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Learning transfer from an in-sessional ESAP module to International Relations and Development students' core disciplinary writing assignments: Teaching semantic gravity to support cumulative knowledge building

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Supporting English as an Additional Language (EAL) students in higher education to become aware of, and develop, the academic and knowledge practices of their chosen disciplines is a key role of an English for Academic Purposes (EAP) practitioner. The transfer of this knowledge from the contexts of an EAP course or module to students' disciplinary concerns points to the success of these teaching interventions (James, 2014). This action research investigates International Relations and Development (IR & D) undergraduate students' learning transfer of semantic gravity (SG) in Legitimation Code Theory, which was taught in an in-sessional English for Specific Academic Purposes (ESAP) module, to students' disciplinary writing assignments. SG presents a lens to view knowledge practices of writing in students' subject disciplines. It helps to make knowledge displayed in a text visible, through 'meaning-making profiles' (Kirk, 2017), to those trying to understand and organise written work to the expected standards of their academic discipline (Martin, Maton & Doran, 2020). Teaching SG in the ESAP module aims to help students visualise, and, in turn, compose their own written arguments in line with the expected standards of their academic discipline. The researcher interviewed three students who had taken the ESAP module and, combined with a textual analysis of writing assignments produced for their core IR & D modules, the study reveals important pedagogical considerations for supporting students' cumulative knowledge building (Maton, 2013). The results indicate that students are able to demonstrate understanding and application of taught features of SG to written work produced for their IR & D modules. The researcher's recommendations to improve teaching practice in the ESAP module include differentiation of semantic wave profiles for a wider selection of essay question types; a precise semantic wave profile to help differentiate knowledge types within IR & D texts; and potential to embed SG into the students' subject teachings as an effective way of supporting cumulative knowledge building.
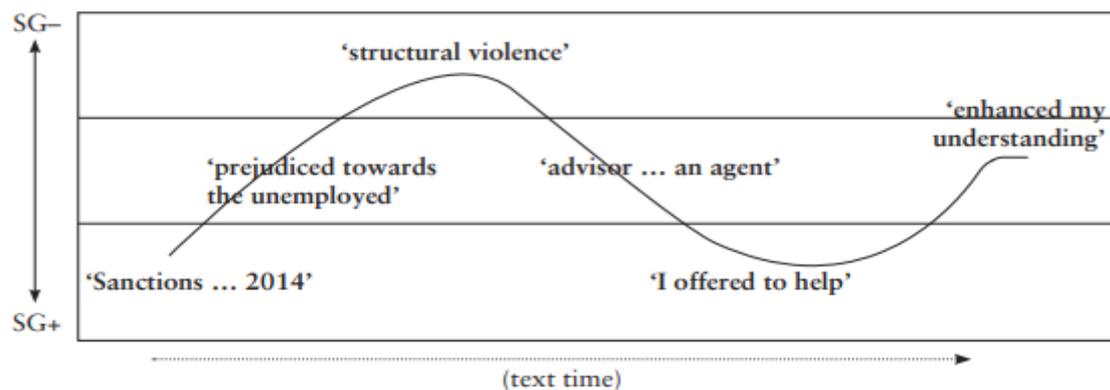
Key Words: Learning transfer, semantic gravity, English for Specific Academic Purposes, cumulative knowledge building, Legitimation Code Theory.

1. Introduction

English for Academic Purposes (EAP) instruction seeks to develop English as an Additional Language (EAL) students' academic skills and language so they can support themselves when studying at higher education institutions where English is often used as the medium of instruction. Coming in different guises (e.g. general EGAP and specific ESAP), the discipline aims to facilitate learning transfer through its pedagogy, so that students can notice and apply this knowledge to the textual analysis and production required of their chosen subject areas. Without this learning transfer, the success of EAP instruction can be called into question (James, 2014).

The focus of this study is on learning transfer of a particular feature taught in an in-sessional ESAP module designed and delivered to EAL undergraduate students studying degrees in International Relations and Development (IR & D) at the University of Sussex. The researcher is also the designer and teacher of this module, and has been incorporating Legitimation Code Theory (LCT) into his teaching to help students recognise the knowledge practices in their discipline's texts. LCT is a framework to support 'knowledge seeing' in educational settings, and comprises different dimensions in which knowledge can be made visible to an apprentice from a specific academic community (Maton, 2020). In the context of this module, the dimension of Semantic Gravity (SG) has been used to analyse IR & D texts and, in turn, through semantic wave profiles, make knowledge displayed 'visible' to students who want to understand and organise written work to the expected standards of their discipline (Martin et al., 2020). Textual analysis like this is key to ESAP teaching as it shows students that there are differences in the way discourse communities communicate through written or oral text (Hyland, 2007).

The SG dimension of LCT has been particularly illuminating and emancipatory for the researcher, providing a 'translation tool' (Maton, 2020, p. 67) to show his students how to visualise the way knowledge types are displayed, and the movement their arguments make in written text. In turn, students are encouraged to produce analytical or critical pieces of written work for their specific subject demands (Maton, as cited in Szenes, Tilakarantna & Maton, 2015), using a semantic wave profile as a reflective or planning guide. Figure 1 is an example of a semantic wave profile for a student essay written for the discipline of anthropology. The lines mapped in the profile correspond with knowledge types in the text that contains different strengths of SG. The weaker the SG (SG-), the less context is dependent on the meaning in the text, i.e. more theoretical or abstract knowledge. The stronger the SG (SG+), the more context dependent meaning is displayed, i.e. more concrete or actual events or practices (Maton, 2013).

Figure 1. Anthropology student writing extract as a semantic gravity wave profile (Kirk, 2017, p. 114. © BALEAP. Reproduced with permission.).

Research into EAP (EGAP and ESAP) instructional learning transfer is not new. Many studies have evaluated the impact that EGAP instruction has had on the transfer of skills to assignments

within the course being studied, or to students' work after course completion (James, 2010; Zarei & Rahimi, 2014; Hill, Khoo, & Yi-Chin, 2020). However, there are only few studies (Hill et al., 2020; Cheng 2007) that research the link between in-sessional ESAP support and transfer at that moment of study, or transfer post in-sessional support. Moreover, James (2014) notes that in many of those studies it is hard to determine the specific impact that EAP instruction has had in supporting transfer. He suggests that more research is needed that examines the connection between transfer and the direct learning that takes place in instructional settings (James, 2010, p. 199).

Importantly, it is also noted that in LCT research, there have been no published studies which focus specifically on the topic of the learning transfer of SG concepts taught in an EAP module. However, the notion of cumulative knowledge building has been documented in similar skills-based teaching interventions, being seen as key to developing deep learning through transfer (Clarence, 2016; MacNaught, Maton, Martin, & Martugilo, 2013). Via this action research project, the researcher is interested in contributing to a growing body of research that examines cumulative knowledge building through LCT teaching application, while investigating the specific link between EAP instruction and this transfer. Any insights from the research will support effective delivery of the material and approaches used by the researcher in his role as tutor to support his students' knowledge transfer from this module to the writing and research concerns of their core IR & D modules.

The research questions are as follows:

RQ 1: To what extent are students able to transfer learning of SG to written work for core IR & D modules?

RQ 2: How effective is the ESAP module in supporting leaning transfer generally?

2. Literature review

2.1. EAP and in-sessional support at United Kingdom Higher Education Institutions

This action research project focuses on EAP in-sessional support, accessible once students are studying their degree programmes. Typically, this type of support focuses on the specific nature of the communication practices of a particular discipline, supporting students with a detailed understanding of identity, discourse, argument development and assignment types of their chosen discipline (Bruce, 2015). In-sessional support can take different forms such as: optional workshops focusing on different weekly language or skills topics; embedded skills support delivered by subject tutors or in collaboration with EAP tutors/learning developers ('built-in'); and subject specific 'bolt-on' (Bennett, Dunne, & Carre, 2000) skills and language modules that are self-contained, while carrying credit towards students' degree results.

Current studies into the most effective forms of in-sessional EAP support discourage bolt on module approaches. Bolt on approaches are seen to have little connection with students' concurrent assessment concerns, and are often viewed by learners as an add on of less relevant work needed to be completed at times during the term when they are prioritising work for other modules (Wingate, 2012). Consequently, the study skills literature recommends an embedded or collaborative approach to skills teaching as a more effective way of meeting the specific ongoing academic literacy needs of students during their degree (Cottrell, 2001; Lea & Street, 2006; Murray, 2016).

2.2. Legitimation Code Theory (LCT)

LCT is a framework to support 'knowledge seeing' in educational settings. It is a theory with social justice at its core, with a focus on moving away from an endemic 'knowledge blindness' (Maton, as cited in Sznes et al., 2015, p. 574) that seems to be prevalent in some academic disciplinary contexts. Students from diverse backgrounds (EAL students included) may be moving into higher education as novices, without receiving guidance in writing for their academic discipline, but are expected to perform and write with a competent grasp of the knowledge practices

in their subjects. These knowledge practices are often tacit principles that their lecturers have developed over considerable time (Kapp & Bangeni, 2009).

LCT and, in particular, the dimension of SG, present a different lens to view knowledge practices of writing in students' subject disciplines. Through 'meaning-making profiles' (Kirk, 2017), LCT helps to make knowledge displayed in a text 'visible' to those trying to understand and organise written work to the expected standards of their academic discipline (Martin et al., 2020). Research focusing on the use of SG to develop teaching materials in academic skills support contexts has been conducted for anthropology (Kirk, 2017), business, and social work (Szenes et al., 2015). In these empirical studies, SG is used as a visual tool to map semantic wave profiles in student writing exemplars (Figure 1). These studies corroborate LCT theory's contention that if we can write arguments that demonstrate a move, or a semantic shift, between more generalizable/theoretical (weaker SG -) and real-world/concrete meanings (stronger SG+), the academic text is more likely to fit the expectations of high performing submissions in that discipline (Maton, 2020). Conversely if a piece of writing flat lines, i.e. remains either too abstract or is too practical and example-based, it is unlikely to receive high performing grades for that assignment (Maton, 2013). Additionally, the movement of displayed knowledge across these semantic waves may vary in terms of starting points on a semantic wave profile, depending on the question type, genre or topic of study (Maton, 2013).

