1) = 7.487, p=0.006 *$$

$$2 \times 4: H(1) = 5.879, p=0.015 *$$

$$2 \times 5: H(1) = 3.807, p=0.051$$

$$3 \times 4: H(1) = 0.758, p=0.384$$

$$3 \times 5: H(1) = 4.747, p=0.029 *$$

$$4 \times 5: H(1) = 3.289, p=0.070$$

Item 10: There is a good balance between enjoyment and language learning in this game.

Ranks				Test Statistics ^{a,b}	
	Level of understanding of Irish	N	Mean Rank		Item 10
Item 10	1 = Lowest Level	2	140.00	Chi-Square	9.800
	2	3	27.83	df	4
	3	38	132.32	Asymp. Sig.	.044
	4	114	131.23	a. Kruskal Wallis Test	
	5 = Highest Level	93	118.53	b. Grouping Variable:	
	Total	250		Level of understanding of Irish	

Kruskal-Wallis Test Statistics for Item 10:

$H(4) = 9.800, p=0.044 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 10:

(Key: Group 1 = Lowest level - Group 5 = Highest level of understanding of Irish)

1 x 2: $H(1) = 3.333, p=0.068$

1 x 3: $H(1) = 0.021, p=0.884$

1 x 4: $H(1) = 0.030, p=0.861$

1 x 5: $H(1) = 0.248, p=0.619$

2 x 3: $H(1) = 7.015, p=0.008 *$

2 x 4: $H(1) = 7.775, p=0.005 *$

2 x 5: $H(1) = 5.821, p=0.016 *$

3 x 4: $H(1) = 0.009, p=0.925$

3 x 5: $H(1) = 1.256, p=0.262$

4 x 5: $H(1) = 2.079, p=0.149$

Item 13: Did you experience particular difficulties with the dialects that are used in Digichaint?

Ranks			Test Statistics ^{a,b}	
Level of understanding of Irish	N	Mean Rank		Item 13
Item 13 1 = Lowest Level	2	39.00	Chi-Square	11.969
2	3	84.00	df	4
3	38	110.37	Asymp. Sig.	.018
4	114	120.18	a. Kruskal Wallis Test	
5 = Highest Level	93	141.41	b. Grouping Variable: Level of understanding of Irish	
Total	250			

Kruskal-Wallis Test Statistics for Item 13:

$H(4) = 11.969, p=0.018 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 13:

(Key: Group 1 = Lowest level - Group 5 = Highest level of understanding of Irish)

1 x 2: $H(1) = 0.667, p=0.414$

1 x 3: $H(1) = 2.139, p=0.144$
 1 x 4: $H(1) = 3.138, p=0.076$
 1 x 5: $H(1) = 3.913, p=0.048 *$

2 x 3: $H(1) = 0.449, p=0.503$
 2 x 4: $H(1) = 0.918, p=0.338$
 2 x 5: $H(1) = 1.881, p=0.170$

3 x 4: $H(1) = 0.707, p=0.400$
 3 x 5: $H(1) = 5.219, p=0.022 *$

4 x 5: $H(1) = 5.276, p=0.022 *$

Attitude towards Synthetic Voices

Item 5: Rate your overall enjoyment of this particular game as a language learning experience.

Ranks				Test Statistics ^{a,b}	
Attitude towards synthesised voices		N	Mean Rank		Item 5
Item 5	1 = ...hate...	6	58.92	Chi-Square	14.118
	2	47	118.14	df	4
	3	144	122.16	Asymp. Sig.	.007
	4	48	146.49	a. Kruskal Wallis Test	
	5 = ...suitable...	5	169.40	b. Grouping Variable: Attitude towards synthesised voices	
	Total	250			

Kruskal-Wallis Test Statistics for Item 5:

$H(4) = 14.118, p=0.007 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 5:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

1 x 2: $H(1) = 5.527, p=0.019 *$
 1 x 3: $H(1) = 5.258, p=0.022 *$
 1 x 4: $H(1) = 8.317, p=0.004 *$
 1 x 5: $H(1) = 2.912, p=0.088$

2 x 3: $H(1) = 0.108, p=0.743$
 2 x 4: $H(1) = 5.359, p=0.021 *$
 2 x 5: $H(1) = 3.092, p=0.079$

 3 x 4: $H(1) = 4.826, p=0.028 *$
 3 x 5: $H(1) = 2.194, p=0.139$

 4 x 5: $H(1) = 1.060, p=0.303$

Item 9: I was more focused on the plot of the game than I was on the language being used.

Ranks				Test Statistics ^{a,b}	
Attitude towards synthesised voices		N	Mean Rank		Item 9
Item 9	1 = ...hate...	6	84.92	Chi-Square	11.963
	2	47	139.50	df	4
	3	144	116.30	Asymp. Sig.	.018
	4	48	146.75	a. Kruskal Wallis Test	
	5 = ...suitable...	5	103.60	b. Grouping Variable: Attitude towards synthesised voices	
	Total	250			

Kruskal-Wallis Test Statistics for Item 9:

$H(4) = 11.963, p=0.018 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 9:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

1 x 2: $H(1) = 3.780, p=0.052$
 1 x 3: $H(1) = 1.310, p=0.252$
 1 x 4: $H(1) = 3.824, p=0.051$
 1 x 5: $H(1) = 0.150, p=0.699$

 2 x 3: $H(1) = 4.484, p=0.034 *$
 2 x 4: $H(1) = 0.532, p=0.466$
 2 x 5: $H(1) = 1.126, p=0.289$

 3 x 4: $H(1) = 6.902, p=0.009 *$
 3 x 5: $H(1) = 0.266, p=0.606$

 4 x 5: $H(1) = 1.252, p=0.263$

Item 10: There is a good balance between enjoyment and language learning in this game.

Ranks			Test Statistics ^{a,b}	
Attitude towards synthesised voices		Mean Rank	Chi-Square	Item 10
	N		df	
Item 10 1 = ...hate...	6	90.50	Asymp. Sig.	9.916 4 .042
2	47	106.91		
3	144	126.78		
4	48	141.52		
5 = ...suitable...	5	151.50		
Total	250			

a. Kruskal Wallis Test
b. Grouping Variable: Attitude towards synthesised voices

Kruskal-Wallis Test Statistics for Item 10:

$$H(4) = 9.916, p=0.042 *$$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 10:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

$$1 \times 2: H(1) = 0.270, p=0.603$$

$$1 \times 3: H(1) = 2.005, p=0.157$$

$$1 \times 4: H(1) = 3.584, p=0.058$$

$$1 \times 5: H(1) = 1.354, p=0.245$$

$$2 \times 3: H(1) = 3.597, p=0.058$$

$$2 \times 4: H(1) = 6.897, p=0.009 *$$

$$2 \times 5: H(1) = 1.624, p=0.203$$

$$3 \times 4: H(1) = 2.057, p=0.152$$

$$3 \times 5: H(1) = 0.801, p=0.371$$

$$4 \times 5: H(1) = 0.220, p=0.639$$

Item 12: The synthesised voices were sufficiently clear to make the speech intelligible.

Ranks			Test Statistics ^{a,b}	
Attitude towards synthesised voices	N	Mean Rank		Item 12
Item 12 1 = ...hate...	6	65.50	Chi-Square	12.952
2	47	117.44	df	4
3	144	122.19	Asymp. Sig.	.012
4	48	145.04	a. Kruskal Wallis Test	
5 = ...suitable...	5	181.10	b. Grouping Variable:	
Total	250		Attitude towards synthesised voices	

Kruskal-Wallis Test Statistics for Item 12:

$H(4) = 12.952, p=0.012 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 12:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

- 1 x 2: $H(1) = 3.452, p=0.063$
- 1 x 3: $H(1) = 4.091, p=0.043 *$
- 1 x 4: $H(1) = 6.336, p=0.012 *$
- 1 x 5: $H(1) = 5.456, p=0.019 *$

- 2 x 3: $H(1) = 0.018, p=0.672$
- 2 x 4: $H(1) = 3.908, p=0.048 *$
- 2 x 5: $H(1) = 3.910, p=0.048 *$

- 3 x 4: $H(1) = 4.154, p=0.042 *$
- 3 x 5: $H(1) = 3.660, p=0.056$

- 4 x 5: $H(1) = 1.290, p=0.256$

Item 15: In general, I think that computer-generated voices give a better atmosphere to computer games than natural voices do.

Ranks				Test Statistics ^{a,b}	
	Attitude towards synthesised voices	N	Mean Rank		Item 15
Item 15	1 = ...hate...	6	127.67	Chi-Square	11.785
	2	47	118.36	df	4
	3	144	118.10	Asymp. Sig.	.019
	4	48	147.18	a. Kruskal Wallis Test	
	5 = ...suitable...	5	195.00	b. Grouping Variable:	
	Total	250		Attitude towards synthesised voices	

Kruskal-Wallis Test Statistics for Item 15:

$$H(4) = 11.785, p=0.019 *$$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 15:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

$$1 \times 2: H(1) = 0.104, p=0.747$$

$$1 \times 3: H(1) = 0.137, p=0.711$$

$$1 \times 4: H(1) = 0.553, p=0.457$$

$$1 \times 5: H(1) = 2.870, p=0.090$$

$$2 \times 3: H(1) = 0.002, p=0.966$$

$$2 \times 4: H(1) = 4.223, p=0.040 *$$

$$2 \times 5: H(1) = 5.470, p=0.019 *$$

$$3 \times 4: H(1) = 6.259, p=0.012 *$$

$$3 \times 5: H(1) = 5.436, p=0.020 *$$

$$4 \times 5: H(1) = 2.837, p=0.092$$

Item 17_1: Give your opinion on the usefulness of the concept of producing an interactive language learning game in order to practise Irish.

Ranks				Test Statistics ^{a,b}	
	Attitude towards synthesised voices	N	Mean Rank		Item 17_1
Item 17_1	1 = ...hate...	6	50.33	Chi-Square	16.076
	2	47	115.61	df	4
	3	144	123.24	Asymp. Sig.	.003
	4	48	147.91	a. Kruskal Wallis Test	
	5 = ...suitable...	5	158.80	b. Grouping Variable: Attitude towards synthesised voices	
	Total	250			

Kruskal-Wallis Test Statistics for Item 17_1:

$H(4) = 16.076, p=0.003 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 17_1:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

1 x 2: $H(1) = 5.730, p=0.017 *$

1 x 3: $H(1) = 7.633, p=0.006 *$

1 x 4: $H(1) = 9.655, p=0.002 *$

1 x 5: $H(1) = 4.287, p=0.038 *$

2 x 3: $H(1) = 0.525, p=0.469$

2 x 4: $H(1) = 5.661, p=0.017 *$

2 x 5: $H(1) = 1.750, p=0.186$

3 x 4: $H(1) = 5.374, p=0.020 *$

3 x 5: $H(1) = 1.471, p=0.225$

4 x 5: $H(1) = 0.205, p=0.651$

Item 17_2: Give your opinion on the quality of the synthesised voices: to what extent do you think the voices are adequate for the type of game presented here?

Ranks				Test Statistics ^{a,b}	
	Attitude towards synthesised voices	N	Mean Rank		Item 17_2
Item 17_2	1 = ...hate...	6	88.67	Chi-Square	10.693
	2	47	122.59	df	4
	3	144	119.45	Asymp. Sig.	.030
	4	48	145.78	a. Kruskal Wallis Test	
	5 = ...suitable...	5	176.50	b. Grouping Variable:	
	Total	250		Attitude towards synthesised voices	

Kruskal-Wallis Test Statistics for Item 17_2:

$H(4) = 10.693, p=0.030 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 17_2:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

- 1 x 2: $H(1) = 1.732, p=0.188$
- 1 x 3: $H(1) = 1.126, p=0.289$
- 1 x 4: $H(1) = 4.157, p=0.041 *$
- 1 x 5: $H(1) = 3.595, p=0.058$

- 2 x 3: $H(1) = 0.097, p=0.755$
- 2 x 4: $H(1) = 3.413, p=0.065$
- 2 x 5: $H(1) = 3.335, p=0.068$

- 3 x 4: $H(1) = 5.554, p=0.018 *$
- 3 x 5: $H(1) = 3.369, p=0.066$

- 4 x 5: $H(1) = 1.173, p=0.279$

F2: Kruskal-Wallis Test Results: Fáilte go TCD

Expansion of Kruskal-Wallis Test for items showing significance in Table 5.11, Chapter 5. These expansions show the mean rank scores and the direction of the differences. They also give the post hoc analysis showing where the difference lies.

Gender

Item 10: There is a good balance between enjoyment and language learning in this game.

Ranks				Test Statistics ^{a,b}	
	Gender	N	Mean Rank		Item 10
Item 10	Female	181	120.98	Chi-Square	4.107
	Male	71	140.58	df	1
	Total	252		Asymp. Sig.	.043
				a. Kruskal Wallis Test	
				b. Grouping Variable: Gender	

Kruskal-Wallis Test Statistics for Item 10:

$H(1)=4.107, p=0.043 *$

Between-School Differences

Item 5: Would you enjoy using this type of activity to develop your aural Irish skills, should be available and easily accessible in your school?

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 5
Item 5	Gaeltacht	85	117.98	Chi-Square	7.138
	Gaelscoil	23	101.17	df	2
				Asymp. Sig.	.028

English	144	135.57	a. Kruskal Wallis Test b. Grouping Variable: School Type
Total	252		

Kruskal-Wallis Test Statistics for Item 5:

$H(2)=7.138, p=0.028 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 5:

Gaeltacht x Gaelscoil: $H(1)=1.450, p=0.228$

Gaeltacht x English: $H(1)=3.802, p=0.051$

Gaelscoil x English: $H(1)= 4.633, p=0.031 *$

Item 7: Do you think this type of activity would make the learning of Irish more attractive?

Ranks				Test Statistics ^{a,b}	
School Type		N	Mean Rank	Item 7	
Item 7	Gaeltacht	85	120.86	Chi-Square	10.625
	Gaelscoil	23	89.63	df	2
	English	144	135.72	Asymp. Sig.	.005
	Total	252		a. Kruskal Wallis Test b. Grouping Variable: School Type	

Kruskal-Wallis Test Statistics for Item 7:

$H(2)=10.625, p=0.005 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 7:

Gaeltacht x Gaelscoil: $H(1)=4.148, p=0.042 *$

Gaeltacht x English: $H(1)=2.851, p=0.091$

Gaelscoil x English: $H(1)= 9.568, p=0.002 *$

Item 8: The overall standard of Irish used is at about the right level for me.

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 8
Item 8	Gaeltacht	85	119.98	Chi-Square	8.059
	Gaelscoil	23	163.24	df	2
	English	144	124.48	Asymp. Sig.	.018
	Total	252		a. Kruskal Wallis Test b. Grouping Variable: School Type	

Kruskal-Wallis Test Statistics for Item 8:

$H(2)=8.059, p=0.018 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 8:

Gaeltacht x Gaelscoil: $H(1)=6.231, p=0.013 *$

Gaeltacht x English: $H(1)=0.300, p=0.584$

Gaelscoil x English: $H(1)= 7.816, p=0.005 *$

Item 9: The synthesised voices were sufficiently clear to make the speech intelligible.

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 9
Item 9	Gaeltacht	85	144.71	Chi-Square	9.589
	Gaelscoil	23	128.24	df	2
	English	144	115.48	Asymp. Sig.	.008
	Total	252		a. Kruskal Wallis Test b. Grouping Variable: School Type	

Kruskal-Wallis Test Statistics for Item 9:

$H(2)=9.589, p=0.008 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 9:

Gaeltacht x Gaelscoil: $H(1)=0.783, p=0.376$

Gaeltacht x English: $H(1)=9.889, p=0.002 *$

Gaelscoil x English: $H(1)= 0.532, p=0.466$

Item 10: Did you experience particular difficulties with the dialects that are used in the video?

