

Washback effects and cognitive demand analysis of homework practice in Home Economics

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Abstract

The focus of this paper is an examination of the learning value of homework understood from the perspective of teachers in relation to their homework practice alongside a cognitive demand analysis of different types of assigned homework. A mixed method approach was used involving interviews with ten Home Economics teachers and content analyses of over 400 homework questions and tasks from Home Economics textbooks, examination papers and teachers' assigned homework. The results indicate that, in the main, Home Economics homework questions demand the recall and understanding of conceptual and factual knowledge, thus reducing the capacity for the development of higher order thinking skills. In addition, there is evidence of a 'washback' effect on pedagogy in which teachers tend to concentrate their teaching on supporting test-taking. Such a situation bodes ill for the quality of student learning and points to a clear need for teacher professional development in the area of assessment design.

Keywords: Homework, assessment design, higher order thinking skills, washback, Home Economics

Introduction

The secondary education system in the Republic of Ireland comprises two cycles: a lower secondary phase known as the Junior Cycle (generally 12-15 year olds), which leads to Junior Certificate examinations, and an upper secondary phase known as the Senior Cycle (generally 16-18 year olds), which finishes with Leaving Certificate examinations. The latter is for many young people the entry-level examinations for universities and as such is often described as *high stakes*. Home Economics features as an optional choice for students in both cycles: as an elective subject in Junior Cycle and as an option in one of the five subject groups in Senior Cycle. Learning and teaching in both cycles is generally of the mode common throughout education globally: teachers facilitating learning in school hours and students following up with independent extension studies outside of school, the latter often by means of what is widely termed *homework* set by their teachers.

Homework in Ireland is an important part of the daily routine of students. According to Smyth, Banks and Calvert (2011, p. 226), at Senior Cycle, four or more hours of out-of-school time per night is devoted to its completion by 40% and 30% of female and male students respectively. A National Council for Curriculum and Assessment (NCCA) study of 600 secondary student experiences in 12 case study schools has also revealed that two thirds of the students were positive about assessment and reported that homework "makes them learn" (NCCA,

2006, p. 10). However, whilst the students reported that they invested time in tasks they perceive to be “a productive type of learning”, many viewed homework tasks as “rote in nature” and not an enhancement to learning (p. 10). Insights into these issues have been reported by the government’s Inspectorate for schools, and especially the specialist Home Economics subject inspectors (Department of Education and Skills [DES], 2008, p. 37) who asserted that there was “scope for development” in homework practice in one third of the schools they inspected during 2008. More than half of the Home Economics inspectors’ reports (DES, 2008) identified the majority of homework tasks as being “of the lower-order variety” (p. 38). The set tasks almost exclusively comprised short-answer questions drawn from examinations, with less emphasis on the types of long questions that could develop analytical skills. Set against the literature backdrop, which indicates that both students and inspectors perceive homework practices to be problematic, the current study was designed to examine the quality of assigned homework empirically in terms of the challenge inherent within homework tasks. The essential question is posed: what contribution does homework make to student learning?

What is the purpose of homework?

To examine the contribution that homework makes, it is necessary to have a clear view of what homework is. A simple definition might be that homework is any activity that students are asked to do in their own time; a more thorough answer would categorise the design (scope and scale in relation to the curriculum, type of question, etc.) and intended purposes of the set work. It is partly these aspects that the current study has attempted to address.

Homework tasks can be directly related to class work usually in the form of questions to which students prepare answers, and it may be submitted for teacher assessment in class or outside of class time. Generally the intended purpose of homework tasks is the improvement of learning. The Home Economics inspectors (DES, 2008), for example, noted the role of homework in reinforcing classroom learning and in providing opportunities for the development of independent learning and research skills. The academic literature echoes this view with Danielson, Strom and Kramer (2011), Epstein and Van Voorhis (2001), and Muhlenbruck, Cooper, Nye and Lindsay (2000) arguing that homework serves purposes such as practising skills, preparing for future lessons and acting as an extension to the classroom by allowing students to develop independent learning opportunities. However, homework for practising skills has been criticised by some, for example, Cooper (1989) and Heltzmann (2007), because of its potential to encourage rote learning. There is some warrant for this view in Ireland with writers such as Hyland (2011) arguing that there is an “over-emphasis on rote-learning and not sufficient emphasis on the application of knowledge” in the current Irish educational system (p. 8).

It is widely believed (see, for example, Black & Wiliam, 1998; Hughes & Greenhough, 2004; Warton, 2001) that a teacher’s choice of homework significantly influences students’ learning. Teachers often model their own assessments on national tests, to enable the students to practise for them, and the 2008 Inspectorate report (DES, 2008) confirmed that at Senior Cycle in Ireland, there is greater emphasis on “providing students with lots of practice” (p. 38). During 2013-2014, the State Examinations Commission (SEC) in Ireland commissioned an independent external report on predictability in the Irish Leaving Certificate

(Baird, Hopfenbeck, Elwood, Caro, & Ahmed, 2015). Their report on six subjects other than Home Economics, indicates that “in keeping with high-stakes testing situations in other countries, teachers prepared their students by tutoring them on the subject broadly and through specific test preparation” (p. 22). In their view, the students had a lot of “test-wiseness” (p. 22). They acknowledged the inevitability of “highly strategic ... behaviours by students and teachers who want to get the best results” in a high-stakes examinations system (p. 28) but concluded, much as Hyland (2011) above had done earlier, that “consideration should be given to placing more emphasis upon the assessment of higher order thinking skills in the examinations” (p. 27). They argued that placing greater emphasis upon the assessment of higher-order thinking skills in examinations may “need a more fulsome consideration due to the culturally embedded nature of assessment systems” (p. 27).