The above-mentioned research into the writing practices of specific disciplines, and the profiling of SG across written work has informed the design of teaching approaches and materials. In the cases of Kirk's (2017) and Sznes et al.'s (2015) studies, whiteboard sketches and handouts were produced and used in pedagogic interventions, showing how semantic gravity waves were used to visualise movements of context dependent and context independent meanings in subject specific written work (see Figure 1). It is important to note that the research into the teaching interventions mentioned above, were carried out by EAP professionals and learning developers as part of in-sessional skills support.

2.3. Learning transfer

The concept of learning transfer can be related to Maton's (2013) cumulative knowledge building. In the context of this research, cumulative knowledge building infers a development and building of the knowledge practices found in students' subject discipline, such as what constitutes concepts, theories and their relevant applications for their specific and changing educational needs. Specifically, this relates to students being able to recognise an IR & D theoretical perspective based on explicit cues; know what might constitute conceptual meanings such as power, security, and inequality in different contexts; and understand how writers in this discipline engage and connect their context independent knowledge with more contextually dependent events or descriptions. In other words, transfer in this context relates to students becoming acculturated into their specific discourse communities and learning how to communicate in those settings (Monbec, 2019). The success of this learning transfer is noted in the way that students can apply this cumulative knowledge to new academic tasks such as essays or written assignments in the discipline of IR & D.

A challenge for learning transfer is that cumulative knowledge building is not something that can be tacitly achieved for many students. Consequently, teaching interventions need to apply features of LCT through translation devices (in this case, semantic codes) that support students' learning transfer to see what has been hidden by dominant thinking in education, or to bridge the 'knowledge blindness' gap (Maton, 2020, p. 61). A key definition of learning transfer used in this project is a 'mindful abstraction of qualities […] that can be applied to other instances' (Salmon & Perkins, 1989, p. 125). This concept of high road transfer contrasts with low road transfer, which relates to the spontaneous automation of well-learned and practiced behaviour in a new context, without need of reflection or mindful application (Salmon & Perkins, 1989).

Research studies into learning transfer in EGAP contexts are legion. Some studies include specific focus of knowledge transfer in near contexts of learning that take place within EAP modules; essentially an assessment of learning outcomes (Dooey, 2010; James, 2010). Others looked beyond the remit of the EAP course to identify transfer from the skills module to other academic writing contexts (Zarei & Rahimi, 2014; Hill et al., 2020; Basturkumen & Lewis, 2002). However, in many such research projects the examination of student performance beyond the EAP courses tends not to mention details about the direct relationship between EAP instruction and learning being transferred (James, 2014). Moreover, there are only few published articles (Cheng, 2007; Shrestha, 2017) which focus specifically on transfer of learning from in-sessional EAP modules or analyse SG as an instructional feature in learning transfer. This gap in the research gives credence to this action research project, which focuses on the specific teaching input of SG and the consequent transfer of this learning to students' written work for other IR & D modules.

3. Methodology

3.1. Instructional context and research setting

In early 2018, the Department of International Relations at the University of Sussex requested the Sussex Centre for Language Studies to create two skills and language modules for their EAL students. The initial rationale was to address the attainment gap in awarding grades between students with a domestic and international enrolment status in the Department of International Relations. It was thought that these modules could help develop students' composition, research and related language skills, which could be transferred to written assessments in their core IR & D modules. The ESAP elective modules that were subsequently developed, called Academic Communication for International Relations (ACIR), were credit bearing and available to first and second year undergraduate IR & D students in the autumn and spring terms.

The ESAP modules were 'cooperatively developed' (Dudley-Evans & St John, 1998, p. 42) through close liaison with the Department of International Relations Director of Student Experience. This work helped to inform the content and skills focus of the ACIR modules. As part of the needs analysis that informed the design of the modules, the researcher analysed a selection of around 20 student essays across different IR & D undergraduate modules to get a sense of; how arguments were formulated, how criticality was expressed, what tutor expectations were, and how the salient linguistic features of this particular discipline were displayed in written form. Viewing these essays through the lens of SG, it was clear that higher scoring essays demonstrated a semantic wave profile, moving regularly between context independent and context dependent knowledge. This knowledge related to the source evidence and its explanation that supported specific points in an essay and were tied to a central thesis. Follow-up discussions with subject tutors about the students' texts confirmed the view that SG was an observable, and thus an applicable, pedagogic feature to help students shape argument development in IR & D essays.

This initial needs-analysis also promoted the creation of lesson materials to explicitly teach SG to students, and increase their awareness of its use as a planning and reflective tool in their own essay argument development. In the spring term iteration of this module, SG was introduced to students through text-based materials and associated visuals of semantic wave profiles to increase their awareness of the dimension and how it could be applied to their essay writing (Appendix A). Furthermore, the application of SG was embedded into two of the module's assessments. One of these was a short-written account that required a connection of IR & D theory to a real-world conflict. Another assessment task explicitly asked students to apply a semantic wave profile to an argument they were composing within an essay outside of the module, while reflecting on its suitability. Through this input, students were taught that the concept of SG contained the following key observable features: Level of Point; Semantic Wave Profile; Knowledge, Transferable and Critical Analysis (Table 1).

The taught SG features mentioned in Table 1 (LoP, SWP, Kn, Tr and CA) concurrently reflect the codes used in analysing the data to ascertain the extent to which students transfer knowledge of SG to their work beyond the ESAP module, and thus develop cumulative knowledge building.

Table 1. Semantic Gravity features taught to students in the ESAP module.

Observable SG Feature	Description
Level of Point (LoP)	SG applies to the level of a 'point' within a typical essay, composed of several different points supporting a central thesis.
Semantic Wave Profile (SWP)	SWP can be used to map an argument from a high point on the graph (Context Independent (CI) supporting knowledge) and then move to a low part of the axis showing a gradual move towards more Context Dependent (CD) supporting knowledge. It then moves to a middle/high part on the graph (more CI) to indicate sentences in the text that link the CD knowledge back to the CI knowledge/idea mentioned at the start of the 'point'.
Knowledge (Kn)	CI knowledge can be recognised in this discipline as IR & D theories, such as liberalism, realism or concepts such as security, inequality, and power. CD knowledge is recognisable as real-world examples e.g., conflict, state actions, non-state actor activities, and historical events.
Transferable (Tr)	The SWP is transferable and can be applied to points in any IR & D essay question type being written concurrently or in the future.
Critical Analysis (CA)	Successful application of the SWP to arguments (i.e., a movement between CI and CD knowledge) encourages more critical analysis in a student's work (Maton, as cited in Szenes et al., 2015)

This piece of research focuses on assessing whether cumulative knowledge building is occurring, i.e., if students from the ESAP module are able to transfer principles of SG to written work being produced outside of the confines of the module's teaching. Focusing on high road transfer (Salmon & Perkins, 1989) was deemed most apt for this research because it relates to principles of transfer in EAP instruction, as students are faced with multiple written assignments happening both at the time of the ESAP module and in the future. Moreover, high road transfer can be connected to the very nature of cumulative knowledge building (Clarence, 2016), as students completing this module are required to abstract knowledge from the ESAP teaching context (SG) to support essay question composition framed around different IR & D topics. Therefore, students need to attempt meaningful abstractions, generalisations and important connections between their learning contexts (Salmon & Perkins, 1989) and thus develop deep learning transfer.

Five students who had been taught in the spring term iteration of the module were asked to participate in this research project. These students were selected as they had performed well in the ESAP module in terms of meeting its learning outcomes with high grades (60+) across all assignments, while also having class attendance of 80% or above for the term. Of those five who were approached, three agreed to take part in the research project. They all identified as female and came from the UAE, Singapore and Taiwan. All three students were studying a joint honours BA in IR & D and were in Year 2 at the time of the action research project.

This is an action research project, so it focuses on a cyclical process of enquiry and ongoing change to develop professional practice within the researcher's specific context. Investigating the

direct learning occurring in such specific instructional approaches may 'generate sharper images of the impact that particular instructional settings have on transfer' (James, 2014, p. 2). It will inevitably develop the researcher's teaching approaches and add to a growing body of research in learning transfer. Given action research makes applicable generalisations to other contexts difficult, the researcher wanted the same rigour of research methodology displayed in more traditional research projects to be present (Denscombe, 2010). Therefore, the research methods and data analysis were adapted to be in line with similar research orientated studies on the subject of EAP and learning transfer (Cheng, 2007; Hill et al., 2020; Monbec, 2019). This was achieved by taking a mixed methods approach to data collection and analysis (textual and interview analysis) and coding data for transfer themes based on taught input from an ESAP module.

3.2. Methods of data collection

The data collection and analysis methods used in this action research project were textual analysis of two written essay assignments and semi-structured interviews. The essays were produced by students at the end of the spring term 2020 for their subject modules. They were analysed for evidence of application of SG based on the instructional features taught in the ESAP module (Table 1), whereby annotations were made in each essay to identify evidence of these features (Appendix B).

In the semi-structured interviews that took place after the textual analysis, participants were asked to 'talk around the texts' (Lillis, 2008) that were analysed, explaining how, or if, they were able to apply learning of SG to their work. This additional data collection method helped corroborate the researcher's textual analysis while eliciting detailed understanding of what students had learned from the ESAP SG instructional input. This approach helps to generate a clear picture of the extent to which students engage with the high road of transfer, as mindful abstraction of concepts requires genuine understanding, and a 'grasp of the relationship between the decontextualized representation and the raw instances of which it is an abstraction' (Gick & Holyoak, as cited in Salmon & Perkins, 1989, p. 126). Put simply, this research approach allows the student to explain in their own words their understanding of SG and its application to an essay they had written for one of their IR & D modules.