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 10
Item 10	Gaeltacht	85	144.79	Chi-Square	11.224
	Gaelscoil	23	137.13	df	2
	English	144	114.00	Asymp. Sig.	.004
	Total	252		a. Kruskal Wallis Test b. Grouping Variable: School Type	

Kruskal-Wallis Test Statistics for Item 10:

$H(2)=11.224, p=0.004 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 10:

Gaeltacht x Gaelscoil: $H(1)=0.208, p=0.649$

Gaeltacht x English: $H(1)=10.702, p=0.001 *$

Gaelscoil x English: $H(1)= 2.168, p=0.141$

Item 11_3: Please give your opinion on the attractiveness of the voices.

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 11_3
Item 11_3	Gaeltacht	85	144.35	Chi-Square	8.762
	Gaelscoil	23	124.98	df	2
	English	144	116.21	Asymp. Sig.	.013
	Total	252		a. Kruskal Wallis Test b. Grouping Variable: School Type	

Kruskal-Wallis Test Statistics for Item 11_3:

$H(2)=8.762, p=0.013 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 11_3:

Gaeltacht x Gaelscoil: $H(1)=1.288, p=0.256$
 Gaeltacht x English: $H(1)=8.833, p=0.003 *$
 Gaelscoil x English: $H(1)= 0.277, p=0.599$

Frequency Playing Computer Games

Item 1: How would you describe your judgment of the background setting and the graphics in the video?

Ranks				Test Statistics ^{a,b}	
Frequency Playing Computer Games		N	Mean Rank		Item 1
Item 1	Never	48	102.92	Chi-Square	9.928
	Seldom	139	137.31	df	3
	Weekly	45	123.33	Asymp. Sig.	.019
	Daily	20	115.08	a. Kruskal Wallis Test	
	Total	252		b. Grouping Variable: Frequency Playing Computer Games	

Kruskal-Wallis Test Statistics for Item 1:

$H(3) = 9.928, p=0.019 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 1:

(Key: 1 = Never; 2 = Seldom; 3 = Weekly; 4 = Daily)

- 1 x 2: $H(1) = 9.014, p=0.003 *$
- 1 x 3: $H(1) = 2.230, p=0.135$
- 1 x 4: $H(1) = 0.372, p=0.542$
- 2 x 3: $H(1) = 1.492, p=0.222$
- 2 x 4: $H(1) = 1.780, p=0.182$
- 3 x 4: $H(1) = 0.220, p=0.639$

Item 11_1: Please give your opinion on the usefulness of producing graphics with synthesised voices in order to practise aural comprehension.

Ranks				Test Statistics ^{a,b}	
	Frequency				Item
	Playing		Mean		11_1
	Computer Games	N	Rank	Chi-Square	12.418
Item 11_1	Never	48	98.76	df	3
	Seldom	139	135.12	Asymp. Sig.	.006
	Weekly	45	133.58		
	Daily	20	117.25		
	Total	252			

a. Kruskal Wallis Test
b. Grouping
Variable: Frequency Playing Computer Games

Kruskal-Wallis Test Statistics for Item 11_1:

$H(3) = 12.418, p=0.006 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 11_1:

(Key: 1 = Never; 2 = Seldom; 3 = Weekly; 4 = Daily)

1 x 2: $H(1) = 10.409, p=0.001 *$

1 x 3: $H(1) = 7.473, p=0.006 *$

1 x 4: $H(1) = 1.786, p=0.181$

2 x 3: $H(1) = 0.039, p=0.844$

2 x 4: $H(1) = 1.416, p=0.234$

3 x 4: $H(1) = 1.391, p=0.238$

Level of Understanding of Irish

Item 1: How would you describe your judgment of the background setting and the graphics in the video?

Ranks				Test Statistics ^{a,b}	
	Level of Understanding of Irish	N	Mean Rank		Item 1
Item 1	1 = Lowest Level	3	89.83	Chi-Square	18.919
	2	6	30.83	df	4
	3	47	135.94	Asymp. Sig.	.001
	4	108	137.77	a. Kruskal Wallis Test	
	5 = Highest Level	88	115.40	b. Grouping Variable: Level of Understanding of Irish	
	Total	252			

Kruskal-Wallis Test Statistics for Item 1:

$$H(4) = 18.919, p=0.001 *$$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 1:

(Key: Group 1 = Lowest level - Group 5 = Highest level of understanding of Irish)

$$1 \times 2: H(1) = 2.667, p=0.102$$

$$1 \times 3: H(1) = 1.476, p=0.226$$

$$1 \times 4: H(1) = 1.562, p=0.211$$

$$1 \times 5: H(1) = 0.353, p=0.552$$

$$2 \times 3: H(1) = 12.515, p=0.000 *$$

$$2 \times 4: H(1) = 12.848, p=0.000 *$$

$$2 \times 5: H(1) = 9.277, p=0.002 *$$

$$3 \times 4: H(1) = 0.044, p=0.835$$

$$3 \times 5: H(1) = 2.944, p=0.086$$

$$4 \times 5: H(1) = 5.234, p=0.022 *$$

Item 3: To what extent do the movements of the characters add credibility and clarity to the conversational exchanges?

Ranks				Test Statistics ^{a,b}		
Level of Understanding of Irish			N	Mean Rank	Item 3	
Item 3	1 = Lowest Level		3	122.50	Chi-Square	12.201
	2		6	54.17	df	4
	3		47	115.28	Asymp. Sig.	.016
	4		108	139.20	a. Kruskal Wallis Test	
	5 = Highest Level		88	121.97	b. Grouping Variable: Level of Understanding of Irish	
	Total		252			

Kruskal-Wallis Test Statistics for Item 3:

$H(4) = 12.201, p=0.016 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 3:

(Key: Group 1 = Lowest level - Group 5 = Highest level of understanding of Irish)

1 x 2: $H(1) = 3.920, p=0.048 *$

1 x 3: $H(1) = 0.079, p=0.778$

1 x 4: $H(1) = 0.304, p=0.581$

1 x 5: $H(1) = 0.002, p=0.962$

2 x 3: $H(1) = 3.281, p=0.070$

2 x 4: $H(1) = 9.702, p=0.002 *$

2 x 5: $H(1) = 5.282, p=0.022 *$

3 x 4: $H(1) = 3.919, p=0.048 *$

3 x 5: $H(1) = 0.308, p=0.579$

4 x 5: $H(1) = 3.170, p=0.075$

Item 7: Do you think this type of activity would make the learning of Irish more attractive?

Ranks		Test Statistics ^{a,b}	
		Item 7	

Level of Understanding of Irish		N	Mean Rank	Chi-Square	10.958
Item 7	1 = Lowest Level	3	159.50	df	4
	2	6	60.33	Asymp. Sig.	.027
	3	47	134.87	a. Kruskal Wallis Test	
	4	108	133.85	b. Grouping Variable: Level of Understanding of Irish	
	5 = Highest Level	88	116.40		
	Total	252			

Kruskal-Wallis Test Statistics for Item 7:

$$H(4) = 10.958, p=0.027 *$$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 7:

(Key: Group 1 = Lowest level - Group 5 = Highest level of understanding of Irish)

$$1 \times 2: H(1) = 3.630, p=0.057$$

$$1 \times 3: H(1) = 0.387, p=0.534$$

$$1 \times 4: H(1) = 0.422, p=0.516$$

$$1 \times 5: H(1) = 1.316, p=0.251$$

$$2 \times 3: H(1) = 6.446, p=0.011 *$$

$$2 \times 4: H(1) = 6.697, p=0.010 *$$

$$2 \times 5: H(1) = 4.313, p=0.038 *$$

$$3 \times 4: H(1) = 0.007, p=0.933$$

$$3 \times 5: H(1) = 2.497, p=0.114$$

$$4 \times 5: H(1) = 3.394, p=0.065$$

Item 8: The overall standard of the Irish used is at about the right level for me.

Ranks			Test Statistics ^{a,b}	
Level of Understanding of Irish		N	Mean Rank	Item 8
Item 8	1 = Lowest Level	3	16.50	Chi-Square
	2	6	81.75	13.471
	3	47	117.21	df
	4	108	129.67	4
				Asymp. Sig.
				.009
				Sig.

5 = Highest Level	88	134.38	a. Kruskal Wallis Test b. Grouping Variable: Level of Understanding of Irish
Total	252		

Kruskal-Wallis Test Statistics for Item 8:

$H(4) = 13.471, p=0.009 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 8:

(Key: Group 1 = Lowest level - Group 5 = Highest level of understanding of Irish)

1 x 2: $H(1) = 4.613, p=0.032 *$

1 x 3: $H(1) = 7.851, p=0.005 *$

1 x 4: $H(1) = 9.626, p=0.002 *$

1 x 5: $H(1) = 7.061, p=0.008 *$

2 x 3: $H(1) = 1.691, p=0.194$

2 x 4: $H(1) = 3.922, p=0.048 *$

2 x 5: $H(1) = 2.720, p=0.099$

3 x 4: $H(1) = 1.474, p=0.225$

3 x 5: $H(1) = 1.822, p=0.177$

4 x 5: $H(1) = 0.334, p=0.563$

Item 9: The synthesised voices were sufficiently clear to make the speech intelligible.

Ranks			Test Statistics ^{a,b}	
Level of Understanding of Irish	N	Mean Rank		Item 9
Item 9 1 = Lowest Level	3	105.00	Chi-Square	17.688
2	6	45.08	df	4
3	47	103.17	Asymp. Sig.	.001
4	108	130.96	a. Kruskal Wallis Test	
5 = Highest Level	88	139.77	b. Grouping Variable: Level of Understanding of Irish	
Total	252			

Kruskal-Wallis Test Statistics for Item 9:

$H(4) = 17.688, p=0.001 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 9:

(Key: Group 1 = Lowest level - Group 5 = Highest level of understanding of Irish)

1 x 2: $H(1) = 0.990, p=0.320$

1 x 3: $H(1) = 0.000, p=0.983$

1 x 4: $H(1) = 0.410, p=0.522$

1 x 5: $H(1) = 0.659, p=0.417$

2 x 3: $H(1) = 3.497, p=0.061$

2 x 4: $H(1) = 8.897, p=0.003 *$

2 x 5: $H(1) = 10.767, p=0.001 *$

3 x 4: $H(1) = 5.286, p=0.021 *$

3 x 5: $H(1) = 8.508, p=0.004 *$

4 x 5: $H(1) = 0.796, p=0.372$

Item 10: Did you experience particular difficulties with the dialects that are used in the video?

Ranks				Test Statistics ^{a,b}	
	Level of Understanding of Irish	N	Mean Rank		Item 10
Item 10	1 = Lowest Level	3	27.00	Chi-Square	25.683
	2	6	67.58	df	4
	3	47	99.24	Asymp. Sig.	.000
	4	108	127.71		
	5 = Highest Level	88	146.98		
	Total	252			

a. Kruskal Wallis Test
b. Grouping Variable: Level of Understanding of Irish

Kruskal-Wallis Test Statistics for Item 10:

$H(4) = 25.683, p=0.000 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 10:

(Key: Group 1 = Lowest level - Group 5 = Highest level of understanding of Irish)

1 x 2: $H(1) = 2.305, p=0.129$
 1 x 3: $H(1) = 4.160, p=0.041 *$
 1 x 4: $H(1) = 6.005, p=0.014 *$
 1 x 5: $H(1) = 7.843, p=0.005 *$

 2 x 3: $H(1) = 0.979, p=0.323$
 2 x 4: $H(1) = 4.329, p=0.037 *$
 2 x 5: $H(1) = 7.836, p=0.005 *$

 3 x 4: $H(1) = 5.530, p=0.019 *$
 3 x 5: $H(1) = 14.957, p=0.000 *$

 4 x 5: $H(1) = 3.845, p=0.050$

Item 11_1: Please give your opinion on the usefulness of producing graphics with synthesised voices in order to practice aural comprehension.

Ranks				Test Statistics ^{a,b}	
	Level of Understanding of Irish	N	Mean Rank		Item 11_1
Item 11_1	1 = Lowest Level	3	133.50	Chi-Square df Asymp. Sig.	9.971 4 .041
	2	6	56.17		
	3	47	134.54		
	4	108	132.48		
	5 = Highest Level	88	119.43		
	Total	252			

a. Kruskal Wallis Test
b. Grouping Variable: Level of Understanding of Irish

Kruskal-Wallis Test Statistics for Item 11_1:

$H(4) = 9.971, p=0.041 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 11_1:

(Key: Group 1 = Lowest level - Group 5 = Highest level of understanding of Irish)

1 x 2: $H(1) = 2.123, p=0.145$
 1 x 3: $H(1) = 0.000, p=1.000$
 1 x 4: $H(1) = 0.002, p=0.967$
 1 x 5: $H(1) = 0.127, p=0.722$

 2 x 3: $H(1) = 6.425, p=0.011 *$

2 x 4: $H(1) = 7.432, p=0.006 *$

2 x 5: $H(1) = 6.721, p=0.010 *$

3 x 4: $H(1) = 0.046, p=0.831$

3 x 5: $H(1) = 1.660, p=0.198$

4 x 5: $H(1) = 2.243, p=0.134$

Item 11_3: Please give you opinion on the attractiveness of the voices.

Ranks				Test Statistics ^{a,b}	
	Level of Understanding of Irish	N	Mean Rank		Item 11_3
Item 11_3	1 = Lowest Level	3	63.33	Chi-Square	11.171
	2	6	91.00		
	3	47	105.77		
	4	108	129.14	df	4
	5 = Highest Level	88	138.90	Asymp. Sig.	.025
	Total		252		a. Kruskal Wallis Test b. Grouping Variable: Level of Understanding of Irish

Kruskal-Wallis Test Statistics for Item 11_3:

$H(4) = 11.171, p=0.025 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 11_3:

(Key: Group 1 = Lowest level - Group 5 = Highest level of understanding of Irish)

1 x 2: $H(1) = 0.720, p=0.396$

1 x 3: $H(1) = 1.187, p=0.276$

1 x 4: $H(1) = 2.622, p=0.105$

1 x 5: $H(1) = 3.201, p=0.074$

2 x 3: $H(1) = 0.159, p=0.690$

2 x 4: $H(1) = 1.895, p=0.169$

2 x 5: $H(1) = 2.627, p=0.105$

3 x 4: $H(1) = 3.809, p=0.051$

3 x 5: $H(1) = 6.719, p=0.010 *$

4 x 5: $H(1) = 1.041, p=0.308$

Attitude towards Synthetic Voices

Item 1: How would you describe your judgment of the background setting and the graphics in the video?

Ranks			Test Statistics ^{a,b}	
Attitude to synthesised voices (pre-game)	N	Mean Rank		Item 1
Item 1 1	13	77.81	Chi-Square	11.353
2	42	119.05	df	4
3	129	127.37	Asymp. Sig.	.023
4	63	135.50	a. Kruskal Wallis Test	
5	5	179.90	b. Grouping Variable: Attitude to synthesised voices (pre-game)	
Total	252			

Kruskal-Wallis Test Statistics for Item 1:

$$H(4) = 11.353, p=0.023 *$$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 1:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

$$1 \times 2: H(1) = 4.148, p=0.042 *$$

$$1 \times 3: H(1) = 6.391, p=0.011 *$$

$$1 \times 4: H(1) = 6.969, p=0.008 *$$

$$1 \times 5: H(1) = 4.282, p=0.039 *$$

$$2 \times 3: H(1) = 0.476, p=0.490$$

$$2 \times 4: H(1) = 1.637, p=0.201$$

$$2 \times 5: H(1) = 3.857, p=0.050$$

$$3 \times 4: H(1) = 0.640, p=0.424$$

$$3 \times 5: H(1) = 2.818, p=0.093$$

$$4 \times 5: H(1) = 2.311, p=0.128$$

Item 3: To what extent do the movements of the characters add credibility and clarity to the conversational exchanges?