3.3. Analysing and coding data

The essay and interview data was analysed using a coding system which centred around three key themes: (i) Understanding of SG, (ii) Application of SG and (iii) Effectiveness of transfer.

3.3.1. Understanding of semantic gravity

For the 'understanding of SG' theme, student interview comments and textual data were coded using a 'deductive' or 'a priori approach' (Crabtree & Miller, 1999) because the researcher was basing his analysis on identified taught features of SG from the EAP module.

As shown in Table 2, the acronyms and explanations provided in Table 1 were used to ascertain if these features were present in the data. To determine the degree to which students had understood taught features of SG and their use in composing IR & D essays, the terms 'strong', 'fair' and 'unclear' were used to qualify the interview and essay data (Table 3). The determination of this gradation was based on the detail of description or amount of reference to taught features of SG (Table 1). For instance, if a student's 'understanding of SG' was graded as 'strong', they were able to explain that parts of their text needed to start with broad, generalised or theoretical supporting content, and then move to cite specific empirical examples in the same stretch of text. They might also link back to a more generalised point at the end of the section/argument. This explanation would indicate a 'strong' understanding as the following taught features of SG are evident: Level of Point, Semantic Wave Profile, and Knowledge (CI and CD) (see Table 1). However, if, for example, a student did not mention that the theoretical support needs to occur in the composition of the argument, this would indicate less understanding and would have been graded

as 'fair', as the student shows some but not a complete understanding of the teachings of SG from the module.

Table 2. Example of coding for 'understanding of semantic gravity' (Participant 1).

Understanding of Sematic Gravity

Student Comment	Connection to Taught Input	Evaluation of Understanding Strong/Fair/Unclear
The semantic waves model? I guess it is following the structure of the opening sentence. And then giving, giving something like a specific idea that supports my argument. And bring in practical examples to relate to the previous statement. And then explaining why I put that specific example there. Not just leaving it there. And then at the end like having a concluding statement of how it links back to my whole thesis statement argument.	This relates in part to some of the features of the **Semantic Wave Profile** I explained such as the need to relate practical examples to the point she is making in her essay. Moreover, the linkback to her thesis is also something I touched on/related to the final part of the waves **(SWP)** However, the student makes no mention of the need to bring in theoretical or more generalisable information into her argument, showing awareness of the need for her wave profile to have SG-	Fair
Is quite applicable to most essays that I've done. It just helps me to think better and plan out my arguments better. It's kind of gives me like a structure that I could kind of play out in my head. And writing something and not just writing something for the sake of writing, but really thinking how that statement links back to my argument	This relates to the points taught that suggest the SW model can be used as a planning tool to support students' essay development. The comment also could connect to the idea that the wave model relates to the **level of argument** with each point being contained in a wave that relates to an overarching thesis. **(LOA/SWP)** However, the lack of connection to a specific written example makes to hard to fully sense understanding of these features.	Fair

Table 3. Example of coding for 'application of semantic gravity'.

Application of Semantic Gravity

Student Comment	Connection to Student Essays/Texts	Evaluation of Application Strong /Fair/Unclear
Yeah, this is the last one…So the argument here is that Free trade is not really free. I tried to make sense of for example here. Yeah, you see that I'm trying to make, like a coherent sentence. Yeah, so basically here in the introduction, you can see that I, kind of, and my thesis…was like, okay, how am I going to approach this quote? I'm just going to speak about the free trade agreement and show how unfree they are. And then I'm going to bring in sample of the Marxist view basically to support the ideas that the agreements…that the free trade agreements are actually not free. So, so I brought in the Marxist view because it supports these ideas here. I'm explaining here I'm just explaining that the trade agreements are not really free and I'm showing the clauses in the trade agreements to show that they're not really like it's not really free and then to support this I brought the Marxist view…you can see here. And it was easier for me to bring examples here and support the idea more… okay I brought an example here of America and Canada and Mexico. Basically, like the last sentence Why did I do that? To support the ideas I have here. It's only like I'm just saying things. I feel like I'm just saying	**Essay 2** The main features of free trade are that it is natural, and it achieves mutual benefits, however, it is argued that the process of achieving this ideal state of free trade involves negations between countries and usually the agreements serve the powerful ones (Ghorashi, 1995 and Liu, 2018). This essay will look at the limitations in the modern free trade agreements and Marxists view on them, and by merely looking at the trade agreements it can be concluded that international trade, is organised rather than a free market process; and through free trade it can be organised around the interests of advanced countries. Rodrik (2018) presented some aspects of the free trade agreements and their limitations. Firstly, he speaks about the Trade Related Intellectual Property Rights (TRIPs) in which it is supposed to provide protection for innovation, to make sure that those who have developed new concepts or technologies are fairly compensated for their contribution (Rodrik, 2018). However, the law imposes rules that heavily favour advanced countries over the developed ones in which it allows them to maintain monopoly on technology, which results in, forcing developed countries to ultimately buy it at unaffordable prices (Rodrik, 2018). Secondly, is the freeing of capital flow, it is argued that allowing investments to move across boarders without barriers should bring prosperity to all; however, unregulated capital flow becomes a serious liability in the event of an inventible financial crisis or in periods of low stability, usually this affect the less developed economies more (Rodrik, 2018). Financial markets function differently than the traditional commodity-based markets, in which financial markets are subject to	**Strong** This is a strong application of the wave idea- it seems as if her text relates to the movement of the wave focusing first on more generalised themes relating to trade/free trade as well as a theoretical view, before being linked to an empirical example of NAFTA, The final sentence also show a good link back to the more general concept/thesis present. Although she does not mention in her own summary the detail of how the text relates specifically to the movement of the wave. Moreover, there is no differentiation between more generalised themes and theory on the wave's position. But this is okay as I didn't teach SK's three part differentiation in the graph/axis **LOA/SWP/Kn**

3.3.2. Application of semantic gravity

Regarding the analysis of the 'application of SG' theme, student commentary from the interviews about how they attempted to apply features of SG to their essays was collated. These comments were then linked directly to the sections of the essays they were discussing, and their explanation of SG use to what they had written was assessed. The resulting evaluation graded their efforts of

application as 'strong', 'fair' or 'unclear' based on the degree to which their commentary and their text matched. As with the coding of the theme 'understanding of SG', the participants' explanations from the interviews were also coded using the taught SG features from the module as a guide. If a participant's 'talk around' explanation of why or how they apply SG to the text accurately evidences these taught features and is present in their text, they were graded as 'strong'. An example of a 'fair' gradation is an accurate explanation of taught SG features, but the corresponding student text does not show these described features. An 'unclear' gradation occurred if the explanation was inaccurate and did not match the written text being discussed (Table 3).

3.3.3) Effectiveness of transfer

The third theme that appeared in the data related to the general effectiveness of transferability of learning from the ESAP module that was unrelated to SG. In contrast to using a deductive approach to coding for the previous two themes, the researcher used an a priori emergent process to qualitative coding (Boyatzis, 1998), which resulted in an identification of meanings or concepts that arose spontaneously or were not predetermined.

As shown in Table 4, the participant's interview data was coded according to the following themes: concurrent effectiveness of learning transfer from ESAP module, delayed transfer, and questionable transfer. Within these themes, salient points or patterns in student commentary were identified, which were:

- **Specific Skills:** mention of specific skills learned from the module and transferred in general terms

- **Acknowledgment:** acknowledgement of the transfer of skills to specific IR & D modules

- **Module Structure:** the design of the ESAP module's impact on learning transfer.

Table 4. Example of coding for 'effectiveness of transfer'.

	Student 1 Comments	Student 2 Comments	Student 3 Comments
Effective at moment of learning	• The ACIR autumn and Spring modules really helped me with my other modules' essays.(**A**) • I think, reading my essays from the last autumn and like the spring ones, I feel like I phrase my arguments better in a way. I kind of know how to approach a question more (**SS**). And yeah, I just need to sort out my time management. • I think I transferred a lot of my skills from this module to the other modules… because I mean essays in some ways are straightforward to me but I still need support with the relatable topics we studied in ACIR like: writing arguments, how to find sources and writing paragraphs.(**SS**)	• "I think one of the things that we learned in the module and I still try to apply it and other essays is the way I write coherent argument…the semantic waves" (**SS**) • "We did focus on the research skills (**SS**) and what are the things that we should focus on when we do the research for the essay before writing an essay. So that was helpful tool • "So after I learned this from your module and I tried to transfer this to my other modules in the same year (**A**)…I tried to do it in one of the essays I sent you…the Health and Poverty one	Think so. Other than the semantic waves…we talked about global affairs during classes and how to do IR writings. How do we do essays. How do we reference (**SS**)… that helps a lot. but I know ACR is really helpful. I took it to for two terms because I know like it is very helpful for my other writings. (**A**)
Effective but Delayed		• Yeah. So, so basically I tried to apply in this essay and I'm trying to apply it on my essays this year (Y3).(**A**) • when I finished with this module's assessment. I was like, I finished with oh ok so like after I finished and read the whole thing I was like, okay, now I get it. Like, I get the module, it's basically given me the tools to do IR	…

4. Results

This research project's aim was to ascertain the extent to which students studying an in-sessional ESAP module were able to transfer learning of SG to written work in their core IR & D modules. The project also assesses the general effectiveness of the ESAP module in supporting students' learning transfer.

Table 5 indicates the different taught features that correspond to each participant as well as the gradation awarded based on the analysis. A short summary statement of the student's ability to transfer features of SG to their work in other IR & D modules is also included.

Table 5. Summary of data relating to participant's knowledge and application of SG based on taught instruction.

	Understanding of Semantic Gravity	Application of Semantic Gravity
Participant 1	LoP (Strong/Fair) SWP (Strong/Fair)	LoP (Strong) SWP (Strong/Fair) Kn (Fair)
Summary of Participant 1's learning transfer	Overall, Participant 1 demonstrated in both analysed essays and in parts of her interview knowledge of and ability to apply a SWP at the LoP within a single essay assignment. However, based on her interview and parts of text, there was some uncertainty as to whether the student had a strong grasp over what type of knowledge constituted CI and CD in her essays. Consequently, the gradation awarded for the Kn criteria was 'fair'.	
	Understanding of Semantic Gravity	Application of Semantic Gravity
Participant 2	LoP (Strong/Fair) SWP (Strong/Fair) Tr (Strong)	LoP (Strong) SWP (Strong) Kn (Fair) Tr (Unclear)
Summary of Participant 2's learning transfer	Participant 2 was able to show and explain how the SWP applied to the LoP, while also making explicit reference to the fact that SG principles could be transferred to any other essay type for her core IR & D modules. However, some difficulty was noted in applying all principles of the SWP to all genre types being written in her discipline. As a result, she was awarded a 'fair' and 'unclear' gradation for the Kn and Tr criteria.	
	Understanding of Semantic Gravity	Application of Semantic Gravity
Participant 3	SWP (Strong/ Fair) Kn (Unclear) Tr (Unclear)	SWP (Unclear) Kn (Unclear)
Summary of Participant 3's learning transfer	Participant 3 gave detailed explanations of how the SWP could be applied to an essay in general terms. Within her explanation, she made clear reference to notions that would connect to the types of knowledge that related to different parts of the SWP (CI and CD), resulting in a 'strong/fair' gradation for the SWP criterion. However, the application of this knowledge to her essay composition indicated some uncertainty in understanding of principles of SG. The student seemed to apply the SWP to entire genres of work and thought the SWP may only suit certain question types. Consequently, she was awarded 'unclear' as a gradation for Kn, Tr, Kn and SWP for the theme of application of SG.	
Overall comparison	Overall, each participant was able to demonstrate, through the interview, and in some instances through their essays, a 'strong' to 'fair' knowledge of SG and its use within a SWP. Participant's 2 and 3 were each able to apply this knowledge successfully to one of their essays, and explain this link, but this strength of SG application was questionable regarding less familiar genres of writing. Participant 3 was less able to apply this knowledge of SG to the two essay samples being analysed.	

4.1. Understanding and Application of Semantic Gravity

Analysis of the data collected from the texts and interviews indicates that all three participants demonstrated a 'fair' to 'strong' understanding of some of the taught principles of SG from the module, although the extent to which they were able to apply SG features to their work varied.
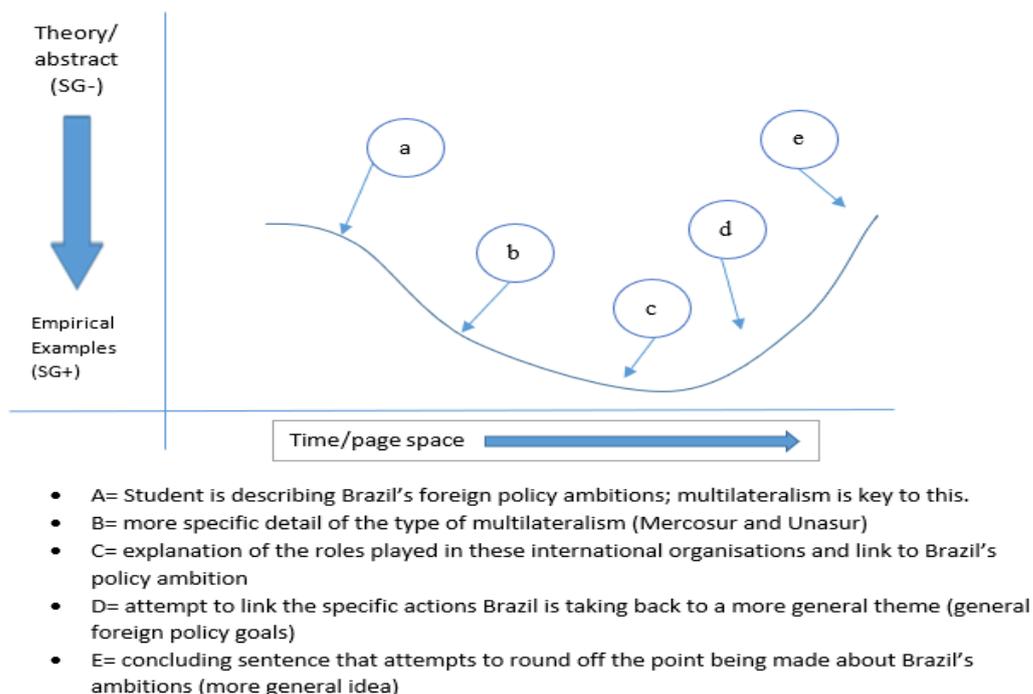
4.1.1. Participant 1

Participant 1 had a 'strong' to 'fair' understanding of some taught features of SG. In particular, she was able to effectively explain how the semantic wave profile operates and show understanding of SG use at the level of point within an essay:

> *"The semantic waves model? I guess it follows the structure of the opening sentence. And then giving something like a specific idea that supports my argument. And bring in practical examples to relate to the previous statement. And then explaining why I put that specific example there. Not just leaving it there. And then at the end, having a concluding statement of how it links back to my whole thesis statement argument."*

The extract above indicates some awareness of the way that the semantic wave profile is used, corresponding to the general teachings from the ESAP module. It is clear that Participant 1 realises that the semantic wave profile applies to a singular point or argument within a larger text (e.g. an essay) and that specific examples within the semantic wave profile need to link to a broader or more generalised knowledge. However, the participant does not mention details of the type of knowledge (CI and CD) that relate to specific movements within the wave profile.

Data from the textual analysis and accompanying talk around text relating to the application of SG corroborates the evaluation of Participant 1's 'strong' to 'fair' understanding of SG:

> *"...That is my thesis statement, the argument I was gonna make throughout. So, I brought in an example of Brazil and the direction it's headed and that it might be...taking over...And then brought in the empirical example of the GDP of Brazil and its foreign policy interest. And bringing in statements from Scholars that would support that example. I assess how that example helps towards my argument, and at the end I connect this whole paragraph back to my thesis statement".*

- A= Student is describing Brazil's foreign policy ambitions; multilateralism is key to this.
- B= more specific detail of the type of multilateralism (Mercosur and Unasur)
- C= explanation of the roles played in these international organisations and link to Brazil's policy ambition
- D= attempt to link the specific actions Brazil is taking back to a more general theme (general foreign policy goals)
- E= concluding sentence that attempts to round off the point being made about Brazil's ambitions (more general idea)

Figure 2. Semantic wave profile mapping one argument from Participant 1's essay on emerging powers (BRICS).

This extract above shows Participant 1 is aware of the need to associate the semantic wave profile with individual points within a larger text. Moreover, her description indicates the need to relate specific data about Brazil's foreign policy pursuits to the country's generalised behaviour. This explanation fits with the teachings from the module that indicate the need to link more CI knowledge to CD ideas. The text that Participant 1 wrote and is discussing further corroborates her understanding and explanation of how SG works and is applied. Figure 2 shows how her text is mapped onto a semantic wave profile (full text in Appendix D).

4.1.2. Participant 2

Participant 2 showed a 'strong' to 'fair' understanding of SG features taught in the module. Similar to Participant 1, in her interview, she was able to explain how the semantic wave profile applied to the level of point, while also making explicit reference to the fact that SG principles could be transferred to any other essay type for her core IR & D modules:

> *"So the semantic waves is basically a micro sample of the argument that you're making in one paragraph. So if you apply this model on every paragraph that you write in your essay you're going to make a more Coherent essay that is more smooth [sic]"*

However, Participant 2's claim that the application of SG will make her work more 'coherent' is inaccurate and, as such, raises question over her knowledge and application of SG. The ESAP module taught students that SG application will lead to a critical or analytical response in writing (Maton, 2013), but not a coherent one.

Data from the textual analysis and accompanying talk around text relating to the application of SG corroborates the above-mentioned 'strong' to 'fair' evaluation of Participant 2's understanding of SG. However, it also highlights the participant's awareness of the need to support a singular point with knowledge that relates to different context dependencies:

> *"so in the introduction, you can see my thesis…was like…I'm just going to speak about the free trade agreement and show how unfree they are. Then I'm going to bring in sample of the Marxist view to support the ideas that the free trade agreements are actually not free. So, I brought in the Marxist view because it supports these ideas here… And it was easier for me to bring examples here and support the idea more…I brought an example of America, Canada and Mexico…I still needed to back it up with a real-life situation that happened because of the trade agreements"*
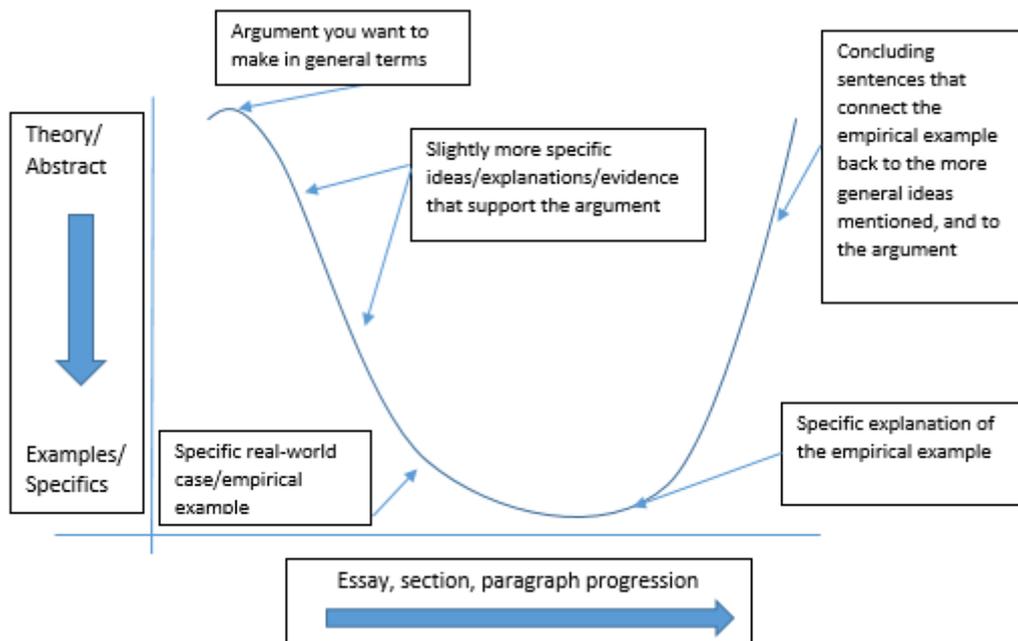
As shown in Figure 3, consideration of this interview commentary alongside Participant 2's text indicates a strong application of the SWP, focusing on generalised themes relating to free trade and a theoretical view (Marxism), before linking to an empirical example (NAFTA).