Ranks			Test Statistics ^{a,b}		
Attitude to synthesised voices (pre-game)				Item 3	
		N	Mean Rank		
Item 3	1	13	91.46	Chi-Square	16.570
	2	42	109.68	df	4
	3	129	122.92	Asymp. Sig.	.002
	4	63	147.21	a. Kruskal Wallis Test	
	5	5	190.30	b. Grouping Variable: Attitude to synthesised voices (pre-game)	
	Total	252			

Kruskal-Wallis Test Statistics for Item 3:

$H(4) = 16.570, p=0.002 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 3:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

1 x 2: $H(1) = 0.965, p=0.326$

1 x 3: $H(1) = 2.803, p=0.094$

1 x 4: $H(1) = 6.197, p=0.013 *$

1 x 5: $H(1) = 5.120, p=0.024 *$

2 x 3: $H(1) = 1.310, p=0.252$

2 x 4: $H(1) = 7.600, p=0.006 *$

2 x 5: $H(1) = 5.587, p=0.018 *$

3 x 4: $H(1) = 5.802, p=0.016 *$

3 x 5: $H(1) = 4.816, p=0.028 *$

4 x 5: $H(1) = 2.197, p=0.138$

Item 4: To what extent do you think this type of learning platform (the voices, the graphics and the setting) would help in practicing listening comprehension?

Ranks	Test Statistics ^{a,b}
-------	--------------------------------

Attitude to synthesised voices (pre-game)			Item 4	
	N	Mean Rank	Chi-Square	24.368
Item 4 1	13	66.12	df	4
2	42	105.81	Asymp. Sig.	.000
3	129	127.84	a. Kruskal Wallis Test	
4	63	143.81	b. Grouping Variable:	
5	5	204.50	Attitude to synthesised voices (pre-game)	
Total	252			

Kruskal-Wallis Test Statistics for Item 4:

$H(4) = 24.368, p=0.000 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 4:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

1 x 2: $H(1) = 4.415, p=0.036 *$

1 x 3: $H(1) = 9.879, p=0.002 *$

1 x 4: $H(1) = 11.666, p=0.001 *$

1 x 5: $H(1) = 8.313, p=0.004 *$

2 x 3: $H(1) = 3.416, p=0.065$

2 x 4: $H(1) = 8.153, p=0.004 *$

2 x 5: $H(1) = 9.201, p=0.002 *$

3 x 4: $H(1) = 2.456, p=0.117$

3 x 5: $H(1) = 6.220, p=0.013 *$

4 x 5: $H(1) = 4.086, p=0.043 *$

Item 5: Would you enjoy using this type of activity to develop your aural Irish skills, should be available and easily accessible in your school?

Ranks			Test Statistics ^{a,b}	
Attitude to synthesised voices (pre-game)			Item 5	
	N	Mean Rank	Chi-Square	23.513
Item 5 1	13	81.62	df	4
			Asymp. Sig.	.000

2	42	106.83	a. Kruskal Wallis Test b. Grouping Variable: Attitude to synthesised voices (pre-game)
3	129	122.75	
4	63	150.75	
5	5	199.50	
Total	252		

Kruskal-Wallis Test Statistics for Item 5:

$$H(4) = 23.513, p=0.000 *$$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 5:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

$$1 \times 2: H(1) = 2.032, p=0.154$$

$$1 \times 3: H(1) = 4.590, p=0.032 *$$

$$1 \times 4: H(1) = 9.656, p=0.002 *$$

$$1 \times 5: H(1) = 7.574, p=0.006 *$$

$$2 \times 3: H(1) = 1.720, p=0.190$$

$$2 \times 4: H(1) = 11.434, p=0.001 *$$

$$2 \times 5: H(1) = 8.639, p=0.003 *$$

$$3 \times 4: H(1) = 7.328, p=0.007 *$$

$$3 \times 5: H(1) = 6.036, p=0.014 *$$

$$4 \times 5: H(1) = 2.817, p=0.093$$

Item 6: How motivating do you find this type of activity?

Ranks			Test Statistics ^{a,b}		
Attitude to synthesised voices (pre-game)		N	Mean Rank	Item 6	
Item 6	1	13	51.46	Chi-Square	31.689
	2	42	120.36	df	4
	3	129	123.95	Asymp. Sig.	.000
	4	63	143.61	a. Kruskal Wallis Test	
	5	5	223.50	b. Grouping Variable: Attitude to synthesised voices (pre-game)	
	Total	252			

Kruskal-Wallis Test Statistics for Item 6:

$H(4) = 31.689, p=0.000 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 6:

(Key: Group 1 = ‘Hate’ synthesised voices; Group 2: ‘Tolerate’ synthesised voices but prefer human voices; Group 3: ‘neutral’, Group 4: synthesised voices ‘sometimes suitable’; Group 5: synthesised voices are ‘sometimes more suitable than human voices’)

1 x 2: $H(1) = 12.524, p=0.000 *$

1 x 3: $H(1) = 14.274, p=0.000 *$

1 x 4: $H(1) = 18.057, p=0.000 *$

1 x 5: $H(1) = 10.738, p=0.001 *$

2 x 3: $H(1) = 0.076, p=0.783$

2 x 4: $H(1) = 3.888, p=0.049 *$

2 x 5: $H(1) = 11.643, p=0.001 *$

3 x 4: $H(1) = 3.861, p=0.049 *$

3 x 5: $H(1) = 10.310, p=0.001 *$

4 x 5: $H(1) = 8.639, p=0.003 *$

Item 7: Do you think this type of activity would make the learning of Irish more attractive?

Ranks			Test Statistics ^{a,b}	
Attitude to synthesised voices (pre-game)	N	Mean Rank		Item 7
Item 7 1	13	76.65	Chi-Square	29.489
2	42	108.10	df	4
3	129	121.12	Asymp. Sig.	.000
4	63	153.85	a. Kruskal Wallis Test	
5	5	205.00	b. Grouping Variable: Attitude to synthesised voices (pre-game)	
Total	252			

Kruskal-Wallis Test Statistics for Item 7:

$H(4) = 29.489, p=0.000 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 7:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

1 x 2: $H(1) = 3.358, p=0.067$
 1 x 3: $H(1) = 5.904, p=0.015 *$
 1 x 4: $H(1) = 11.694, p=0.001 *$
 1 x 5: $H(1) = 7.601, p=0.006 *$

2 x 3: $H(1) = 1.304, p=0.253$
 2 x 4: $H(1) = 12.800, p=0.000 *$
 2 x 5: $H(1) = 10.549, p=0.001 *$

3 x 4: $H(1) = 10.666, p=0.001 *$
 3 x 5: $H(1) = 7.979, p=0.005 *$

4 x 5: $H(1) = 3.041, p=0.081 *$

Item 9: The synthesised voices were sufficiently clear to make the speech intelligible.

Ranks			Test Statistics ^{a,b}	
Attitude to synthesised voices (pre-game)	N	Mean Rank		Item 9
Item 9 1	13	108.92	Chi-Square	14.174
2	42	109.40	df	4
3	129	121.74	Asymp. Sig.	.007
4	63	145.63	a. Kruskal Wallis Test	
5	5	197.70	b. Grouping Variable: Attitude to synthesised voices (pre-game)	
Total	252			

Kruskal-Wallis Test Statistics for Item 9:

$H(4) = 14.174, p=0.007 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 9:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

1 x 2: $H(1) = 0.007, p=0.933$
 1 x 3: $H(1) = 0.419, p=0.518$

1 x 4: $H(1) = 3.146, p=0.076$
 1 x 5: $H(1) = 4.573, p=0.032 *$

2 x 3: $H(1) = 1.077, p=0.299$
 2 x 4: $H(1) = 7.248, p=0.007 *$
 2 x 5: $H(1) = 5.682, p=0.017 *$

3 x 4: $H(1) = 5.397, p=0.020 *$
 3 x 5: $H(1) = 5.186, p=0.023 *$

4 x 5: $H(1) = 4.744, p=0.029 *$

Item 10: There is a good balance between enjoyment and language learning in this game.

Ranks			Test Statistics ^{a,b}	
Attitude to synthesised voices (pre-game)	N	Mean Rank		Item 10
Item 10 1	13	95.42	Chi-Square	11.846
2	42	130.42	df	4
3	129	119.91	Asymp. Sig.	.019
4	63	137.65	a. Kruskal Wallis Test	
5	5	203.80	b. Grouping Variable: Attitude to synthesised voices (pre-game)	
Total	252			

Kruskal-Wallis Test Statistics for Item 10:

$H(4) = 11.846, p=0.019 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 10:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

1 x 2: $H(1) = 2.735, p=0.098$
 1 x 3: $H(1) = 1.398, p=0.237$
 1 x 4: $H(1) = 4.176, p=0.041 *$
 1 x 5: $H(1) = 6.691, p=0.010 *$

2 x 3: $H(1) = 0.773, p=0.379$
 2 x 4: $H(1) = 0.326, p=0.568$
 2 x 5: $H(1) = 5.825, p=0.016 *$

3 x 4: $H(1) = 2.762, p=0.097 *$

3 x 5: $H(1) = 6.584, p=0.010 *$

4 x 5: $H(1) = 4.752, p=0.029 *$

Item 11_1: Please give your opinion on the usefulness of producing graphics with synthesised voices in order to practice aural comprehension.

Ranks			Test Statistics ^{a,b}		
Attitude to synthesised voices (pre-game)	N	Mean Rank		Item 11_1	
Item 11_1	1	13	67.58	Chi-Square	31.088
	2	42	123.96	df	4
	3	129	119.69	Asymp. Sig.	.000
	4	63	146.15	a. Kruskal Wallis Test	
	5	5	229.00	b. Grouping Variable: Attitude to synthesised voices (pre-game)	
Total	252				

Kruskal-Wallis Test Statistics for Item 11_1:

$H(4) = 31.088, p=0.000 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 11_1:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

1 x 2: $H(1) = 7.639, p=0.006 *$

1 x 3: $H(1) = 8.236, p=0.004 *$

1 x 4: $H(1) = 15.907, p=0.000 *$

1 x 5: $H(1) = 10.977, p=0.001 *$

2 x 3: $H(1) = 0.134, p=0.715$

2 x 4: $H(1) = 3.302, p=0.069$

2 x 5: $H(1) = 11.224, p=0.001 *$

3 x 4: $H(1) = 7.832, p=0.005 *$

3 x 5: $H(1) = 12.672, p=0.000 *$

4 x 5: $H(1) = 11.017, p=0.001 *$

Item 11_2: Please give your opinion on the quality of the synthesised voices: to what extent do you think the voices are adequate for the type of learning platform presented here?

Ranks			Test Statistics ^{a,b}	
Attitude to synthesised voices (pre-game)	N	Mean Rank		Item 11_2
Item 11_2 1	13	85.08	Chi-Square	16.508
2	42	107.37	df	4
3	129	129.26	Asymp. Sig.	.002
4	63	135.86	a. Kruskal Wallis Test	
5	5	205.90	b. Grouping Variable: Attitude to synthesised voices (pre-game)	
Total	252			

Kruskal-Wallis Test Statistics for Item 11_2:

$H(4) = 16.508, p=0.002 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 11_2:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

- 1 x 2: $H(1) = 1.026, p=0.311$
- 1 x 3: $H(1) = 5.140, p=0.023 *$
- 1 x 4: $H(1) = 6.192, p=0.013 *$
- 1 x 5: $H(1) = 6.888, p=0.009 *$

- 2 x 3: $H(1) = 3.403, p=0.065$
- 2 x 4: $H(1) = 4.526, p=0.033 *$
- 2 x 5: $H(1) = 7.504, p=0.006 *$

- 3 x 4: $H(1) = 0.443, p=0.506$
- 3 x 5: $H(1) = 6.457, p=0.011 *$

- 4 x 5: $H(1) = 5.993, p=0.014 *$

Item 11_3: Please give your opinion on the attractiveness of the voices.

Ranks			Test Statistics ^{a,b}	
Attitude to synthesised voices (pre-game)		Mean Rank		Item 11_3
Item 11_3	1	87.04	Chi-Square	12.383
	2	123.98	df	4
	3	121.28	Asymp. Sig.	.015
	4	141.87	a. Kruskal Wallis Test	
	5	191.30	b. Grouping Variable: Attitude to synthesised voices (pre-game)	
Total	252			

Kruskal-Wallis Test Statistics for Item 11_3:

$$H(4) = 12.383, p=0.015 *$$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 11_3:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

$$1 \times 2: H(1) = 3.021, p=0.082$$

$$1 \times 3: H(1) = 2.941, p=0.086$$

$$1 \times 4: H(1) = 6.736, p=0.009 *$$

$$1 \times 5: H(1) = 3.900, p=0.048 *$$

$$2 \times 3: H(1) = 0.055, p=0.815$$

$$2 \times 4: H(1) = 1.816, p=0.178$$

$$2 \times 5: H(1) = 4.125, p=0.042 *$$

$$3 \times 4: H(1) = 3.805, p=0.051$$

$$3 \times 5: H(1) = 4.409, p=0.036 *$$

$$4 \times 5: H(1) = 3.623, p=0.057$$

F3: Kruskal-Wallis Test Results: Taidhgin

Expansion of Kruskal-Wallis Test for items showing significance in Table 5.13, Chapter 5. These expansions show the mean rank scores and the direction of the differences. They also give the post hoc analysis showing where the difference lies.

Gender

Item 4: To what extent to do you think this type of learning platforms (i.e. the interaction and playfulness) would help in practicing conversational Irish?

Ranks			Test Statistics ^{a,b}	
Gender	N	Mean Rank		Item 4
Item 4 Female	166	120.00	Chi-Square	5.143
Male	62	99.78	df	1
Total	228		Asymp. Sig.	.023
			a. Kruskal Wallis Test	
			b. Grouping Variable: Gender	

Kruskal-Wallis Test Statistics for Item 4:

$H(1)=5.143, p=0.023 *$

Item 9: The synthesised voices were sufficiently clear to make the speech intelligible.

Ranks			Test Statistics ^{a,b}	
Gender	N	Mean Rank		Item 9
Item 9 Female	166	108.99	Chi-Square	5.135
Male	62	129.24	df	1
Total	228		Asymp. Sig.	.023
			a. Kruskal Wallis Test	
			b. Grouping Variable: Gender	

Kruskal-Wallis Test Statistics for Item 9:

$H(1)=5.135, p=0.023 *$

Item 10: Did you experience particular difficulties with the dialects that are used in Taidhgín?

Ranks				Test Statistics ^{a,b}	
	Gender	N	Mean Rank		Item 10
Item 10	Female	166	107.78	Chi-Square	7.243
	Male	62	132.50	df	1
	Total	228		Asymp. Sig.	.007
				a. Kruskal Wallis Test	
				b. Grouping Variable: Gender	

Kruskal-Wallis Test Statistics for Item 10:

$H(1)=7.243, p=0.007 *$

Between-School Differences

Item 3: How would you describe the movements of the talking monkey and their alignment to speech?

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 3
Item 3	Gaeltacht	80	122.48	Chi-Square	6.562
	Gaelscoil	22	84.59	df	2
	English	126	114.65	Asymp. Sig.	.038
	Total	228		a. Kruskal Wallis Test	
				b. Grouping Variable: School Type	

Kruskal-Wallis Test Statistics for Item 3:

$H(2)=6.562, p=0.038 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 3:

Gaeltacht x Gaelscoil: $H(1)=6.686, p=0.010 *$

Gaeltacht x English: $H(1)=0.813, p=0.367$
 Gaelscoil x English: $H(1)= 4.404, p=0.036 *$

Item 4: To what extent do you think this type of learning platform (i.e. the interaction and playfulness) would help in practicing conversational Irish?

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 4
Item 4	Gaeltacht	80	101.58	Chi-Square	17.186
	Gaelscoil	22	81.61	df	2
	English	126	128.44	Asymp. Sig.	.000
	Total	228		a. Kruskal Wallis Test b. Grouping Variable: School Type	

Kruskal-Wallis Test Statistics for Item 4:

$H(2)=17.186, p=0.000 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 4:

Gaeltacht x Gaelscoil: $H(1)=1.872, p=0.171$
 Gaeltacht x English: $H(1)=9.999, p=0.002 *$
 Gaelscoil x English: $H(1)= 11.581, p=0.001 *$

Item 5: Would you use a virtual conversation partner (like the talking monkey) should it be available and easily accessible in your school?

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 5
Item 5	Gaeltacht	80	104.86	Chi-Square	14.895
	Gaelscoil	22	78.16	df	2
	English	126	126.96	Asymp. Sig.	.001
	Total	228		a. Kruskal Wallis Test b. Grouping Variable: School Type	

Kruskal-Wallis Test Statistics for Item 5:

$H(2)=14.895, p=0.001 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 5:

Gaeltacht x Gaelscoil: $H(1)=3.237, p=0.072$
 Gaeltacht x English: $H(1)=6.497, p=0.011 *$
 Gaelscoil x English: $H(1)= 11.798, p=0.001 *$

Item 6: To what extent would you be motivated by this type of activity?

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 6
Item 6	Gaeltacht	80	112.43	Chi-Square	15.082
	Gaelscoil	22	70.75	df	2
	English	126	123.45	Asymp. Sig.	.001
	Total	228		a. Kruskal Wallis Test	
				b. Grouping Variable: School Type	

Kruskal-Wallis Test Statistics for Item 6:

$H(2)=15.082, p=0.001 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 6:

Gaeltacht x Gaelscoil: $H(1)=9.045, p=0.003 *$
 Gaeltacht x English: $H(1)=1.833, p=0.176$
 Gaelscoil x English: $H(1)= 14.106, p=0.000 *$

Item 10: Did you experience particular difficulties with the dialects that are used in Taidhgín?

Ranks				Test Statistics ^{a,b}	
	School Type	N	Mean Rank		Item 10
Item 10	Gaeltacht	80	139.76	Chi-Square	20.754
	Gaelscoil	22	104.82	df	2
	English	126	100.15	Asymp. Sig.	.000
	Total	228		a. Kruskal Wallis Test	
				b. Grouping Variable: School Type	

Kruskal-Wallis Test Statistics for Item 10:

$H(2)=20.754, p=0.000 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 10:

Gaeltacht x Gaelscoil: $H(1)=5.671, p=0.017 *$
 Gaeltacht x English: $H(1)=20.346, p=0.000 *$
 Gaelscoil x English: $H(1)= 0.089, p=0.766$

11_3: Please give your opinion on the attractiveness of the voices.

Ranks				Test Statistics ^{a,b}	
		N	Mean Rank	Item 11_3	
Item 11_3	Gaeltacht	80	127.78	Chi-Square	6.408
	Gaelscoil	22	96.82	df	2
	English	126	109.16	Asymp. Sig.	.041
	Total	228		a. Kruskal Wallis Test	
				b. Grouping Variable: School Type	

Kruskal-Wallis Test Statistics for Item 11_3:

$H(2)=6.408, p=0.041 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 11_3:

Gaeltacht x Gaelscoil: $H(1)=4.653, p=0.031 *$
 Gaeltacht x English: $H(1)=4.353, p=0.037 *$
 Gaelscoil x English: $H(1)= 0.674, p=0.412$

Frequency Playing Computer Games

Item 9: The synthesised voices were sufficiently clear to make the speech intelligible.

Ranks				Test Statistics ^{a,b}	
Frequency Playing Computer Games		N	Mean Rank	Item 9	
Item 9	Never	47	103.95	Chi-Square	10.558
	Seldom	127	108.67	df	3
	Weekly	37	138.66	Asymp. Sig.	.014
	Daily	17	134.65	a. Kruskal Wallis Test	
	Total	228		b. Grouping Variable: Frequency Playing Computer Games	

Kruskal-Wallis Test Statistics for Item 9:

$H(3) = 10.558, p=0.014 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 9:

(Key: 1 = Never; 2 = Seldom; 3 = Weekly; 4 = Daily)

- 1 x 2: $H(1) = 0.153, p=0.695$
- 1 x 3: $H(1) = 7.592, p=0.006 *$
- 1 x 4: $H(1) = 3.901, p=0.048 *$
- 2 x 3: $H(1) = 6.719, p=0.010 *$
- 2 x 4: $H(1) = 2.679, p=0.102$
- 3 x 4: $H(1) = 0.113, p=0.736$

Item 11_2: Please give your opinion on the quality of the synthesised voices: to what extent do you think the voices are adequate for the type of learning platform presented here?

Ranks				Test Statistics ^{a,b}	
Frequency Playing Computer Games		N	Mean Rank		Item 11_2
Item 11_2	Never	47	91.17	Chi-Square	15.218
	Seldom	127	116.56	df	3
	Weekly	37	139.27	Asymp. Sig.	.002
	Daily	17	109.68	a. Kruskal Wallis Test	
	Total	228		b. Grouping Variable: Frequency Playing Computer Games	

Kruskal-Wallis Test Statistics for Item 11_2:

$H(3) = 15.218, p=0.002 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 11_2:

(Key: 1 = Never; 2 = Seldom; 3 = Weekly; 4 = Daily)

- 1 x 2: $H(1) = 6.405, p=0.011 *$
- 1 x 3: $H(1) = 14.595, p=0.000 *$
- 1 x 4: $H(1) = 1.395, p=0.238$
- 2 x 3: $H(1) = 4.680, p=0.031 *$
- 2 x 4: $H(1) = 0.227, p=0.634$
- 3 x 4: $H(1) = 4.184, p=0.041 *$

Item 11_3: Please give your opinion on the attractiveness of the voices.

Ranks				Test Statistics ^{a,b}	
Frequency Playing Computer Games		N	Mean Rank	Item 11_3	
Item 11_3	Never	47	95.37	Chi-Square	8.192
	Seldom	127	121.02	df	3
	Weekly	37	124.43	Asymp. Sig.	.042
	Daily	17	97.06	a. Kruskal Wallis Test	
	Total	228		b. Grouping Variable: Frequency Playing Computer Games	

Kruskal-Wallis Test Statistics for Item 11_3:

$H(3) = 8.192, p=0.042 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 11_3:

(Key: 1 = Never; 2 = Seldom; 3 = Weekly; 4 = Daily)

1 x 2: $H(1) = 5.765, p=0.016 *$

1 x 3: $H(1) = 4.597, p=0.032 *$

1 x 4: $H(1) = 0.019, p=0.891$

2 x 3: $H(1) = 0.080, p=0.777$

2 x 4: $H(1) = 2.258, p=0.133$

3 x 4: $H(1) = 2.399, p=0.121$

Level of Understanding of Irish

Item 4: To what extent do you think this type of learning platform (i.e. the interaction and playfulness) would help in practicing conversational Irish?

Ranks				Test Statistics ^{a,b}	
Level of understanding of Irish		N	Mean Rank	Item 4	
Item 4	1 = Lowest Level	3	123.17	Chi-Square	14.067
	2	2	139.50	df	4
	3	36	141.17	Asymp. Sig.	.007
	4	100	118.02	a. Kruskal Wallis Test	
				b. Grouping Variable: Level of understanding of Irish	

5 = Highest Level	87	98.55
Total	228	

Kruskal-Wallis Test Statistics for Item 4:

$H(4) = 14.067, p=0.007 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 4:

(Key: Group 1 = Lowest level - Group 5 = Highest level of understanding of Irish)

1 x 2: $H(1) = 0.111, p=0.739$

1 x 3: $H(1) = 0.358, p=0.549$

1 x 4: $H(1) = 0.020, p=0.888$

1 x 5: $H(1) = 0.560, p=0.454$

2 x 3: $H(1) = 0.006, p=0.941$

2 x 4: $H(1) = 0.258, p=0.612$

2 x 5: $H(1) = 0.931, p=0.335$

3 x 4: $H(1) = 4.100, p=0.043 *$

3 x 5: $H(1) = 12.378, p=0.000 *$

4 x 5: $H(1) = 5.008, p=0.025 *$

Item 5: Would you use a virtual conversation partner (like the talking monkey) should it be available and easily accessible in your school?

Ranks				Test Statistics ^{a,b}	
Level of understanding of Irish		N	Mean Rank	Item 5	
Item 5	1 = Lowest Level	3	129.67	Chi-Square	20.580
	2	2	99.50	df	4
	3	36	148.21	Asymp. Sig.	.000
	4	100	119.21	a. Kruskal Wallis Test	
	5 = Highest Level	87	94.97	b. Grouping Variable: Level of understanding of Irish	
Total		228			

Kruskal-Wallis Test Statistics for Item 5:

$H(4) = 20.580, p=0.000 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 5:

(Key: Group 1 = Lowest level - Group 5 = Highest level of understanding of Irish)

1 x 2: $H(1) = 0.667, p=0.414$

1 x 3: $H(1) = 0.481, p=0.488$

1 x 4: $H(1) = 0.096, p=0.757$

1 x 5: $H(1) = 0.980, p=0.322$

2 x 3: $H(1) = 2.003, p=0.157$

2 x 4: $H(1) = 0.225, p=0.636$

2 x 5: $H(1) = 0.055, p=0.814$

3 x 4: $H(1) = 6.680, p=0.010 *$

3 x 5: $H(1) = 17.251, p=0.000 *$

4 x 5: $H(1) = 7.551, p=0.006 *$

Item 6: To what extent would you be motivated by this type of activity?

Ranks			Test Statistics ^{a,b}	
Level of understanding of Irish	N	Mean Rank		Item 6
Item 6 1 = Lowest Level	3	111.33	Chi-Square	10.411
2	2	67.25	df	4
3	36	139.83	Asymp. Sig.	.034
4	100	115.09	a. Kruskal Wallis Test	
5 = Highest Level	87	104.53	b. Grouping Variable: Level of understanding of Irish	
Total	228			

Kruskal-Wallis Test Statistics for Item 6:

$H(4) = 10.411, p=0.034 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 6:

(Key: Group 1 = Lowest level - Group 5 = Highest level of understanding of Irish)

1 x 2: $H(1) = 0.370, p=0.543$

1 x 3: $H(1) = 0.488, p=0.485$

1 x 4: $H(1) = 0.015, p=0.903$

1 x 5: $H(1) = 0.031, p=0.861$

2 x 3: $H(1) = 2.524, p=0.112$

2 x 4: $H(1) = 1.429, p=0.232$

2 x 5: $H(1) = 0.750, p=0.387$

3 x 4: $H(1) = 4.987, p=0.026 *$

3 x 5: $H(1) = 8.525, p=0.004 *$

4 x 5: $H(1) = 1.596, p=0.206$

Item 10: Did you experience particular difficulties with the dialects that are used in Taidhgín?

Ranks				Test Statistics ^{a,b}	
Level of understanding of Irish		N	Mean Rank		Item 10
Item 10	1 = Lowest Level	3	86.83	Chi-Square	15.908
	2	2	41.50	df	4
	3	36	122.58	Asymp. Sig.	.003
	4	100	99.66	a. Kruskal Wallis Test	
	5 = Highest Level	87	130.85	b. Grouping Variable:	
	Total	228		Level of understanding of Irish	

Kruskal-Wallis Test Statistics for Item 10:

$H(4) = 15.908, p=0.003 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 10:

(Key: Group 1 = Lowest level - Group 5 = Highest level of understanding of Irish)

1 x 2: $H(1) = 0.351, p=0.554$

1 x 3: $H(1) = 0.876, p=0.349$

1 x 4: $H(1) = 0.180, p=0.672$

1 x 5: $H(1) = 1.360, p=0.244$

2 x 3: $H(1) = 3.837, p=0.050$

2 x 4: $H(1) = 1.482, p=0.223$

2 x 5: $H(1) = 4.354, p=0.037 *$

3 x 4: $H(1) = 3.783, p=0.052$

3 x 5: $H(1) = 0.569, p=0.451$

4 x 5: $H(1) = 11.605, p=0.001 *$

Attitude towards Synthetic Voices

Item 1: Do you feel the graphic display (the talking monkey) is suitable for this type of game/activity?

Ranks				Test Statistics ^{a,b}	
Attitude to Synthesised Voices (pre-game)		N	Mean Rank	Item 1	
Item 1	1 = ...hate...	10	106.15	Chi-Square	12.268
	2	45	116.32	df	4
	3	111	102.64	Asymp. Sig.	.015
	4	60	135.99	a. Kruskal Wallis Test	
	5 = ...suitable...	2	129.00	b. Grouping Variable: Attitude to synthesised voice (pre-game)	
	Total	228			

Kruskal-Wallis Test Statistics for Item 1:

$$H(4) = 12.268, p=0.015 *$$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 1:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

$$1 \times 2: H(1) = 0.228, p=0.633$$

$$1 \times 3: H(1) = 0.019, p=0.890$$

$$1 \times 4: H(1) = 2.075, p=0.150$$

$$1 \times 5: H(1) = 0.215, p=0.643$$

$$2 \times 3: H(1) = 1.693, p=0.193$$

$$2 \times 4: H(1) = 3.011, p=0.083$$

$$2 \times 5: H(1) = 0.085, p=0.771$$

$$3 \times 4: H(1) = 11.809, p=0.001 *$$

$$3 \times 5: H(1) = 0.410, p=0.522$$

$$4 \times 5: H(1) = 0.054, p=0.816$$

Item 6: To what extent would you be motivated by this type of activity?

Ranks			Test Statistics ^{a,b}		
Attitude to Synthesised Voices (pre-game)				Item 6	
		N	Mean Rank		
Item 6	1 = ...hate...	10	92.10	Chi-Square	10.947
	2	45	120.18	df	4
	3	111	104.35	Asymp. Sig.	.027
	4	60	131.48	a. Kruskal Wallis Test	
	5 = ...suitable...	2	152.75	b. Grouping Variable: Attitude to Synthesised Voices (pre-game)	
	Total	228			

Kruskal-Wallis Test Statistics for Item 6:

$$H(4) = 10.947, p=0.027 *$$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 6:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

$$1 \times 2: H(1) = 2.122, p=0.145$$

$$1 \times 3: H(1) = 0.406, p=0.524$$

$$1 \times 4: H(1) = 3.391, p=0.066$$

$$1 \times 5: H(1) = 1.775, p=0.183$$

$$2 \times 3: H(1) = 2.510, p=0.113$$

$$2 \times 4: H(1) = 1.081, p=0.298$$

$$2 \times 5: H(1) = 0.660, p=0.416$$

$$3 \times 4: H(1) = 7.938, p=0.005 *$$

$$3 \times 5: H(1) = 1.384, p=0.239$$

$$4 \times 5: H(1) = 0.191, p=0.662$$

Item 8: The overall standard of the Irish used by Taidhgín is at about the right level for me.

Ranks			Test Statistics ^{a,b}	
Attitude to synthesised voices (pre-game)	N	Mean Rank		Item 8
Item 8 1 = ...hate...	10	80.70	Chi-Square	11.168
2	45	116.91	df	4
3	111	107.86	Asymp. Sig.	.025
4	60	127.62	a. Kruskal Wallis Test	
5 = ...suitable...	2	204.50	b. Grouping Variable:	
Total	228		Attitude to synthesised voices (pre-game)	

Kruskal-Wallis Test Statistics for Item 8:

$H(4) = 11.168, p=0.025 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 8:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

1 x 2: $H(1) = 2.582, p=0.108$

1 x 3: $H(1) = 1.998, p=0.158$

1 x 4: $H(1) = 4.482, p=0.034 *$

1 x 5: $H(1) = 4.004, p=0.045 *$

2 x 3: $H(1) = 0.663, p=0.416$

2 x 4: $H(1) = 0.726, p=0.394$

2 x 5: $H(1) = 3.885, p=0.049 *$

3 x 4: $H(1) = 4.139, p=0.042 *$

3 x 5: $H(1) = 4.456, p=0.035 *$

4 x 5: $H(1) = 3.573, p=0.059$

Item 9: The synthesised voices were sufficiently clear to make the speech intelligible.