The final sentence in Participant 2's text also links the empirical data to Participant 2's general point about free trade made at the start of the text. However, the semantic wave pattern for the text being discussed (see Figure 3 for SWP and Appendix E for full text) fluctuates from mid-point to high, then to very low on the axis, which is an unusual SWP compared to the types being taught as a model in the ESAP to guide their argument composition (see Figure 4).

Theory/
abstract
(SG-)

Empirical
Examples
(SG+)

Time/page space
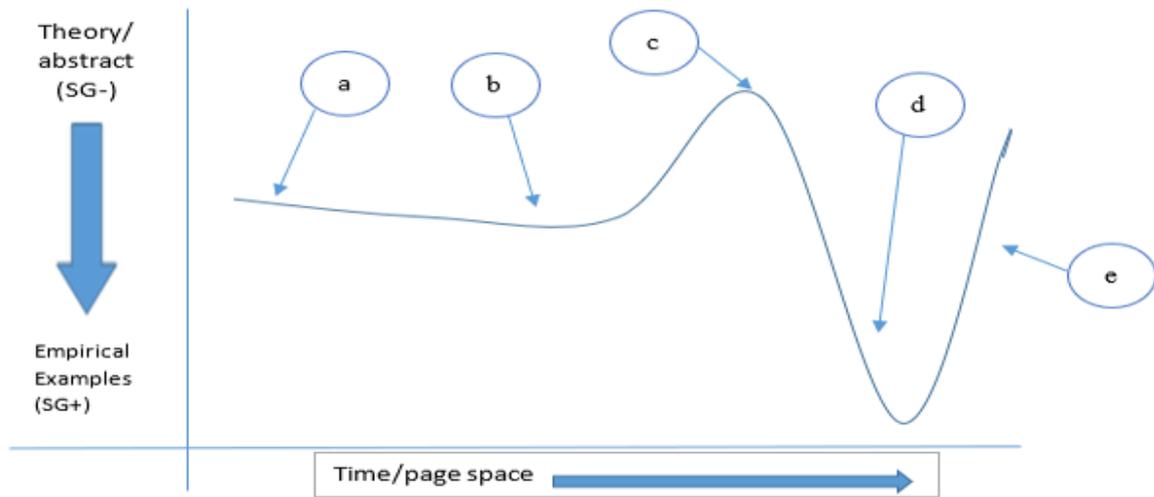
A= start of second paragraph describes general limitations of free trade
B= general points about capital flow and MNC's interests
C= discussion of Marxist view of free trade
D= introduction of empirical data, indicating how NAFTA operates
E= linking empirical example back to more general point made about free trade

Figure 3. Semantic wave profile mapping an argument from Participant 2's essay on free trade.

Argument you want to
make in general terms

Theory/
Abstract

Slightly more specific
ideas/explanations/evidence
that support the argument

Concluding
sentences that
connect the
empirical example
back to the more
general ideas
mentioned, and to
the argument

Examples/
Specifics

Specific real-world
case/empirical
example

Specific explanation of
the empirical example

Essay, section, paragraph progression

Figure 4. Typical semantic wave profile taught to students in the
ESAP module.

When discussing another text Participant 2 wrote, it becomes apparent that Participant 2 finds it difficult to apply the semantic wave profile to an argument she is making as part of a short essay

assignment. The assignment for Participant 2's second text asks students to write a series of short arguments based on an analysis of a quote relating to a theme from the IR & D module.

> *"This is a good topic sentence. I started with this. Then here I was digging deeper, showing who came up with this idea ... then here I further explain the idea. Then here I think it's because I have a word limit, I could not completely apply the semantic waves. I couldn't really make the argument like the hourglass [...] It was more like a practical essay ... so it wasn't an essay where I can show off my language skills and make it pretty. It was more like okay this is how the other person thinks about it and this is how I think about it. I couldn't really add more to it because of the word limit."*

Participant 2's comment about 'hour-glass' and word-limit imply the student does not feel comfortable applying the semantic wave profile to this point in this essay. The restrictive word limit prevents her from displaying a fall in the semantic wave to more CD knowledge. As shown in Figure 5, the textual analysis corroborates Participant 2's explanation, as it shows a SWP that starts high and falls to a mid-part of the axis and flat-lines without falling lower to the CD part of the profile and then rising to the top of the axis (See Appendix F for full text).
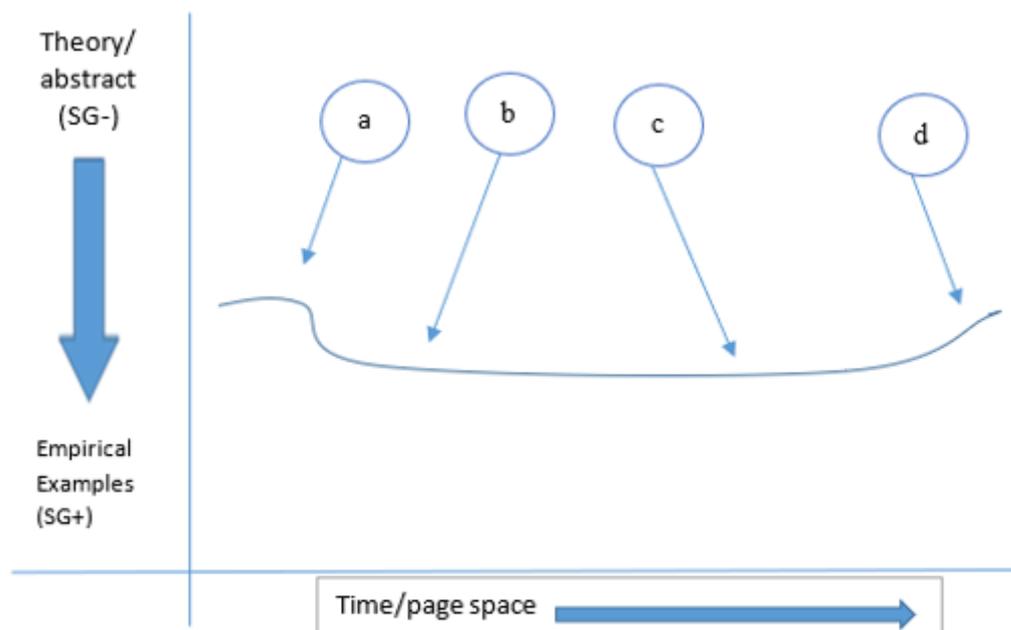
A= opening statement explaining argument in general terms
B= more specific evidence detailing general economic principles related to growth and trade
C= similar detail in general terms about market behaviours
D= concluding statement that sums up arguments with relatively weak SG.

Figure 5. Semantic wave profile mapping of an argument from Participant 2's essay on trade and economic growth

Therefore, it seems that Participant 2 feels the complete semantic wave profile or 'hourglass' of the wave is more achievable when she is faced with a traditional essay task (i.e., in terms of question type and length). The researcher's interpretation of this explanation and consequent textual analysis led to a gradation of 'fair' or 'unclear' as the ESAP module's teachings indicated the semantic wave profile could be applied to singular arguments made in any genre type, irrespective of length. Providing an empirical piece of data in the third paragraph that exemplifies how

particular countries seek to sell surpluses to foreign markets would have allowed Participant 2 to supply the stronger SG needed in this profile thus linking CD knowledge to the presented CI knowledge.

4.1.3. Participant 3

Participant 3 was able to provide a detailed explanation to how the semantic wave profile could be applied. Within her explanation, she made clear reference to notions that connected to the types of knowledge that relate to different parts of the semantic wave profile (CI and CD).

> *"So I put different colours for my arguments so I can write general terms. So if it's like theory or abstract. Then when I go deeper. It's like I give ideas. And then I give evidence for my ideas to support them, and then it goes deeper ... then give some specific explanations of the empirical evidence. So then I can link back to my argument".*

However, Participant 3 also made comments in the interview that indicate a questionable understanding of how SG could be applied to different essay types or questions:

> *"but it's still difficult to do it entirely because it depends on what the essay title was. The title is not just like yes/no question but it's like, to what extent, blah, blah. So I feel like we can't just do all essay in the same way ... Because we were talking and analysing how does it work, how does it link. So we aren't really given like empirical evidence. So it's unlikely to do that in development essays "*

From this commentary, it seems Participant 3 does not think that taught SG features can be applied to all essay types, which was not taught in the module. In fact, the researcher was clear in his teaching that the semantic wave profile could be useful for all essay types the students would encounter that year (See Table 1). Moreover, the idea that an essay would not engage with empirical evidence is rather unusual for IR & D students. Perhaps this could be understood if students were writing solely about theory, but in the case of the essays students write about in IR & D, empirical data is key to supporting argumentation (Savigny & Marsden, 2012).