Ranks			Test Statistics ^{a,b}		
Attitude towards synthesised voices (pre-game)		N	Mean Rank		Item 9
Item 9	1 = ...hate...	10	99.15	Chi-Square	14.607
	2	45	102.90	df	4
	3	111	108.38	Asymp. Sig.	.006
	4	60	133.98	a. Kruskal Wallis Test	
	5 = ...suitable...	2	207.50	b. Grouping Variable:	
	Total	228		Attitude towards synthesised voices (pre-game)	

Kruskal-Wallis Test Statistics for Item 9:

$H(4) = 14.607, p=0.006 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 9:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

1 x 2: $H(1) = 0.107, p=0.744$

1 x 3: $H(1) = 0.339, p=0.560$

1 x 4: $H(1) = 1.892, p=0.169$

1 x 5: $H(1) = 2.536, p=0.111$

2 x 3: $H(1) = 0.259, p=0.611$

2 x 4: $H(1) = 7.386, p=0.007 *$

2 x 5: $H(1) = 6.447, p=0.011 *$

3 x 4: $H(1) = 7.227, p=0.007 *$

3 x 5: $H(1) = 5.348, p=0.021 *$

4 x 5: $H(1) = 3.151, p=0.076$

Item10: Did you experience particular difficulties with the dialects that are used in *Taidhgín*?

Ranks			Test Statistics ^{a,b}		
Attitude to synthesised voices (pre-game)			N	Mean Rank	Item 10
Item 10	1 = ...hate...	10	98.90	Chi-Square	15.347
	2	45	119.04	df	4
	3	111	102.18	Asymp. Sig.	.004
	4	60	133.43	a. Kruskal Wallis Test	
	5 = ...suitable...	2	206.00	b. Grouping Variable: Attitude to synthesised voices (pre-game)	
	Total	228			

Kruskal-Wallis Test Statistics for Item 10:

$H(4) = 15.347, p=0.004 *$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 10:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

1 x 2: $H(1) = 1.188, p=0.276$

1 x 3: $H(1) = 0.032, p=0.859$

1 x 4: $H(1) = 2.346, p=0.126$

1 x 5: $H(1) = 3.164, p=0.075$

2 x 3: $H(1) = 2.817, p=0.093$

2 x 4: $H(1) = 2.094, p=0.148$

2 x 5: $H(1) = 5.416, p=0.020 *$

3 x 4: $H(1) = 9.367, p=0.002 *$

3 x 5: $H(1) = 4.629, p=0.031 *$

4 x 5: $H(1) = 3.290, p=0.070$

Item 11_3: Please give your opinion on the attractiveness of the voices.

Ranks				Test Statistics ^{a,b}	
Attitude to synthesised voices (pre-game)		N	Mean Rank		Item 11_3
Item 11_3	1 = ...hate...	10	85.50	Chi-Square	10.205
	2	45	112.58	df	4
	3	111	106.98	Asymp. Sig.	.037
	4	60	133.45	a. Kruskal Wallis Test	
	5 = ...suitable...	2	151.50	b. Grouping Variable: Attitude to synthesised voices (pre-game)	
	Total	228			

Kruskal-Wallis Test Statistics for Item 11_3:

$$H(4) = 10.205, p=0.037 *$$

Kruskal-Wallis Test Statistics for post hoc analysis of Item 11_3:

(Key: Group 1 = 'Hate' synthesised voices; Group 2: 'Tolerate' synthesised voices but prefer human voices; Group 3: 'neutral', Group 4: synthesised voices 'sometimes suitable'; Group 5: synthesised voices are 'sometimes more suitable than human voices')

- 1 x 2: $H(1) = 1.910, p=0.167$
- 1 x 3: $H(1) = 1.153, p=0.283$
- 1 x 4: $H(1) = 4.282, p=0.039 *$
- 1 x 5: $H(1) = 1.814, p=0.178$

- 2 x 3: $H(1) = 0.308, p=0.579$
- 2 x 4: $H(1) = 3.306, p=0.069$
- 2 x 5: $H(1) = 0.986, p=0.321$

- 3 x 4: $H(1) = 6.903, p=0.009 *$
- 3 x 5: $H(1) = 1.088, p=0.297$

- 4 x 5: $H(1) = 0.066, p=0.798$

Appendix G

G1: Spearman's Rank Correlation Coefficient for Digichaint

Table 1: Spearman's rho correlations for Digichaint

Item	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12	Item 13	Item 14	Item 15	Item 16	Item 17_1	Item 17_2	Item 17_3
1																			
2	$r_s(248) = .256;$ $p = .000$																		
3	$r_s(248) = .440;$ $p = .000$	$r_s(248) = .129;$ $p = .041$																	
4	$r_s = .284;$ $p = .000$	$r_s(248) = .207;$ $p = .001$	$r_s(248) = .455;$ $p = .000$																
5	$r_s = .489;$ $p = .000$	$r_s(248) = .241;$ $p = .000$	$r_s(248) = .396;$ $p = .000$	$r_s(248) = .258;$ $p = .000$															
6	$r_s = .287;$ $p = .000$	$r_s(248) = .292;$ $p = .000$	$r_s(248) = .244;$ $p = .000$	$r_s(248) = .220;$ $p = .000$	$r_s(248) = .302;$ $p = .000$														
7	$r_s = .407;$ $p = .000$	$r_s(248) = .237;$ $p = .000$	$r_s(248) = .301;$ $p = .000$	$r_s(248) = .176;$ $p = .005$	$r_s(248) = .563;$ $p = .000$	$r_s(248) = .464;$ $p = .000$													
8	$r_s = .380;$ $p = .000$	$r_s(248) = .259;$ $p = .000$	$r_s(248) = .387;$ $p = .000$	$r_s(248) = .236;$ $p = .000$	$r_s(248) = .543;$ $p = .000$	$r_s(248) = .309;$ $p = .000$	$r_s(248) = .533;$ $p = .000$												
9	$r_s = .072;$ $p = .257$	$r_s(248) = -.059;$ $p = .351$	$r_s(248) = .127;$ $p = .044$	$r_s(248) = .060;$ $p = .347$	$r_s(248) = .166;$ $p = .008$	$r_s(248) = .052;$ $p = .412$	$r_s(248) = .077;$ $p = .227$	$r_s(248) = .106;$ $p = .094$											
10	$r_s = .388;$ $p = .000$	$r_s(248) = .179;$ $p = .005$	$r_s(248) = .312;$ $p = .000$	$r_s(248) = .226;$ $p = .000$	$r_s(248) = .429;$ $p = .000$	$r_s(248) = .305^{**};$ $p = .000$	$r_s(248) = .370;$ $p = .000$	$r_s(248) = .392;$ $p = .000$	$r_s(248) = .021;$ $p = .738$										

11	$r_s = .150$ $p = .018$	$r_s(248) = .125$ $p = .048$	$r_s(248) = .218$ $p = .001$	$r_s(248) = .109$ $p = .086$	$r_s(248) = .154$ $p = .014$	$r_s(248) = .135$ $p = .033$	$r_s(248) = .190$ $p = .003$	$r_s(248) = .112$ $p = .078$	$r_s(248) = -.072$ $p = .254$	$r_s(248) = .221$ $p = .000$								
12	$r_s = .277$ $p = .000$	$r_s(248) = .127$ $p = .045$	$r_s(248) = .202$ $p = .001$	$r_s(248) = .132$ $p = .038$	$r_s(248) = .270$ $p = .000$	$r_s(248) = .122$ $p = .054$	$r_s(248) = .142$ $p = .025$	$r_s(248) = .276$ $p = .000$	$r_s(248) = .128$ $p = .044$	$r_s(248) = .332$ $p = .000$	$r_s(248) = .302$ $p = .000$							
13	$r_s = .207$ $p = .001$	$r_s(248) = .063$ $p = .324$	$r_s(248) = .167$ $p = .008$	$r_s(248) = .010$ $p = .878$	$r_s(248) = .115$ $p = .070$	$r_s(248) = .154$ $p = .015$	$r_s(248) = .190$ $p = .003$	$r_s(248) = .103$ $p = .106$	$r_s(248) = .113$ $p = .075$	$r_s(248) = .280$ $p = .000$	$r_s(248) = .297$ $p = .000$	$r_s(248) = .284$ $p = .000$						
14	$r_s = .211$ $p = .001$	$r_s(248) = .102$ $p = .107$	$r_s(248) = .186$ $p = .003$	$r_s(248) = .174$ $p = .006$	$r_s(248) = .118$ $p = .063$	$r_s(248) = .149$ $p = .018$	$r_s(248) = .158$ $p = .012$	$r_s(248) = .132$ $p = .037$	$r_s(248) = .119$ $p = .060$	$r_s(248) = .296$ $p = .000$	$r_s(248) = .094$ $p = .138$	$r_s(248) = .301$ $p = .000$	$r_s(248) = .290$ $p = .000$					
15	$r_s = .294$ $p = .000$	$r_s(248) = .069$ $p = .280$	$r_s(248) = .120$ $p = .057$	$r_s(248) = .105$ $p = .097$	$r_s(248) = .203$ $p = .001$	$r_s(248) = .061$ $p = .335$	$r_s(248) = .231$ $p = .000$	$r_s(248) = .178$ $p = .005$	$r_s(248) = .113$ $p = .074$	$r_s(248) = .229$ $p = .000$	$r_s(248) = .114$ $p = .072$	$r_s(248) = .243$ $p = .000$	$r_s(248) = .236$ $p = .000$	$r_s(248) = .388$ $p = .000$				
16	$r_s = .354$ $p = .000$	$r_s(248) = .284$ $p = .000$	$r_s(248) = .303$ $p = .000$	$r_s(248) = .271$ $p = .000$	$r_s(248) = .262$ $p = .000$	$r_s(248) = .157$ $p = .013$	$r_s(248) = .225$ $p = .000$	$r_s(248) = .261$ $p = .000$	$r_s(248) = .089$ $p = .160$	$r_s(248) = .309$ $p = .000$	$r_s(248) = .176$ $p = .005$	$r_s(248) = .406$ $p = .000$	$r_s(248) = .309$ $p = .000$	$r_s(248) = .331$ $p = .000$	$r_s(248) = .404$ $p = .000$			
17_1	$r_s = .243$ $p = .000$	$r_s(248) = .250$ $p = .000$	$r_s(248) = .332$ $p = .000$	$r_s(248) = .211$ $p = .001$	$r_s(248) = .308$ $p = .000$	$r_s(248) = .332$ $p = .000$	$r_s(248) = .373$ $p = .000$	$r_s(248) = .327$ $p = .000$	$r_s(248) = .119$ $p = .061$	$r_s(248) = .390$ $p = .000$	$r_s(248) = .145$ $p = .022$	$r_s(248) = .147$ $p = .020$	$r_s(248) = .232$ $p = .000$	$r_s(248) = .159$ $p = .012$	$r_s(248) = .144$ $p = .023$	$r_s(248) = .291$ $p = .000$		
17_2	$r_s = .323$ $p = .000$	$r_s(248) = .180$ $p = .004$	$r_s(248) = .296$ $p = .000$	$r_s(248) = .153$ $p = .015$	$r_s(248) = .298$ $p = .000$	$r_s(248) = .131$ $p = .038$	$r_s(248) = .306$ $p = .000$	$r_s(248) = .247$ $p = .000$	$r_s(248) = .096$ $p = .130$	$r_s(248) = .327$ $p = .000$	$r_s(248) = .275$ $p = .000$	$r_s(248) = .440$ $p = .000$	$r_s(248) = .300$ $p = .000$	$r_s(248) = .299$ $p = .000$	$r_s(248) = .323$ $p = .000$	$r_s(248) = .453$ $p = .000$	$r_s(248) = .314$ $p = .000$	
17_3	$r_s = .446$ $p = .000$	$r_s(248) = .148$ $p = .019$	$r_s(248) = .332$ $p = .000$	$r_s(248) = .214$ $p = .001$	$r_s(248) = .276$ $p = .000$	$r_s(248) = .222$ $p = .000$	$r_s(248) = .235$ $p = .000$	$r_s(248) = .214$ $p = .001$	$r_s(248) = -.079$ $p = .215$	$r_s(248) = .338$ $p = .000$	$r_s(248) = .240$ $p = .000$	$r_s(248) = .362$ $p = .000$	$r_s(248) = .290$ $p = .000$	$r_s(248) = .260$ $p = .000$	$r_s(248) = .377$ $p = .000$	$r_s(248) = .471$ $p = .000$	$r_s(248) = .301$ $p = .000$	$r_s(248) = .366$ $p = .000$

Yellow = Correlation is significant at the 0.01 level (2-tailed)

Green = Correlation is significant at the 0.05 level (2-tailed)

Blue = Correlation has not reached significance

G2: Spearman's Rank Correlation Coefficient for Fáilte go TCD

Table 2: Spearman's rho correlations for Fáilte go TCD

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11 1	Item 11 2	Item 11 3
1													
2	$r_s(250) = .414;$ $p = .000$												
3	$r_s(250) = .368;$ $p = .000$	$r_s(250) = .493;$ $p = .000$											
4	$r_s(250) = .335;$ $p = .000$	$r_s(250) = .401;$ $p = .000$	$r_s(250) = .437;$ $p = .000$										
5	$r_s(250) = .300;$ $p = .000$	$r_s(250) = .278;$ $p = .000$	$r_s(250) = .304;$ $p = .000$	$r_s(250) = .567;$ $p = .000$									
6	$r_s(250) = .322;$ $p = .000$	$r_s(250) = .217;$ $p = .001$	$r_s(250) = .327;$ $p = .000$	$r_s(250) = .536;$ $p = .000$	$r_s(250) = .518;$ $p = .000$								
7	$r_s(250) = .336;$ $p = .000$	$r_s(250) = .318;$ $p = .000$	$r_s(250) = .313;$ $p = .000$	$r_s(250) = .513;$ $p = .000$	$r_s(250) = .623;$ $p = .000$	$r_s(250) = .504;$ $p = .000$							
8	$r_s(250) = .124;$ $p = .050$	$r_s(250) = .147;$ $p = .020$	$r_s(250) = .066;$ $p = .295$	$r_s(250) = .212;$ $p = .001$	$r_s(250) = .223;$ $p = .000$	$r_s(250) = .261;$ $p = .000$	$r_s(250) = .235;$ $p = .000$						
9	$r_s(250) = .233;$ $p = .000$	$r_s(250) = .212;$ $p = .001$	$r_s(250) = .336;$ $p = .000$	$r_s(250) = .330;$ $p = .000$	$r_s(250) = .220;$ $p = .000$	$r_s(250) = .377;$ $p = .000$	$r_s(250) = .307;$ $p = .000$	$r_s(250) = .205;$ $p = .001$					
10	$r_s(250) = .177;$ $p = .005$	$r_s(250) = .209;$ $p = .001$	$r_s(250) = .241;$ $p = .000$	$r_s(250) = .148;$ $p = .019$	$r_s(250) = .199;$ $p = .002$	$r_s(250) = .274;$ $p = .000$	$r_s(250) = .169;$ $p = .007$	$r_s(250) = .159;$ $p = .012$	$r_s(250) = .448;$ $p = .000$				

11_1	$r_s(250)$ =.314; $p=.000$	$r_s(250)$ =.369; $p=.000$	$r_s(250)$ =.308; $p=.000$	$r_s(250)$ =.474; $p=.000$	$r_s(250)$ =.398; $p=.000$	$r_s(250)$ =.453; $p=.000$	$r_s(250)$ =.405; $p=.000$	$r_s(250)$ =.229; $p=.000$	$r_s(250)$ =.268; $p=.000$	$r_s(250)$ =.139; $p=.028$			
11_2	$r_s(250)$ =.219; $p=.000$	$r_s(250)$ =.261; $p=.000$	$r_s(250)$ =.342; $p=.000$	$r_s(250)$ =.303; $p=.000$	$r_s(250)$ =.272; $p=.000$	$r_s(250)$ =.387; $p=.000$	$r_s(250)$ =.276; $p=.000$	$r_s(250)$ =.190; $p=.002$	$r_s(250)$ =.546; $p=.000$	$r_s(250)$ =.338; $p=.000$	$r_s(250)$ =.208; $p=.001$		
11_3	$r_s(250)$ =.268; $p=.000$	$r_s(250)$ =.219; $p=.000$	$r_s(250)$ =.317; $p=.000$	$r_s(250)$ =.215; $p=.001$	$r_s(250)$ =.255; $p=.000$	$r_s(250)$ =.304; $p=.000$	$r_s(250)$ =.289; $p=.000$	$r_s(250)$ =.223; $p=.000$	$r_s(250)$ =.476; $p=.000$	$r_s(250)$ =.272; $p=.000$	$r_s(250)$ =.167; $p=.008$	$r_s(250)$ =.364; $p=.000$	