4.2. ESAP module and effectiveness of transfer

The data analysed for this theme was based solely on student interview commentary and was not compared with other evidence such as student texts. The interview data was thematically analysed for information related to participants' views of the ESAP module in supporting effective transfer of learning to other IR & D learning contexts. Table 6 shows a summary of the data based on three key themes:

- **Specific Skills (SS):** mention of specific skills learned from the ESAP module and transferred in general terms
- **Acknowledgment (A):** acknowledgement of transfer of skills to specific IR & D modules
- **Module Structure (MS):** the design of the module's impact on learning transfer

Table 6. Summary of codes relating to general effectiveness of learning transfer from ESAP module.

	Effective at moment of study	Delayed but effective	Questionable effectiveness
Participant 1	SS A		
Participant 2	SS A	SS A	MS
Participant 3	SS A		

As shown in Table 6, all participants claimed that the ESAP module had supported transfer of writing skills both generally (SS) and for their IR & D modules (A). More specifically, referencing, research skills, argument development, coherency in writing and paragraph formation were highlighted as skills they had developed in the ESAP module. While all three participants commented that the skills studied in the ESAP module had relevant transfer to other work being completed at that time, only one participant commented on the continued relevance the learned skills had on her work during the third year of study. Only one participant made comments that related to the ESAP's module structure and design (MS) and the impact this had on learning transfer:

> *"You don't understand how important the things that you're learning right now … It was like I considered the module just like any other module that I need to like do research and write but I didn't really see it as a module that I actually should take things from and apply to other modules."* (Participant 2)

5. Discussion and recommendations

This section will highlight key features from the results and discuss their implications in terms of learning transfer. Based on this discussion, the researcher will also consider some important recommendations for his practice that can feed into the action research cycle of ongoing development.

5.1. Cumulative knowledge building

The analysis of the textual and interview data indicates that all three students demonstrated a 'fair' to 'strong' understanding of some of the taught principles of SG from the ESAP module, although the transfer and understanding of these features varied between each student. These results provide some evidence of Salmon & Perkin's high road transfer (1989), which is the mindful abstraction of taught material (SG) to written assignments outside of the module's remit. The semantic wave profile visualisation of knowledge types and their interconnectedness over page space allowed the participants and researcher to see how the participants were connecting different knowledge types to their essay arguments (Maton, 2020), either in a planning or reflective capacity. However, there were some less clear indications of a transfer of learning from the ESAP module's teaching to students' disciplinary written work, as discussed in Section 5.2.

5.2. Transfer of semantic gravity to question type

Participant 3's comments relating to the transfer of SG to any essay type shows an unclear transfer of taught SG features from the ESAP module as she suggests that the SG model was not always applicable to the essay questions she was writing. A possible reason for this might be the way that SG was originally presented to students through the ESAP module materials. In the ESAP module materials (Appendix A), the semantic wave profile was related to text from student exemplar essays, displaying 'theory' at the top of the axis to represent CI knowledge as it was deemed to be a more understandable term than 'context independent'. However, using the word 'theory' may have caused Participant 3, and perhaps others, to misunderstand the application of SG to any essay type or question. Similarly, Participant 2 seemed to struggle in applying full semantic wave profiles to assignments which were different in genre type and word count than typical essay assignments. In these cases, it seems that high-road transfer (Salmon & Perkins, 1989) or application of cumulative knowledge building (Maton, 2013) may be lacking. In the sense of high road transfer, Participants 2 and 3 are not able to mindfully abstract a feature of learning and apply it to a new situation (in this case an essay). Both participants show difficulty in 'retrieving the abstracted units (in this case SG) and applying them to a new working context' (Salmon & Perkins, 1989, p. 127). This is an important point of reflection for the researcher's own teaching interventions, as different semantic waves are possible depending on essay question types. The wave may begin and end at different ends of the scale and essay types are not all confined to a uniform wave (Clarence, 2016; Maton, 2020).

More research is needed to investigate ways that knowledge types move and are described for essays that may be specific in their focus on the outset, without explicit reference to broader or theoretical principles. The knowledge identified in any further research can be integrated into subsequent semantic wave profiles taught to students attempting essay questions with a narrow focus.

5.3. Module structure impact on transfer

Although only mentioned by one participant, the comments made by Participant 2 about the module's structure and her understanding of its purpose were illuminating. It seemed that the bolt-on nature of the ESAP module created cognitive demands on her to complete the set work like 'any other module' and as such, this add-on (Wingate, 2012) may have deflected her attention from the important messages of transfer the module was teaching. Such comments and perhaps a lack of transfer of other taught features from the module highlight the importance that the structural design of such modules plays in affecting knowledge transfer.

Academic literacies commentators point to an effective approach to skills transfer by establishing embedded support within core modules being studied (Lea & Street, 2006; Clarence, 2016). In cases where students have been taught SG to achieve knowledge building in their subject areas, the interventions happened within the disciplinary modules being studied, reflecting an embedded approach to skills development (Kirk, 2017; Clarence, 2016). In such instances, there is a high chance that SG teaching can be directly applied to essays being written for that core disciplinary subject. This is because the subject tutors can provide a detailed view of how knowledge practices are displayed, and semantic wave profiles might be developed for specific essay assignments set in their module. Operating in a bolt on capacity in this ESAP module clearly has implications for the extent to which learning transfer can take place, as the researcher is not able to provide detailed semantic wave profiles for the students' particular essay questions, but can only provide general examples of profiles that can be applied. However, more detailed research is needed to compare the impact of different types of pedagogical interventions in supporting learning transfer of SG, both at an embedded and bolt-on level.

5.4. Recommendations for practice

A key part of any action research's cycle of enquiry is to find ways of developing one's teaching practice based on the results (Denscombe, 2010). The results of this research indicate that the teaching of SG can be developed in an ESAP module to support students' high-road transfer and, in turn, cumulative knowledge building. Some of these changes can be made easily, but others are more complex based on institutional structures and pressures that relate to enacting different models of skills support.

5.4.1. Differentiating knowledge types

A way of addressing the above-mentioned concerns about the researcher's teaching approaches is to show that a semantic wave profile can be applied to a variety of question types that may or may not include mention of certain IR & D theories. More specifically, the semantic wave profile can be achieved with reference to knowledge with lower SG that is more generalizable or related to IR & D concepts which are not necessarily theoretical in IR & D terms but can equally be applied and related to empirical examples. As indicated by Kirk's (2017) approach, taking on the middle layer of the semantic wave to differentiate generalisations or concepts from theory (See Figure 1), may support a more effective transfer of SG principles to different essay question types. Figure 6 gives an indication of how this approach may look with regard to a semantic wave profile in an IR & D essay.

How has Globalisation affected the role of the state?

[1] Nowadays, it can be seen that the markets are no longer controlled by states, yet the markets are controlling the governments of states (Strange, 1996, p. 128). [2]To elaborate, it can be seen that there is a major transformation of power from the states to the big corporations and associations in which the declining authority of states is causing an increased diffusion of authority to non-state actors (Strange, 1996, p. 128). [3] Economic globalisation is seen as a threat that will increase the loss of world tax earnings, subsequently, causing cuts in public spending and a continuous decrease in state's spending. [4] Moreover, the continuous movement of international organisations to low-tax grounds forces states to impose new domestic policies to keep the market competitive, thus, starting a 'race to the bottom' corporate tax scenario that can go for a long term (Strange, 1996 and Hay, 2014). [5] For example, states lose their ability to exercise power to increase the tax rates or impose any non-business friendly regulation because it owes the multinational firms the creation of jobs to its citizens and benefits from the marginal tax revenues they pay (Seabrooke and Wigan, 2014).
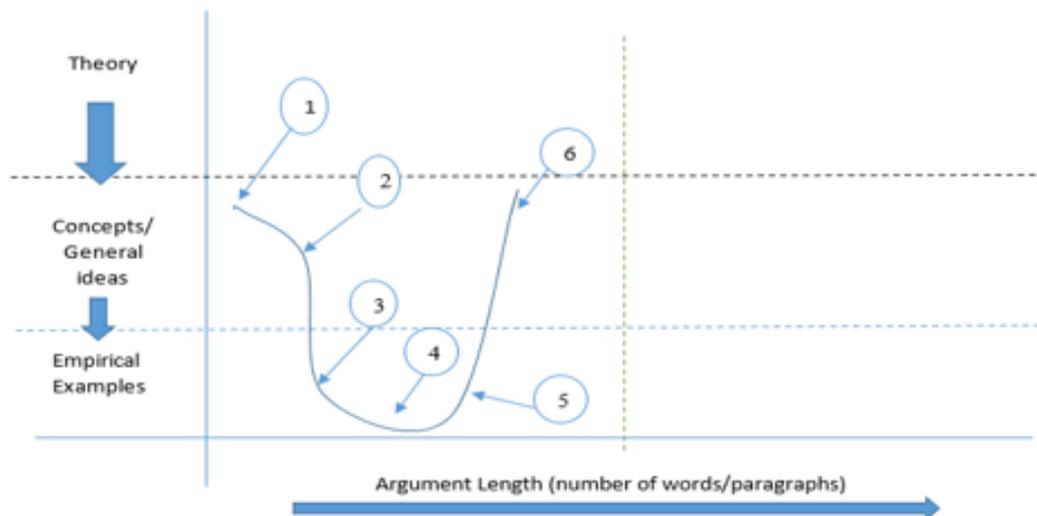
Figure 6. Semantic wave profile with a middle layer to differentiate concepts from theory.