Yellow = Correlation is significant at the 0.01 level (2-tailed)

Green = Correlation is significant at the 0.05 level (2-tailed)

Blue = Correlation has not reached significance

G3: Spearman's Rank Correlation Coefficient for Taidhgín

Table 3: Spearman's rho correlations for Taidhgín

	Item1	Item 2	Item3	Item4	Item5	Item6	Item7	Item8	Item9	Item10	Item11_1	Item11_2	Item11_3
Item1													
Item2	$r_s(226) = .538;$ $p = .000$												
Item3	$r_s(226) = .374;$ $p = .000$	$r_s(226) = .349;$ $p = .000$											
Item4	$r_s(226) = .401;$ $p = .000$	$r_s(226) = .498;$ $p = .000$	$r_s(226) = .401;$ $p = .000$										
Item5	$r_s(226) = .355;$ $p = .000$	$r_s(226) = .419;$ $p = .000$	$r_s(226) = .421;$ $p = .000$	$r_s(226) = .556;$ $p = .000$									
Item6	$r_s(226) = .378;$ $p = .000$	$r_s(226) = .432;$ $p = .000$	$r_s(226) = .520;$ $p = .000$	$r_s(226) = .598;$ $p = .000$	$r_s(226) = .581;$ $p = .000$								
Item7	$r_s(226) = .491;$ $p = .000$	$r_s(226) = .542;$ $p = .000$	$r_s(226) = .321;$ $p = .000$	$r_s(226) = .504;$ $p = .000$	$r_s(226) = .470;$ $p = .000$	$r_s(226) = .509;$ $p = .000$							
Item8	$r_s(226) = .255;$ $p = .000$	$r_s(226) = .344;$ $p = .000$	$r_s(226) = .309;$ $p = .000$	$r_s(226) = .265;$ $p = .000$	$r_s(226) = .303;$ $p = .000$	$r_s(226) = .340;$ $p = .000$	$r_s(226) = .339;$ $p = .000$						
Item9	$r_s(226) = .256;$ $p = .000$	$r_s(226) = .247;$ $p = .000$	$r_s(226) = .337;$ $p = .000$	$r_s(226) = .241;$ $p = .000$	$r_s(226) = .195;$ $p = .003$	$r_s(226) = .336;$ $p = .000$	$r_s(226) = .268;$ $p = .000$	$r_s(226) = .334;$ $p = .000$					
Item10	$r_s(226) = .194;$ $p = .003$	$r_s(226) = .230;$ $p = .000$	$r_s(226) = .296;$ $p = .000$	$r_s(226) = .132;$ $p = .047$	$r_s(226) = .242;$ $p = .000$	$r_s(226) = .305;$ $p = .000$	$r_s(226) = .260;$ $p = .000$	$r_s(226) = .287;$ $p = .000$	$r_s(226) = .475;$ $p = .000$				

Item11_1	$r_s(226)$ =.333; $p=.000$	$r_s(226)$ =.415; $p=.000$	$r_s(226)$ =.281; $p=.000$	$r_s(226)$ =.477; $p=.000$	$r_s(226)$ =.377; $p=.000$	$r_s(226)$ =.453; $p=.000$	$r_s(226)$ =.403; $p=.000$	$r_s(226)$ =.367; $p=.000$	$r_s(226)$ =.251; $p=.000$	$r_s(226)$ =.226; $p=.001$			
Item11_2	$r_s(226)$ =.336; $p=.000$	$r_s(226)$ =.300; $p=.000$	$r_s(226)$ =.401; $p=.000$	$r_s(226)$ =.323; $p=.000$	$r_s(226)$ =.265; $p=.000$	$r_s(226)$ =.321; $p=.000$	$r_s(226)$ =.278; $p=.000$	$r_s(226)$ =.248; $p=.000$	$r_s(226)$ =.468; $p=.000$	$r_s(226)$ =.397; $p=.000$	$r_s(226)$ =.370; $p=.000$		
Item11_3	$r_s(226)$ =.266; $p=.000$	$r_s(226)$ =.195; $p=.003$	$r_s(226)$ =.426; $p=.000$	$r_s(226)$ =.311; $p=.000$	$r_s(226)$ =.280; $p=.000$	$r_s(226)$ =.429; $p=.000$	$r_s(226)$ =.256; $p=.000$	$r_s(226)$ =.140; $p=.035$	$r_s(226)$ =.469; $p=.000$	$r_s(226)$ =.411; $p=.000$	$r_s(226)$ =.218; $p=.001$	$r_s(226)$ =.488; $p=.000$	

Yellow = Correlation is significant at the 0.01 level (2-tailed)

Green = Correlation is significant at the 0.05 level (2-tailed)

Blue = Correlation has not reached significance

Appendix H

Appendix H includes detailed item-by-item analysis of the significant results from the Kruskal-Wallis Test. It provides a parallel extended discursive presentation of the accounts in Chapter 5.9.3.3: Post-game inferential statistical results.

H1: Digichaint Statistical Analysis

Appendix H1 follows the structure of Chapter 5.9.3.3.2 (*Digichaint statistical analysis*). The precise values referred to below can be seen in Table 5.9 of that chapter.

Influence of Gender

The question of gender has significance for only one post-game item (Item 1), i.e. girls had a significantly higher opinion of the quality of the graphics in *Digichaint* ($H(1)=6.120, p=0.013^*$) than did boys (mean rank: girls = 131.96; boys: 108.21).

Influence of Between-School Differences

'School type' is the background factor which has the most statistically significant relationships with post-game items. It was not, however, related to 8 of the 19 post-game items - namely respondents opinions on Item 2 - the technical ease/difficulty of the game; Item 6 - clarity of the plot; Item 9 degree of focus on plot; Item 12 - intelligibility of synthesised voice; Item 15 - atmosphere created by synthetic voices; Item 16 - the suitability of the synthesised voice for *Digichaint*; Item 17_2 - adequacy of the synthesised voice for *Digichaint* or Item 17_3 - the attractiveness of the synthesised voices.

The Kruskal-Wallis test shows that there is a significant Between-School Type difference in relation to each of the Items 1, 3, 4, 5, 7, 8, 10, 11, 13, 14 and 17_1 (the precise values can be seen in Table 5.9). In order to identify the nature of these differences more fully, further Kruskal-Wallis post hoc tests were carried out for each statistically significant relationship. The results of these post hoc tests are outlined below and given in full in Appendix F1.

It is interesting to note that for 7 of the 11 items which showed significant between-school differences, pupils in Gaeltacht schools and the Gaelscoileanna form a coherent group showing no significant differences between themselves but each being significantly different from their counterparts in English-medium schools.

Item 1: Rate the graphics used in this game on a scale of 1 – 5.

English-medium schools showed a higher opinion of the quality of the graphics (mean rank: 143.83) than did pupils from the other school types (mean rank: Gaeltacht schools = 103.57; Gaelscoileanna = 99.02).

Item 3: I learned some new phrases/words/grammar points as I played the game.

English-medium schools were also more likely to have learned some new phrases/words/grammar points as they played the game (mean ranks: English schools: 144.66; Gaeltacht schools: 105.59; Gaelscoileanna: 87.44).

Item 4: The dictionary is helpful as an aid to learning Irish in this game.

Of the three school types, Gaeltacht school respondents showed a statistically significant difference from English-medium school respondents with regard to their opinion on usefulness of the dictionary as an aid to learning Irish in *Digichaint* ($H(1)=26.824, p=0.000^*$). While there was some difference between the Gaeltacht schools and the Gaelscoileanna on this item ($H(1)=1.184, p=0.276$) and between Gaelscoileanna and English-medium schools ($H(1)=3.348, p=0.067$), the difference was not statistically significant. Mean rankings for Item 4 show English schools most favourably disposed towards the usefulness of the dictionary function as an aid to learning Irish (mean rank 143.96) followed by Gaelscoileanna (mean rank: 116.72) and then Gaeltacht schools (mean rank: 98.22). This is most probably because those from Gaelscoileanna and Gaeltacht schools had no need for the facility.

Item 5: Rate your overall enjoyment of this particular game as a language learning experience.

Item 5 shows a significant difference in the relationship between each of the school types in respect of their enjoyment of *Digichaint* as a language learning experience (Gaeltacht schools differed significantly from Gaelscoileanna ($H(1)=12.337, p=0.000^*$) and from English-medium schools ($H(1)=9.492, p=0.002^*$) and Gaelscoileanna also differed significantly from English-medium schools ($H(1)=23.158, p=0.000^*$). The most favourable rating for 'enjoyment of the game' came from English-medium schools (mean rank: 141.95) and there was a significantly lower rating by Gaeltacht pupils (mean rank: 115.52). The opinion of Gaelscoil pupils was significantly lower than that of either of the other two groups (mean rank: 68.36).

Item 7: Was the plot credible for this type of game?

The Kruskal-Wallis test shows statistically significant differences between each of the three school types in relation to respondents' opinions on the credibility of the plot of the game (Gaeltacht x Gaelscoileanna differences: $H(1)=5.782,$

$p=0.016^*$; Gaeltacht x English school differences: $H(1)=7.212$, $p=0.007^*$; Gaelscoil x English school differences: $H(1)=19.079$, $p=0.000^*$). English-medium schools show highest regard for the credibility of the plot (mean rank: 140.33), followed by Gaeltacht pupils (mean rank: 115.55), with Gaelscoil pupils believing least in its credibility (mean rank: 77.26).

Item 8: The game held my attention.

On Item 8 again there was a significant difference between each of the three school types (Gaeltacht x Gaelscoileanna differences: $H(1)=10.337$, $p=0.001^*$; Gaeltacht x English school differences: $H(1)=5.057$, $p=0.025^*$; Gaelscoil x English school differences: $H(1)=15.674$, $p=0.000^*$). The English-medium schools had the highest scores (mean rank: 138.15), followed by the Gaeltacht schools (mean rank: 119.30), who in turn had a significantly higher score than pupils in Gaelscoileanna (mean rank: 76.48).

Item 10: There is a good balance between enjoyment and language learning in this game.

The Kruskal-Wallis test shows a significant difference between English-medium school and Gaeltacht schools with regard to Item 10 ($H(1)=4.589$, $p=0.032^*$). English-medium schools scored highest on their opinions on the balance between enjoyment and language learning in *Digichaint* (mean ranks: English-medium school: 134.46; Gaeltacht school: 116.53; Gaelscoil: 106.52). The difference between Gaeltacht schools and Gaelscoileanna was not statistically significant ($H(1)=0.628$, $p=0.428$).

Item 11: The overall standard of the Irish used in this game is at about the right level for me.

Item 11 asked respondents to rate the degree to which they agreed with the statement that 'the overall standard of the Irish used in the game was at about the right level for me'. The results from the Kruskal-Wallis test show a significant difference between Gaelscoileanna and the other two school types (Gaelscoil x Gaeltacht: $H(1)=4.299$, $p=0.038^*$; Gaelscoil x English-medium school: $H(1)=7.350$, $p=0.007^*$), with Gaelscoileanna having a significantly greater degree of agreement with the statement (mean ranks: Gaelscoileanna = 158.02; Gaeltacht schools = 123.62; English-medium schools = 120.82). The test results show no significant difference between Gaeltacht and English-medium schools ($H(1)=0.072$, $p=0.788$). The question asked for the degree to which pupils agreed with the statement provided. Item 11a sought to take this a step further and enquire into the reason why pupils reported that the language level was unsuitable. It asked pupils to indicate whether they found the level of Irish 'too difficult' or 'too easy'. Results from the analysis of the data produced from Item 11a indicates there is a very big difference between Gaeltacht schools and English-medium schools since the majority of Gaeltacht school responses (74%)

found the standard of Irish 'too easy' for them while the opposite held for English-medium schools, where 69% found the standard of Irish 'too difficult'. This shows an important distinction between the comprehension levels of Gaeltacht pupils and pupils in English-medium schools. A statistically significant difference appears between Gaelscoileanna and Gaeltacht schools with respondents from Gaeltacht schools more likely to think the standard of Irish was too low for them. The difference between Gaelscoileanna and English-medium schools was also significant with the English-medium schools having a significantly greater chance of reporting that the language difficulty was too high for them.

Item 13: Did you experience particular difficulties with the dialects that are used in *Digichaint*?

Gaeltacht schools reported significantly less difficulty in understanding the two different dialects than the English-medium schools ($H(1)=5.385, p=0.020^*$). The difference between Gaelscoileanna and Gaeltacht schools was not statistically significant ($H(1)=0.032, p=0.858$). The Kruskal-Wallis test shows a mean rank of 137.81 for Gaeltacht schools: 136.04 for Gaelscoileanna and 115.99 for English-medium schools.

Item 14: I found it no more difficult to understand the computer-generated voice than I would if natural voices were used.

English-medium schools agreed most strongly that they found it no more difficult to understand the computer-generated voice than they would if natural voices were used in *Digichaint*. The Kruskal-Wallis test shows a mean rank of 135.13 for English schools, 116.19 for Gaeltacht schools and 103.96 for Gaelscoileanna. There was no statistically significant difference between Gaeltacht schools and Gaelscoileanna on this item ($H(1)=0.809, p=0.368$) whereas the difference between English-medium schools and Gaeltacht schools ($H(1)=4.209, p=0.040^*$) and Gaelscoileanna ($H(1)=4.001, p=0.045^*$) both reached statistical significance. This is in line with the Kang et al. (2008) observation that learners are not as sensitive to differences in naturalness between natural voices and synthetic voices as native speakers are. Those from English-medium schools approximate more closely to the "learners" in that they have less exposure to Irish.

Item 17_1: Give your opinion on the usefulness of the concept of producing an interactive language learning game in order to practice Irish.

Item 17_1 enquired into respondents' opinions on the usefulness of the concept of producing an interactive language learning game in order to practice Irish. There was no significant difference between the respondents from Gaeltacht schools and those from Gaelscoileanna ($H(1)=0.773, p=0.379$) and both differed significantly from the responses of the English-medium cohort (English x

Gaeltacht schools: $H(1)=5.157, p=0.023^*$ and English x Gaelscoileanna: $H(1)=5.187, p=0.023^*$). Significantly more of the English-medium school cohort were favourably disposed towards the usefulness of the concept of this type of game for language learning for Irish (mean ranks: English-medium schools = 135.74; Gaeltacht schools = 115.49; Gaelscoileanna = 102.96).

Influence of *Frequency of Playing Computer Games*

Frequency of playing computer games was significantly related to only 5 of the 19 post-game items. These are Items 4, 5, 8, 10 and 12 (see Table 5.9). See Appendix F1 for the exact breakdown of the results of the Kruskal-Wallis post hoc tests.

Item 4: The dictionary is helpful as an aid to learning Irish in this game.

Post hoc analysis of Item 4 shows that only one correlation of a possible six reaches statistical significance. While there was a statistically significant difference between those who 'seldom' played computer games and those who played 'weekly', in relation to their opinions on the usefulness of a dictionary as an aid to learning Irish in the game ($H(1)=7.912, p=0.005^*$), it would be unsafe to draw any conclusions from this difference as the numbers who play computer games weekly (20%) or daily (7%) are relatively low. The majority of respondents reported played games infrequently.

Item 5: Rate your overall enjoyment of this particular game as a language learning experience.

Item 5 shows a significant statistical relationship between the frequency with which one plays computer games and the ratings pupils give their overall enjoyment of *Digichaint*. The group with the highest ratings were those who 'seldom' played games and those with the lowest ratings for overall enjoyment were those who 'never' played games (mean ranks: 'seldom play': 136.25; 'play daily': 120.00; 'play weekly': 115.22; 'never play': 108.83).

Item 8: The game held my attention.

Those who reported most positively to the statement "the game held my attention" were those who played on a 'daily' basis and those who 'seldom' played games. These two groups showed no statistically significant difference between each other but both were significantly ahead of those who reported 'never' playing games or playing on a 'weekly' basis. The game was least likely to hold the attention of those who 'never' played (mean ranks: 'play daily': 148.58; 'seldom play': 137.44; 'play weekly': 107.21; 'never play': 103.27).

Item 10: There is a good balance between enjoyment and language learning in this game.

In relation to Item 10, those least likely to agree with the statement that “there is a good balance between enjoyment and language learning potential in the game” were those who ‘never’ played games. Those who played games on an occasional basis were most positive in relation to this balance (mean ranks: ‘seldom play’: 136.33; ‘play daily’: 118.00; ‘play weekly’: 116.92; ‘never play’: 107.60).

Item 12: The synthesised voices were sufficiently clear to make the speech intelligible.

The clarity reported on the synthetic voices was also related to respondents’ general game playing patterns. Those who ‘never’ played computer games gave the lowest ranking to the clarity of the synthetic voice while those who ‘seldom’ played gave the highest (mean ranks: ‘seldom play’: 139.04; ‘play daily’: 114.53; ‘play weekly’: 110.48; ‘never play’: 108.10). There was a significant statistical difference between those two groups ($H(1)=7.532, p=0.006^*$). Those who ‘seldom’ played were also statistically more positive towards the clarity of the synthetic voice than those who played ‘weekly’ ($H(1)=6.763, p=0.009^*$).

Influence of Level of Understanding of Irish

In the discussion below respondents are divided into groups according to their rankings in the Likert scale. Group 1 refers to those who reported understanding ‘a few words of Irish spoken slowly’ and Group 5 being at the opposite end of the scale referring to those who understand ‘almost all conversations at natural conversation speed’. Groups 2, 3 and 4 represent the in between rankings. For detailed results of the Kruskal-Wallis post hoc tests see Appendix F1.

Item 1: Rate the graphics used in this game on a scale of 1 – 5.

Groups 1 and 2 consisted of only 2 and 3 respondents respectively and so for the purposes of statistical analysis they are being ignored because of such small numbers. Of the remainder, the highest ranking was given to the graphics by those rate themselves at the mid-ranking of the Likert scale – those who understand ‘parts of conversations’ in Irish (Group 3). They gave a significantly higher rating to the graphics than those who reported the ability to understand ‘almost all conversations at natural conversation speed’ (Group 5), while the relationship between Group 3 and Group 4 (understand ‘most conversations when spoken clearly’), though less pronounced, is also statistically significant. There appears to be an inverse relationship between one’s level of Irish language comprehension and the rating one gave to the graphics. Those with highest reported language comprehension level gave the lowest ranking to the quality of the graphics (mean rankings: Group 3: 156.21; Group 4: 130.32; Group 5: 108.38). One is speculating from this that those who have

the highest existing language ability show least value for this type of language teaching game because it is somewhat irrelevant to them.

Item 3: I learned some new phrases/words/grammar points as I played the game.

Item 3 enquired into the extent to which pupils 'learned some new phrases/words/grammar points' as they played the game. Respondents who saw themselves in Group 4 (understand 'most conversations when spoken clearly') had the highest ranking in agreeing with this statement. These were closely followed by Group 3, while Group 5 gave significantly lower level of agreement with the proposition. This is in keeping with the fact that most of those in Group 5 had language capabilities beyond the language range presented in *Digichaint* and therefore had little new to learn (mean rankings: Group 4: 137.50; Group 3: 136.49; Group 5: 107.44).

Item 4: The dictionary is helpful as an aid to learning Irish in this game.

A similar pattern to that of Item 3 arises in Item 4, which deals with the helpfulness of the dictionary function as part of *Digichaint*. Groups 3 and 4 had mean rankings significantly higher than those of Group 5. One may similarly conjecture that since Group 5 had a higher level of language understanding they had less use for a dictionary (mean rankings: Group 3: 145.01; Group 4: 132.52; Group 5: 108.12).

Item 5: Rate your overall enjoyment of this particular game as a language learning experience.

Again, we see a similar pattern in the results for Item 5, which related to the pupils' overall enjoyment of *Digichaint* where the mean ranking of Group 3 was significantly higher than the mean ranking of Group 5. Group 4 occupied a midpoint between them and its mean rank score was not significantly different from either Group 3 or Group 5. Respondents' overall enjoyment of the game would appear to be linked to their degree of satisfaction with the game and the degree to which they had learned new material (mean rankings: Group 3: 141.53; Group 4: 130.81; Group 5: 113.97).

Item 10: There is a good balance between enjoyment and language learning in this game.

While the Kruskal-Wallis test shows a between-group difference for Item 10, when Groups 1 and 2 are excluded, there is no longer a statistically significant difference between Groups 3, 4 and 5. The general pattern found in the previous four items still holds with Groups 3 and 4 showing a higher mean ranking than Group 5. In this case, however, the rankings fall just short of statistical significance (mean rankings: Group 3: 132.32; Group 4: 131.23; Group 5: 118.53).

Item 13: Did you experience particular difficulties with the dialects that are used in *Digichaint*?

Item 13 referred to difficulties respondents may have with the dialects that are used in *Digichaint*. Group 5 experienced least problems and their mean rank score for 'lack of

difficulty' was significantly higher than those of Groups 3 and 4. The mean rankings for Group 4 were between those of Groups 3 and 5 but did not fall within the range of statistical significance from Group 3 (mean rankings: Group 5: 141.41; Group 4: 120.18; Group 3: 110.37).

Influence of Attitude towards Synthetic Voices

For the purposes of describing the statistical analysis for this factor, respondents are divided into five groups according to their responses on the Likert scale. Group 1 represents those who responded "I hate synthesised voices" while Group 5 is composed of those who responded that synthetic voices are "sometimes more suitable than human voices" in the context of computer games. Group 2 represents respondents who chose "tolerate synthesised voices but prefer human voices"; Group 3 chose "neutral" and Group 4 reported they found synthetic voices "sometimes suitable". This may be seen as categorical data as it may be argued that the progress from 1 to 5 does not represent rank ordered categories or intensity of emotion in respect of synthetic voices generally.

The between-group differences according to the Kruskal-Wallis test were significant for Items 5, 9, 10, 12, 15, 17_1 and 17_2 (see Table 5.9) and not significant for the remaining items. See Appendix F1 for the results of the Kruskal-Wallis post hoc tests.

Item 5: Rate your overall enjoyment of this particular game as a language learning experience.

Item 5 has mean rank rankings which increase in line with one's tolerance towards synthetic voices generally (mean rankings: Group 5: 169.40; Group 4: 146.49; Group 3: 122.16; Group 2: 118.14; Group 1: 58.92). Those who gave the lowest mean ranking for enjoyment of the game were those in Group 1, who 'hated' synthetic voices. There was a highly significant difference between the rankings of Group 1 and those of Groups 2, 3 and 4. Similarly, the mean rankings of Group 2 are significantly lower than those of Groups 3 and 4. (The Kruskal-Wallis test does not show a statistically significant difference between Groups 1 and 5 but one can put this down to the peculiarities of the test as it relates to two low population groups being examined alongside relatively high population groups. Inspection of the mean rankings of Groups 1 and 5 taken as part of the overall between-group differences analysis is most dramatic).

Item 9: I was more focused on the plot of the game than I was on the language being used.

While there were significant differences between Groups 2 and 3 and Groups 3 and 4 on Item 9, it is difficult to identify any clear pattern in the results. Group 3 had mean rankings significantly below those of Groups 2 and 4 (mean rankings: Group 4:

146.75; Group 2: 139.50; Group 3: 116.30; Group 5: 103.60; Group 1: 84.92). Group 4 had the top ranking which again suggests that those more positive towards the use of synthetic speech in games tended to engage with the game and focus on the plot rather than see it just as a language learning exercise.

There are a number of significant inter-relating factors which come to bear on this item which can only be examined by multivariate analysis (such as multiple regression) of a type not available in non-parametric statistics, i.e. the categories in the scale (Groups 1 – 5) may have complex inter-relationships with other background factors. Multivariate analysis of the type which would explore these interdependencies are available only for parametric data (Pallant, 2010).

Item 10: There is a good balance between enjoyment and language learning in this game.

Item 10 shows the mean ranking for the five groups to be in ascending order with Group 1 at the bottom and Group 5 at the top (mean rankings: Group 5: 151.50; Group 4: 141.52; Group 3: 126.78; Group 2: 106.91; Group 1: 90.50). Statistically there is a significant difference between Groups 2 and 4 ($H(1) = 6.897, p=0.009^*$). This follows the pattern already found for Item 5.

Item 12: The synthesised voices were sufficiently clear to make the speech intelligible.

The most dramatic results for any item analysed are those of Item 12. The mean rank scores were in ascending order in line with respondents' attitude to synthetic speech generally (mean ranks: Group 5: 181.10; Group 4: 145.04; Group 3: 122.19; Group 2: 117.44; Group 1: 65.50). Group 1, who 'hated' synthetic voices, gave a very low ranking for the speech intelligibility. Their rankings were significantly lower than those of each of the other groups. Group 2 had the next highest mean rank scores but these were significantly lower than the scores of Groups 4 and 5. This result represents strong evidence that one's judgment of particular instances of synthetic speech is highly related to one's preconceived notions of synthetic speech gained from whatever experiences one has had in the past.

Item 15: In general, I think that computer-generated voices give a better atmosphere to computer games than natural voices do.

Item 15 deals with the proposition that "computer-generated voices give a better atmosphere to computer games than natural voices do". It was decided that this item would be included in the post-game evaluation even if it is closely related to the background factor item on the pre-game questionnaire. The possibility here was that some respondents may have little familiarity with synthetic voices and that the experience of the game may have changed their attitude somewhat. While the pattern of the results is less clear than that of Item 12, nevertheless it is clear that those who had a positive disposition towards synthetic voices before playing *Digichaint* were still most favourable towards the concept that synthetic voices give a better

atmosphere to computer games than natural voices do. The mean rank scores of those in Group 5 were significantly higher than those of Groups 4, 3 and 2 (mean ranks: Group 5: 190.00; Group 4: 147.18; Group 2: 118.36; Group 3: 118.10; Group 1: 127.67). Group 1 showed a less negative disposition for Item 15 than was the case in the pre-game responses. Since numbers are small for this group, it would be unsafe to make any dramatic claims based on this data.

Item 17_1: Give your opinion on the usefulness of the concept of producing an interactive language learning game in order to practice Irish.

The mean rankings for each group were in ascending order for this item from Group 1 to Group 5 (mean ranks: Group 5: 158.80; Group 4: 147.91; Group 3: 123.24; Group 2: 115.61; Group 1: 50.33). Those who were least favourably predisposed to synthetic voices were least favourable towards the concept of interactive language learning games, while those who were most favourably disposed to synthetic speech in general were also most favourably disposed towards interactive language learning games. Group 1 ranking was statistically significantly lower than the rankings of all other groups while the rankings of Groups 2 and 3 were significantly lower than the rankings of Group 4.

Item 17_2: Give your opinion on the quality of the synthesised voices: to what extent do you think the voices are adequate for the type of game presented here?

Item 17_2 asks for the opinion on the “quality” of the particular synthetic voices used in *Digichaint* and their “adequacy” for the game. The same pattern as that found in previous items emerged here with the mean rank scores being in ascending order with Group 1 at the bottom and Group 5 at the top (mean ranks: Group 5: 176.50; Group 4: 145.78; Group 3: 119.45; Group 2: 122.59; Group 1: 88.67). This again showed that respondents’ predisposition towards synthetic speech seemed to colour their judgment of the quality and adequacy of the synthetic speech being used in *Digichaint*.

H2: Fáilte go TCD Statistical Analysis

Appendix H2 follows the structure of Chapter 5.9.3.3.3 (*Fáilte go TCD statistical analysis*). The precise values referred to below can be seen in Table 5.11 of that chapter.

Influence of Gender

Gender reached the level of statistical significance for only one item in the post-game questionnaire. This is Item 10, which asks if respondents experienced “difficulty with the dialects” used in the platform. Boys reported significantly less difficulty than girls in dealing with the dialects used ($H(1)=4.107, p=0.043^*$). The mean ranks for this item were 140.58 for boys and 120.98 for girls.

Influence of Between-School Differences

There are significant between-school differences in six of the thirteen post-game items. These are Items 5, 7, 8, 9, 10 and 11_3 (see Table 5.11 for full details).

Item 5: Would you enjoy using this type of activity to develop your aural Irish skills, should be available and easily accessible in your school?

Those from English-medium schools showed a much greater enthusiasm for using *Fáilte go TCD* than did those from the two other school types (mean ranks: English-medium schools: 135.57; Gaeltacht schools: 117.98; Gaelscoileanna: 101.17). The mean rank score for the English-medium schools were significantly higher than those of the Gaelscoileanna ($p=0.031^*$). There is no significant difference between responses from the Gaelscoil and Gaeltacht school cohort ($p=0.228$).

Item 7: Do you think this type of activity would make the learning of Irish more attractive?

A similar trend held for the “attractiveness” of the platform as a means of learning Irish, with those from English-medium schools giving a significantly higher mean attractiveness ranking to the platform (mean ranks: English-medium schools: 135.72; Gaeltacht schools: 120.86; Gaelscoileanna: 89.63).

Item 8: The overall standard of Irish used is at about the right level for me.

Item 8 refers to the difficulty level of the language in the platform. There is a significant difference between the Gaelscoileanna responses and the responses from the Gaeltacht ($p=0.013^*$) and English-medium schools ($p=0.005^*$). One may refer here to the results discussed in Chapter 5.9.3.2, presented in Appendix E2, which showed 70.2% of the total group thought that the level of Irish was appropriate, and

those who did not think so were about equally divided as to whether it was too easy or too difficult. It is clear from this analysis that those who thought the level of Irish was appropriate tended to come from Gaelscoileanna, those who thought it too easy tended to come from Gaeltacht schools, and those who thought it too difficult tended to come from English-medium schools.

Item 9: The synthesised voices were sufficiently clear to make the speech intelligible.

Item 9, referring to “intelligibility” found a significant difference between data from Gaeltacht schools and those from English-medium schools ($H(2)=9.589, p=0.002^*$). The former gave a significantly higher rating to the clarity of the speech (mean ranks: Gaeltacht schools: 144.71; Gaelscoileanna 128.24; English-medium schools 115.48). This is in line with *Digichaint* results and shows that perceived clarity of the synthetic voice is significantly related to one’s overall language ability level.

Item 10: Did you experience particular difficulties with the dialects that are used in the video?

This same pattern applies to Item 10, which shows those from Gaeltacht schools found less difficulty in coping with the dialects used (mean ranks: Gaeltacht schools: 144.79; Gaelscoileanna 137.13; English-medium schools 114.00).

Item 11_3: Please give your opinion on the attractiveness of the voices.

Students from Gaeltacht schools also found the synthetic voices more “attractive” than students from the other two school types (mean ranks: Gaeltacht schools: 144.35; Gaelscoileanna 124.98; English-medium schools: 116.21). It is interesting to note that the Gaelscoileanna mean ranking fell between the English-medium schools and Gaeltacht schools and fell short of significant statistical difference from either ($p=0.599$ and $p=0.256$ respectively). There was a statistically significant difference, however, between Gaeltacht schools and English-medium schools ($p=0.003^*$).

Influence of Frequency of Playing Computer Games

It may be noted that *Fáilte go TCD*, as presented in this study, does not require manipulation of the figures by the player. It is not surprising, consequently, that the frequency with which respondents play computer games is significantly related to only two of the post-game questionnaire items.

Item 1: How would you describe your judgment of the background setting and the graphics in the video?