5.4.2. Detailed semantic wave profiles

The results of this research indicate that students may not be confident in applying the semantic wave profile to essay questions with short word counts, or to less traditional assessment genres. To address these features, more detailed visualisations of the semantic wave profile at a textual level could be created and used for teaching purposes. For instance, the ESAP module could highlight the number of sentences that are roughly needed to help provide sufficient explanation of the generalizable, theoretical and context dependent supporting knowledge in a text. Having this level of detail and precision within semantic wave profiles (Maton, 2020, p. 67) gives students an understanding of how much detail is required in terms of page space across an argument within an essay. Moreover, from reading into LCT's semantics and knower codes, a detailed look at semantic density (SD) on separate semantic wave profiles or on semantic planes may help students gain a sense of how knowledge needs to take on different strengths of density depending on the strength of gravity (Maton, 2020). For instance, it might be better to show students that IR & D essay writing seems to require (in some cases) both strong SG and SD at certain moments in an argument development.

5.4.3. Embedding study skills

As mentioned in Sections 2.1 and 5.3 the structural nature of this bolt-on module may impact on the effectiveness of learning transfer. Following a closer link into an embedded approach to skills delivery may enable the researcher's work and experience to have greater impact for students within their IR & D subject modules (Lea, 2004). For instance, the researcher could work alongside IR & D subject tutors to support their students' visualisations of knowledge practices within assessment or teaching contexts. Working collaboratively with IR & D academics in applying SG frameworks in the tutor's teaching as well as in their written feedback may be an important way to address some of the knowledge transfer problems created by the bolt-on approach to skills delivery (Wingate, 2015). However, such interventions are complex and require resources, backing and sustained leadership from those who may view such costly collaborations as having long term gain (Drummond, Anderson, Nixon, & Wiltshire, 1999).

6. Conclusion

This research project has addressed important questions relating to learning transfer in the context of teaching EAP to EAL students studying IR & D at a higher education institution in the UK. Undertaking this project has provided evidence of the effectiveness of using LCT's SG in ESAP teaching interventions to support learning transfer by students. The ESAP approaches and materials developed have clearly helped students notice some key knowledge practices in their subject area. With the aid of semantic wave profiles, students have been able to transfer such knowledge to their academic writing assignments for some of their core IR & D modules. This indicates cumulative knowledge building in their discipline and high-road knowledge transfer.

However, detailed and thorough inclusion of SG in the ESAP module materials and pedagogy is required. The results from this project have prompted some changes to the researcher's teaching approaches. These relate to more detailed semantic wave profiles that focus on smaller stretches of text; translating the profiles with more precision on the semantic plane; and considering how different essay question topics may require different semantic wave profiles beyond the typical SG- to SG+ and back to SG- semantic shift. Moreover, this research has prompted the researcher to find ways to embed knowledge and application of SG teaching in a built in capacity to maximise learning transfer.

This project has some obvious limitations due to its research design, including its low number of participants, the small scale of analysis of student work, non-inclusion of subject tutor feedback and the lack of longitudinal data. As it is action research, the generalisability of the results and their consequent application to other teaching contexts outside of the researcher's own contexts are questionable. It is also worth noting that the researcher only analysed 20 student essays from IR & D and discussed SG applicability with only two IR & D tutors in order to give the SG teaching a starting basis. Further research is required that focuses on a wider selection of essay types and elicits the support of more IR & D subject tutors to generate a clear and widespread view of specific knowledge practices and their semantic wave profiles in students' writing. Such discussions as part of this ongoing research may lead to collaborative embedded teaching events, or to a more refined teaching approach, that supports students' cumulative knowledge building.

Appendix A: Class materials teaching semantic gravity

Essay: Part 1

Look at the first two paragraphs of the main body and notice the way it is being analysed by answering the questions in the boxes on the right.

SAPs are linked to the idea of a neoliberal imperialism, a method imposed by Western states and economic interests to keep poorer nations (often former colonies) submissive and underdeveloped. The IMF's policies (such as SAPs) can be viewed as ways to maintain power to help 'facilitate the developed world's access to raw materials by increasing developing countries reliance on their export' (Hobden and Jones, 2017' p.137). Capitalisms survival is dependent on exploitation, whereby the 'fundamental truth about it was that the developed world depended on the underdeveloped' (Philips, 2017 p.258). This support Barans (1957) Dependency theory, where the Third world is only integrated into the international system to provide resources which benefit the West.

> Generally speaking (and according to the writer), what is the purpose of SAPs?

> What are some specific ways that the IMF's policies benefit the West and not developing countries?

An example which exemplifies this exploitation can be seen in the way that SAPs were imposed on Ghana. The 26 SAPS imposed on Ghana between 1980-99 removed tariff barriers and introduced MNCs in a mass form of privatization. This resulted in MNCs taking profit from the country instead of filtering it back through the 'trickle down' concept of neo-liberal ideology (McGregor, 2005). MNCs exploitation within the gold mining sector lead to a loss in Ghana's revenue. In 1998, these exports made up 46% of foreign exchange earnings (Ismi, 2004). However, when the SAPs introduced foreign company incentives such as ending income tax to encourage Foreign Direct Investment, 75% of the industry became foreign owned. This example is indicative of how SAPs are being used to promote the interests of the IMF and its neoliberal agenda at the expense of effective development of the country their claim to be helping.
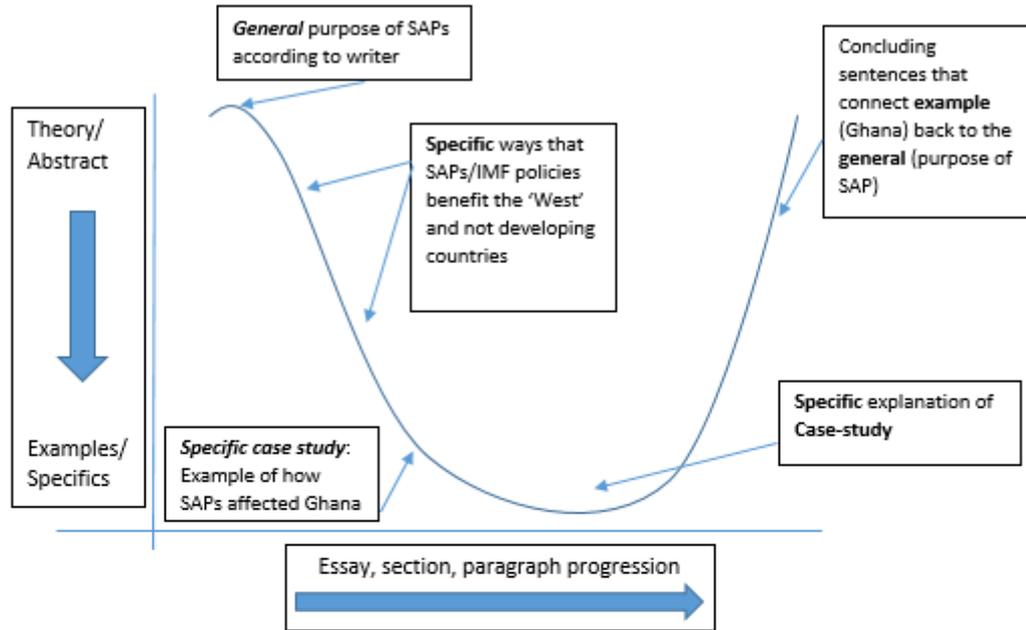
> How did SAPs in Ghana affect its development?

> What is the purpose of this sentence?

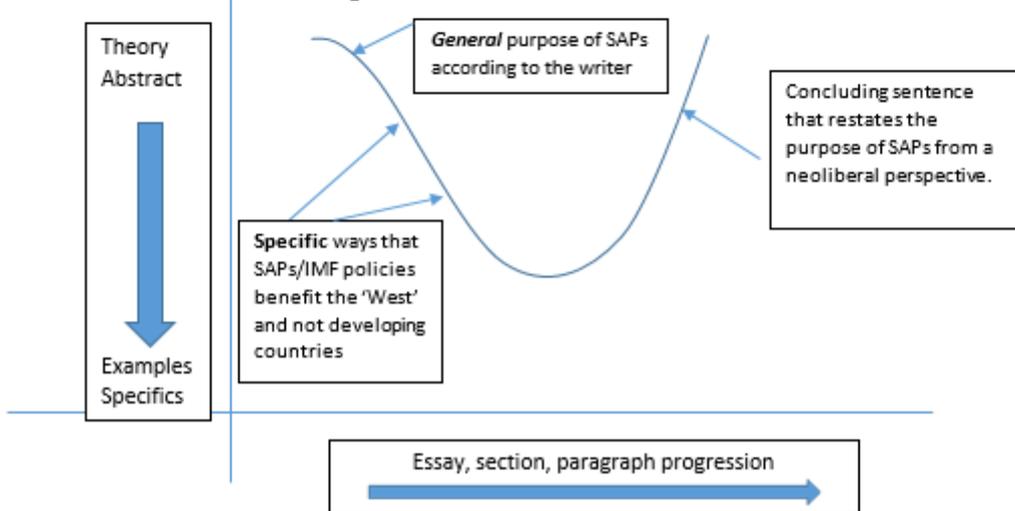> Do you think the example in the second paragraph fits the ideas mentioned in the first paragraph?

Analysing Part 1

Look at the graph below which maps the content of the two paragraphs in part 1 of the essay. Notice how it drops and rises depending on how abstract/theoretical or specific the content is.

General purpose of SAPs according to writer

Concluding sentences that connect **example** (Ghana) back to the **general** (purpose of SAP)

Theory/ Abstract

Specific ways that SAPs/IMF policies benefit the 'West' and not developing countries

Examples/ Specifics

Specific case study: Example of how SAPs affected Ghana

Specific explanation of **Case-study**

Essay, section, paragraph progression

By using a **'wave'** we are able to chart how much criticality our writing actually contains. Generally speaking, writing that has deep waves, as opposed to flat-lines tends to demonstrate more critical thinking (Maton, 2012).