Frequency of playing computer games was significantly related to the respondents’ rating of the graphics in the video ($H(3)=9.928, p=0.019^*$). Those who never played computer games gave the lowest ranking to the graphics (mean ranks: ‘seldom play’:

137.31; 'play weekly': 123.33; 'play daily': 115.08; 'never play': 102.92). Those who had some familiarity with playing computer games gave a significantly higher rating to the graphics than those who reported 'never' playing ($p=0.003^*$). There is no statistically significant difference between the frequencies with which one played computer games though the scores show a general tendency for those who play games sometimes, but infrequently, to give a higher ranking to the graphics. It would appear that those who play computer games very frequently have very high expectations of the standards of the graphics.

Item 11_1: Please give your opinion on the usefulness of producing graphics with synthesised voices in order to practice aural comprehension.

The pattern shown in Item 1 repeats itself for Item 11_1. Those who 'never' played computer games had a significantly lower opinion of the usefulness of such a platform while those who 'seldom' played gave the idea a significantly higher mean ranking (mean ranks: 'seldom play': 135.12; 'play weekly': 133.58; 'play daily': 117.25; 'never play': 98.76).

Influence of Level of Understanding of Irish

Level of understanding of Irish had a significant statistical relationship with eight of the thirteen items on the post-game questionnaire (see Table 5.11). This makes it a very important factor in determining one's overall evaluation of the platform. As with *Digichaint*, respondents are differentiated according to how they placed themselves on a Likert Scale with those with least competence on point 1 and those with highest competence on point 5.

The numbers showing low Irish ability levels (points 1 and 2 on the Likert scale) are very low and it is therefore considered inappropriate to include them in the discussion of results.

Item 1: How would you describe your judgment of the background setting and the graphics in the video?

In relation to Item 1, those who reported themselves as having a mid- to high range Irish ability level (Groups 3 and 4) showed the highest mean ranking for the quality of the graphics (mean ranks: Group 4: 137.77; Group 3: 135.94; Group 5: 115.40). This would appear to be related to the level of engagement one has with the platform. Those with the highest level of Irish language comprehension showed least engagement with the platform and gave a significantly lower ranking to the quality of its graphics.

Item 3: To what extent do the movements of the characters add credibility and clarity to the conversational exchanges?

Those who put themselves at point 4 of the Likert scale in relation to their level of understanding of Irish gave the highest mean ranking to the importance of the movements of the characters as a means of adding credibility and clarity to the conversational exchanges (mean ranks: Group 4: 139.20; Group 5: 121.97; Group 3: 115.28). Again, those at the top level (Group 5) gave a somewhat lesser mean ranking to Group 4, though the difference was not statistically different ($p=0.75$).

Item 7: Do you think this type of activity would make the learning of Irish more attractive?

When Groups 1 and 2 are excluded from the analysis there is no significant differences between the other three groups in relation to Item 7. There was a tendency for those in Group 5 to give a lower mean ranking to this attraction but the difference was not statistically significant (mean ranks: Group 3: 134.87; Group 4: 133.87; Group 5: 116.40).

Item 8: The overall standard of the Irish used is at about the right level for me.

Item 8 refers to the appropriateness of the level of Irish. When Groups 1 and 2 are excluded from the analysis there is no significant differences between the remaining three groups in their satisfaction rating with the appropriateness of the level of Irish used in the platform. The mean rank scores are: Group 5: 134.38; Group 4: 129.67; Group 3: 117.21.

Item 9: The synthesised voices were sufficiently clear to make the speech intelligible.

Item 9 refers to the “intelligibility” of the synthetic speech. The mean ranking of the clarity and intelligibility of the synthetic speech is directly related to one’s Irish language ability with Group 5 giving a significantly higher ranking to the clarity and intelligibility of the speech than those in Group 3 ($p=0.004^*$). The mean rank scores are Group 5: 139.77; Group 4: 130.96; Group 3: 103.17.

Item 11_3: Please give you opinion on the attractiveness of the voices.

The pattern was repeated for Item 11_3 which asked for respondents’ opinions on the attractiveness of the synthetic voices. Again Group 5 respondents gave it a significantly higher ranking than did those in Group 3 ($p=0.010^*$). The mean rank scores are Group 5: 138.90; Group 4: 129.14; Group 3: 105.77.

Item 10: Did you experience particular difficulties with the dialects that are used in the video?

In relation to the dialects in the synthetic speech Group 4 experienced significantly less difficulties than did Group 3 ($p=0.019^*$). Group 5 had less difficulties than Group 4 but this fell just short of statistical significance ($p=0.050$). This supports the general trend that the higher one’s language ability, the less difficulty they experienced with the dialects used in the platform (mean ranks: Group 5: 146.98; Group 4: 127.71; Group 3: 99.24).

Item 11_1: Please give your opinion on the usefulness of producing graphics with synthesised voices in order to practice aural comprehension.

When Groups 1 and 2 are excluded from the analysis there is no significant difference between the remaining three groups in relation to their opinions on the usefulness of a platform of this type as a means of developing aural comprehension skills. While there is a tendency for those at the top level to be less favourable towards such a platform (mean ranks: Group 3: 134.54; Group 4 132.48; Group 5: 119.43), this tendency did not reach statistical significance.

Influence of *Attitude towards Synthetic Voices*

Predisposition towards synthetic voices is the background factor which is most strongly related to almost all the post-game questionnaire items. There are just two items where the relationship has not reached statistical significance (Items 2 and 8). The pattern of the relationship remained constant for each of the items with mean rank scores for Group 5 (those who responded that “synthesised voices are sometimes more suitable than human voices”) higher than those for Group 4 (synthesised voices “sometimes suitable”), which in turn were higher than those for Group 3 (“neutral”), etc. The precise breakdown of these results is shown in Appendix F2.

A respondent’s acceptance of the various aspects of the platform was in direct proportion to their predisposition to synthetic speech generally. Those with a negative predisposition towards the TTS synthetic voices gave a very low ranking to graphics, movement, usefulness of platform and the motivational value of the platform. They also gave a lower ranking to the quality and intelligibility of the synthetic voices as well as expressing difficulties with the dialects used. They had a low ranking for the usefulness of a platform such as this for practicing aural comprehension skills and for the quality and attractiveness of the voices. One’s rank ordering of all these factors increased according to how one viewed synthetic speech as reported on the Likert scale in the pre-game questionnaire.

H3: Taidhgín Statistical Analysis

Appendix H3 follows the structure of Chapter 5.9.3.3.4 (*Taidhgín statistical analysis*) The precise values referred to below can be seen in Table 5.13 of that chapter.

Influence of Gender

Gender has a significant relationship with three of the thirteen post-game items. These were Items 4 ($H(1)=5.143, p=0.02^*$), 9 ($H(1)=5.135, p=0.02^*$) and 10 ($H(1)=7.243, p=0.01^*$).

Item 4: To what extent to do you think this type of learning platforms (i.e. the interaction and playfulness) would help in practicing conversational Irish?

Item 4 asked about the “usefulness” of this type of playful interactive platform as a help to practicing conversational Irish. The mean ranking for girls was significantly higher than that for boys, meaning that girls tended to prefer the platform to boys (mean ranks: girls: 120.00; boys: 99.78).

Item 9: The synthesised voices were sufficiently clear to make the speech intelligible.

Interestingly, boys gave a significantly higher ranking to the clarity and intelligibility of the synthesised voice in Item 9 (mean ranks: boys: 129.24; girls: 108.99).

Item 10: Did you experience particular difficulties with the dialects that are used in Taidhgín?

Boys also reported experiencing significantly less difficulty than girls in dealing with the dialects used in *Taidhgín* (mean ranks: boys: 132.50; girls: 107.78).

Influence of Between-School Differences

Between-school differences are significant for Items 3, 4, 5, 6, 10 and 11_3 (see Table 5.13) with no significant differences showing for the remaining items.

Item 3: How would you describe the movements of the talking monkey and their alignment to speech?

Item 3 refers to respondents’ opinions of the quality of the “movements of the monkey and their alignment to speech”. Results show the mean rank scores from Gaelscoileanna respondents to be significantly lower than either of the other two school types (mean ranks: Gaeltacht schools: 122.48; English-medium schools: 114.65; Gaelscoileanna: 84.59).

Item 4: To what extent do you think this type of learning platform (i.e. the interaction and playfulness) would help in practicing conversational Irish?

Responses from pupils in Gaelscoileanna are similarly significantly less positive than English-medium schools to the question of the “usefulness of this type of platform for conversation practice”. English-medium schools gave a significantly higher mean ranking than either Gaelscoileanna ($p=0.001^*$) or Gaeltacht schools ($p=0.002^*$). This would suggest that pupils from English-medium schools would appreciate a virtual conversational partner because of their lack of opportunities of having a human conversational partner, unlike those from Gaelscoileanna or Gaeltacht schools.

Item 5: Would you use a virtual conversation partner (like the talking monkey) should it be available and easily accessible in your school?

This position is further supported in the responses to Item 5. Those from the English-medium schools had a significantly higher positive mean ranking than both Gaelscoileanna ($p=0.011^*$) and Gaeltacht schools ($p=0.001^*$). Mean rank score were English-medium schools: 126.96; Gaeltacht schools: 104.86; Gaelscoileanna: 78.16.

Item 6: To what extent would you be motivated by this type of activity?

Respondents from English-medium schools also found the platform more motivating than was the case for the other school types (mean ranks: English-medium schools: 123.45; Gaeltacht schools: 112.43; Gaelscoileanna: 70.75).

Item 10: Did you experience particular difficulties with the dialects that are used in *Taidhgín*?

As was the case for the results from *Digichaint* and *Fáilte go TCD*, pupils from Gaeltacht schools showed ‘less difficulty’ in understanding the dialects used, which suggests that those with a higher level of Irish language comprehension have fewer problems in dealing with dialectal variation (mean ranks: English-medium schools: 100.15; Gaelscoileanna: 104.82; Gaeltacht schools: 139.76).

Item 11_3: Please give your opinion on the attractiveness of the voices.

Pupils from Gaeltacht schools found the synthesised voices significantly more attractive than did those from the other two school types (mean ranks: Gaeltacht schools: 127.78; English-medium schools: 109.16; Gaelscoileanna: 96.82).

Influence of *Frequency of Playing Computer Games*

Frequency of playing computer games had a significant relationship with three post-game items, namely Items 9, 11_2 and 11_3.

Item 9: The synthesised voices were sufficiently clear to make the speech intelligible.

Item 9 refers to the “clarity and intelligibility of the synthesised voices”. Those who reported that they ‘never’ played computer games found the synthetic voices significantly less clear and intelligible than did those who played regularly. This replicates the result got from the corresponding item in *Digichaint* and can be most likely seen as showing that some familiarity with gaming made the experience of dealing with *Taidhgín* more positive, which in turn led to greater positivity towards the synthetic voices (mean ranks: ‘play weekly’: 138.44; ‘play daily’: 134.65; ‘seldom play’: 108.67; ‘never play’: 103.95).

Item 11_2: Please give your opinion on the quality of the synthesised voices: to what extent do you think the voices are adequate for the type of learning platform presented here?

There is also greater positivity amongst more frequent computer game players towards the “adequacy of the synthesised voice” for a platform such as *Taidhgín* (mean ranks: ‘play weekly’: 139.27; ‘play daily’: 116.56; ‘seldom play’: 116.56; ‘never play’: 91.17).

Item 11_3: Please give your opinion on the attractiveness of the voices.

The highest mean rank scores with regard to the “attractiveness” of the voices are also from the more frequent computer game players (mean ranks: ‘play weekly’: 124.43; ‘seldom play’: 121.02; ‘play daily’: 97.06; ‘never play’: 95.37).

Influence of Level of Understanding of Irish

Level of understanding of Irish had a significant statistical relationship with Items 4, 5, 6 and 10 from the post-game questionnaire. Again, those who rated themselves at the lowest Irish language ability levels (points 1 and 2 on the Likert scale) are being excluded from the present discussion as numbers are very low and it is unsafe to draw any conclusions from this data.

Item 4: To what extent do you think this type of learning platform (i.e. the interaction and playfulness) would help in practicing conversational Irish?

Those with the highest levels of Irish were least likely to see a *Taidhgín*-type platform “useful” as conversational partner (mean ranks: Group 3: 141.17; Group 4: 118.02; Group 5: 98.55). These are pupils from Gaeltacht schools and Gaelscoileanna and this result is something of a duplication of the between-school type results which found that pupils from these latter school types were less enthusiastic about the platform as a virtual conversational partner.

Item 5: Would you use a virtual conversation partner (like the talking monkey) should it be available and easily accessible in your school?

Similarly, those with the highest levels of Irish felt that they would be less likely to use this type of platform as a virtual conversational partner even if it was readily available (mean ranks: Group 3: 148.21; Group 4: 119.21; Group 5: 94.97).

Item 6: To what extent would you be motivated by this type of activity?

The group with the highest mean rank scores for the motivational capacity of this type of platform were those who put themselves midpoint in the Likert scale of language ability (mean ranks: Group 3: 139.83; Group 4: 115.09; Group 5: 104.53). These were most likely coming from English-medium schools. The assertion that those with the highest level of Irish were least positive towards a platform such as *Taidhgín*, which was made above in respect of between-school differences, is further supported by the data from Item 6.

Item 10: Did you experience particular difficulties with the dialects that are used in *Taidhgín*?

Again, those with the highest language ability found least problems in dealing with the dialects used, as was the case with both other platforms (mean ranks: Group 5: 130.85; Group 3: 122.53; Group 4: 99.66).

Influence of Attitude towards Synthetic Voices

One's general attitude towards synthetic voices had an influence on six of the *Taidhgín* post-game items. Significant relationships are noted in Items 1, 6, 8, 9, 10 and 11_3 (see Table 5.13). In the discussion below, Group 5 is composed of those who responded that synthetic voices are "sometimes more suitable than human voices" in the context of computer games. Group 4 respondents reported they found synthetic voices "sometimes suitable", Group 3 chose "neutral", Group 2 represents respondents who chose "tolerate synthesised voices but prefer human voices" and Group 1 represents those who responded "I hate synthesised voices".

Item 1: Do you feel the graphic display (the talking monkey) is suitable for this type of game/activity?

The results from this item show that those with a positive predisposition towards synthetic voices were also positive about the graphics (mean ranks: Group 4: 135.99; Group 5: 129.00; Group 2: 116.32; Group 1: 105.15; Group 2: 116.32).

Item 6: To what extent would you be motivated by this type of activity?

Those with a positive predisposition towards synthetic voices also found that this type of virtual dialogue partner would be "motivational" for them as a study aid (mean ranks: Group 5: 152.75; Group 4: 131.48; Group 2: 120.18; Group 3: 104.35; Group 1: 92.10).

Item 8: The overall standard of the Irish used by *Taidhgín* is at about the right level for me.

Those with a positive predisposition towards synthetic speech were also more likely to have come from English-medium schools. They tended towards reporting that the level of Irish used in the platform was 'suitable' for them (mean ranks: Group 5: 205.50; Group 4: 127.62; Group 2: 116.91; Group 3: 107.86; Group 1: 80.70). This may reflect a lower difficulty level in the language used in *Taidhgín* compared to the other two platforms and a greater familiarity with the limited topics covered.

Item 9: The synthesised voices were sufficiently clear to make the speech intelligible.

Positive predisposition towards synthetic voices was also significantly related to judgments on the "clarity and intelligibility of the voice" in *Taidhgín* (mean ranks: Group 5: 207.50; Group 4: 133.98; Group 3: 108.38; Group 2: 102.90; Group 1: 99.15).

Item 10: Did you experience particular difficulties with the dialects that are used in *Taidhgín*?

Respondents with a positive predisposition were significantly less likely to experience "difficulty with the dialects used" (mean ranks: Group 5: 206.00; Group 4: 133.43; Group 2: 119.04; Group 3: 102.18; Group 1: 98.90).

Item 11_3: Please give your opinion on the attractiveness of the voices.

A general positive disposition was associated with a significantly stronger mean ranking on the "attractiveness" of the synthetic voice used in *Taidhgín* (mean ranks: Group 5: 151.50; Group 4: 133.45; Group 2: 112.58; Group 3: 106.98; Group 1: 85.50).