For example if the student had not mentioned the *specific case study* example, his chart would look something like this:

Theory Abstract

General purpose of SAPs according to the writer

Concluding sentence that restates the purpose of SAPs from a neoliberal perspective.

Specific ways that SAPs/IMF policies benefit the 'West' and not developing countries

Examples Specifics

Essay, section, paragraph progression

Appendix B: Example analysis of student essays

Participant One Essay 1	Sections you think show transfer of SW
How important was labour repression in the success of the East Asian developmental states?	There a few examples in this essay that represent what I understand to be the type of wave that is suitable (based on my teaching) … page 4 with the mention of a stronger state…engages with concepts/general ideas before moving to more specific examples of Japan and Singapore … waves come up high to connect specific and general together. This is also apparent on pages 5 and 6 with the point about international communities …
	Other points in this essay can be seen to move across CI to CD but it is the amount of space given over to the more generalised/conceptual ideas that make me think that the graph would not resemble the ideas needed to make the wave look the way it is meant to i.e. with some flat lining taking place.

Appendix C: Interview questions

General Questions Relating to the ACIR module

- I'd like to talk about the ACIR module you took in the autumn and spring terms. Can you remember any specific essay writing/research skills you studied? Have a quick look back at the module Canvas pages to refresh your memory if you need to.
- Did any of those specific skills help you when writing essays for other IR & D modules you had in the spring term?
    - If YES, how?
    - If NO, do you know what skills you used to help you when writing these essays?

Semantic Waves

If not mentioned by students in the previous questions:

- Do you remember the semantic wave (graph) we studied in the module?
- Can you tell me what you know about that wave model? How do we use it?
- Did you use it when writing any of your essays in the spring term? How? Which ones?
- Do you think the waves model has any limitations?

Analysis of Texts Discussion

- Here are the IR & D essays you wrote at the end of last term. Were you happy with the way that you wrote these essays? Why (not)?
- Can you identify any skills we studied in the ACIR module that you used/applied to help you write these essays?
    - If YES, what was it you learned from ACIR and how have you applied it here?
    - If NO, is there a reason why not?

How did you learn to write in this way here?

- Look at this part of essay 1, 2, 3 etc, can you explain any writing skills you used to compose it?
    - Where did you learn those skills?

Appendix D: Participant 1 - Text i

Brazil Since the turn of the new millennium, Brazil managed to establish its regional dominance in Latin America and as a rising contender in the affairs of our international system. Brazil has a massive population of 212 million people and a GDP of almost $2 trillion, which makes it the ninth biggest economy in the world and the biggest one in Latin America (World Bank, 2020; Bajpai, 2020). As Latin America specialist Peter Meyer (2011, p. 1) puts forth, "Given [Brazil's] size and resources, Brazil has long held the potential to become a world power." Brazil's foreign policy interests has taken an ambitious transformation on account of its increased global economic clout. Brazil's policymakers have recognised multilateralism as an indispensable mechanism in the country's policy-making decisions (Bosco and Stuenkel, 2015). As Brazil's former foreign minister Celso Amorim (2010, p. 214) has stated, "We see multilateralism as the primary means of solving conflicts and making decisions internationally." Brazil has very active diplomatic roles in regional organisations such as the Southern Common Market (Mercosur) and the Union of South American Countries (Unasur). The purpose of the former is to create a union that claims external tariffs on goods outside the trade bloc and stop member states from negotiating bilateral free trade agreements (Mercosur, n.d.) The goal of the latter is to bring together the Andean Community (which consists of Bolivia, Colombia, Ecuador, and Peru) and Mercosur's member states to help "build a South American identity and citizenship and to develop an integrated regional space." (Flannery, 2012). Brazil's assertive involvement in such multilateral organisations is in line with its rhetorical theme to promote its desire for a stronger representation for the developing world in the global arena dominated by Western powers (Bosco and Stuenkel, 2015). Thus, Brazil is in progress to challenge the US hegemonic world order by claiming regional hegemony in Latin America, yet taking actions that would not significantly damage the interests of its country.

Appendix E: Participant 2 - Text i

'Trade remains an organized rather than free market process.'

The main features of free trade are that it is natural, and it achieves mutual benefits, however, it is argued that the process of achieving this ideal state of free trade involves negations between countries and usually the agreements serve the powerful ones (Ghorashi, 1995 and Liu, 2018). This essay will look at the limitations in the modern free trade agreements and Marxists view on them, and by merely looking at the trade agreements it can be concluded that international trade, is organised rather than a free market process; and through free trade it can be organised around the interests of advanced countries.

Rodrik (2018) presented some aspects of the free trade agreements and their limitations. Firstly, he speaks about the Trade Related Intellectual Property Rights (TRIPs) in which it is supposed to provide protection for innovation, to make sure that those who have developed new concepts or technologies are fairly compensated for their contribution (Rodrik, 2018). However, the law imposes rules that heavily favour advanced countries over the developed ones in which it allows them to maintain monopoly on technology, which results in, forcing developed countries to ultimately buy it at unaffordable prices (Rodrik, 2018).

Secondly, is the freeing of capital flow, it is argued that allowing investments to move across boarders without barriers should bring prosperity to all; however, unregulated capital flow becomes a serios liability in the event of an inventible financial crisis or in periods of low stability, usually this affect the less developed economies more (Rodrik, 2018). Financial markets function differently than the traditional commodity-based markets, in which financial markets are subject to incomplete information whereas commodity markets trade physical objects (Rodrik, 2018).

Finally, the harmonization of regulatory standards which seeks to create equal domestic policies across the boarders for ease of trade, it tries to make sure that wages, regulations and tariff levels are the same for all the countries involved in the agreement (Rodrik, 2018). The issue here, is that

multinational corporations have become the central negotiators in the establishment of the standards and the interests of these corporations do not align with the social welfare policies of the host countries (Rodrik, 2018). As a result, it is believed that free trade agreements do not achieve mutual benefits but rather an imposition of interests of one class over the other (Dunn, 2015).

Marxists believe that the modern free trade agreements are used by advanced countries to attract smaller trading partners to submit to conditions favourable to their richer countries' capital, the corporations who lobby to the creation of these agreements benefit in which they play a huge role in determining the details of the free trade (Ghorashi, 1995). Meanwhile, the working class suffers on either side of the boarder (Ghorashi, 1995). For example, the North America Free Trade Agreement (NAFTA) was supposed to create jobs in America/Canada and help modernise Mexico's economy, but instead, wages dropped in America, in Ohio 50,000 jobs were lost between 1993-2004 and Mexico's economy was restructured for the benefits of America's companies (Ghorashi, 1995). NAFTA forced Mexico to repeal important tariffs that used to protect the developing country from larger American agriculture markets which caused a major damage for the Mexican agriculture (Ghorashi, 1995). Mexico went from being self-sufficient in agriculture to being completely dependent on America's imports (Ghorashi, 1995). Therefore, it can be concluded that the process of freeing trade involves negotiations, and this results in many restrictive agreements which makes trade organised rather than free.

Appendix F: Participant 2 - Text ii

'Global trade is a manifestation of human propensity to "truck, barter and exchange'

There is strong evidence that long-distance trade has been practiced thousands of years ago before any written records; however, the motives and mechanisms of trade remain open to interpretation (Pomeranz and Topik, 2017). This essay will discuss two theoretical explanations of the development of long-distance trade which are the formalism and substantivism approaches. It will conclude that there are different motives for trade and not all of them are linked to the idea of "truck, barter and exchange".

There is little evidence that although human beings are clever, but they are inherently economically rational in which people's tendency to seek welfare maximization comes from their human nature (Pomeranz and Topik, 2017). According to Smith, this tendency is the main reason why the division of labour has emerged and other economic activities such as the market (Liu, 2018). Additionally, the formalist approach, which is introduced by neoclassical economics, have made this notion a fundamental principle for analysing people's behaviour (Curtin, 1984).

Further, Smith believed that specialisation is the key component in achieving a never-ending economic growth and that there are great social advantages of self-interested individuals' behaviour (Marcal, 2016). To elaborate, when people specialise in producing a good and then exchange it in the market to serve their own interests, they essentially increase the overall wealth of the nation (Marcal, 2016). Smith suggested that just like individuals, states can benefit from this economic model by specialising in goods that they can produce more efficiently than their counterparts and then trade with each other (Liu, 2018). It is believed that free trade, has the tendency to expand geographically into new areas of the globe because it is continuously growing, thus, it requires more land, raw materials and resources (Klein and Pettis, 2020). Also, as a result of this growth, countries will seek to sell their surpluses in foreign markets (Klein and Pettis, 2020).

On the contrary, Polanyi claimed that market behaviours such as utility and profit maximisation are as recent as the 18th century and are merely developed by powerful authorities (Rotstein, 1970). He introduced the substantivism approach which suggests that prior to the emergence of capitalism, premodern humans had different economic mentalities and motives (Rotstein, 1970). For example, trade would take place to build political alliances or to obtain unavailable commodities (Pomeranz and Topik, 2017). Furthermore, the primitive societies' economy was subject to

social limitations on its functioning, it was organised around social traditions and principles of redistribution and reciprocity that restricted the scope of the market which ultimately limited its role in the society (Curtin, 1984).

Throughout human history the majority of trade activities did not occur in markets where different sellers and buyers gather to set exchange prices and sell/purchase commodities; hence, it is believed that trade, in most human societies, took nonmarket forms (Rotstein, 1970). For instance, the port of trade, in which goods are exchanged between powerful states through official/neutral channels; therefore, long distance trade, was controlled by the state and its ends rather than the supply and demand mechanism (Curtin, 1984). Moreover, for a long period of time, the terms of exchange and fixed prices were established by the state (Curtin, 1984). Therefore, it can be concluded that the history suggests that there were different motives for humans to trade and not all of them were related to profit and utility maximisation. However, it still all depends on one's interpretation of history.

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