Where school assessments, including those relating to homework, are modelled on external assessments, the learning value may therefore be compromised because the examination system is considered by many, such as Hyland (2011), to be “harmful to the quality of learning” achieved overall (p. 6). The effect of narrowing the curriculum that is due to frequent teaching to the examination, rather than the aims of the curriculum, has been widely criticised, especially over the last two decades, by such bodies as the European Commission, the Education, Audiovisual and Culture Executive Agency (EACEA) and Eurydice (2012), the National Council for Curriculum and Assessment (NCCA, 2012) and the OECD (2005); and researchers such as Stobart (2008), Looney (2006), Harlen and Deaken Crick (2002) and Hyland (1999).

Hyland’s (2011) paper provides anecdotal evidence of a system that is no longer “fit for purpose” as it neglects the development of capabilities and dispositions of students by rewarding rote learning, instrumental learning and memorisation (p. 7). It is interesting to note how enduring this problem is as Madaus and MacNamara (1970), in their analysis of the then Leaving Certificate examinations, reported frequent prediction of examination questions and memorisation of answers by students. In their view, the syllabuses emphasised content to the detriment of skills and “intellectual functioning” (p. 135):

For too long the cart has been before the horse; final marks (i.e., the marks achieved in final examinations) have been treated by society as the ultimate goal of education. Intellectual curiosity, the joy of discovery, involvement in intellectual issues—in a word, all these activities and responses which contribute to true learning have been subordinated to, often sacrificed to, a public examination.

Traditional classroom pen and paper assessment practices have also received criticism for failing to capture much of students’ learning. Hyland (2000, p. 57) reports that in:

... many schools, student work is disposable. Teachers give assignments. Students hand in the work. It is graded, returned, glanced at, and all too often forgotten, lost or thrown in a box never to be looked at again.

Similarly, Black and Wiliam (1998) point to short-comings in everyday assessment practice in classrooms. They argue that questions are not critically reviewed in relation to what they actually assess and that “the quality of test items, i.e., their relevance to the main learning aims ... need scrutiny” (p. 12). They state that “good questions are hard to generate and teachers should collaborate, and draw—critically—on outside sources, to collect such questions” (p. 12).

As mentioned above, the 2008 inspectors’ report highlighted the fact that the majority of questions assigned for homework at second level require lower order thinking, and that teachers could be “expanding the range of questions used ... to support students in the development of higher order thinking skills” (DES, 2008, p. iii). It was common for teachers to use tasks in the students’ textbooks as homework, and “in most instances, students transcribed the answers directly from the textbook” (p. 38). Clearly this was not regarded as good practice by the inspectors who argued that copying or transcribing reduces “learning potential, including opportunities for independent research” and “real learning” (p. 38). There is therefore a need to review the contribution of homework questions to the development of higher-order thinking.

Arguably, in a high stakes examination system, teachers who view homework as a means of increasing student attainment can assign too much homework which may result in demotivated students who are encouraged to copy homework. Smyth, Banks, Darmody and McCoy (2007) in their report on the experience of Junior Cycle students noted the frequent practice of students transcribing answers from textbooks. For example, one student in their study commented “you just write it out from the book, you don’t think about it” (p. 109). In another dimension of the impact of such practice, Conner, Pope and Galloway’s 2010 study of US students (n = 3,645), drew attention to the negative effect of such lower order homework on student engagement and motivation—a serious *washback* effect of bad practice on learning. They reported that the students can view practice homework as boring, if they are often required to transcribe information from textbooks, in a manner that is repetitive and disconnected from daily living. The majority of second level students in their study were “frustrated by tedious assignments and work that holds little meaning for them” (p. 5).

Findings in the Irish context corroborate these views. For example, Junior and Senior Cycle students (Smyth et al., 2007; Smyth et al., 2011) reported feeling *overwhelmed* as homework can be assigned “in considerable amounts”. Smyth et al. (2011) reported that the majority (63%) of all final year students felt that they were getting more homework in their final year compared to the year before and that it was “even harder” and “took up more time” (p. 72). The students reported that they were trying to achieve a balance between study and homework and they seemed to view these practices as competing for time rather than being complementary activities. Smyth et al. (2011) concluded that the consequence of assigning vast quantities of time consuming and often monotonous homework is that students can respond by developing an instrumental approach to the completion of homework. Such practices can also negatively impact on the quality of learning achieved. According to Warton (2001), homework is a “multi-faceted process” involving “a complex interplay of factors in two contexts—home and school” that can often be a “source of considerable difficulty and conflict at home and school” (p. 155). Cooper (1989) identified some of these difficulties as

physical and emotional fatigue, loss of interest and restrictions on leisure time. He argued that student frustration, procrastination and noncompliance are problems frequently associated with homework.

Focus of the study

Clearly homework assessment practice is problematic and in some circumstances can have the potential for shortcomings such as inappropriate question designs, and responses to tasks that lack clear benefit for student learning. Warton (2001) argues that there is a dearth of research focusing on the nature of the link between the type and quality of homework and achievement outcomes. The current study sought to help address this deficit by examining several key questions namely:

1. **What are Home Economics teachers' views about homework practice?** The aim was to explore whether there is any congruence between Home Economics teachers' beliefs about homework assessment and their teaching.
2. **What factors influence the teachers' choice and design of homework?** The aim was to explore the factors influencing the assessment design process and how optimum learning may be achieved
3. **What is the learning value of a sample of homework questions and tasks?** The aim was to explore a large sample of homework tasks to assess their potential to promote the development of higher order thinking skills.

Methods

Data collection

A mixed methods approach involving inquiry (interviews) and empirical content analysis of items was adopted and the research was conducted in two phases over a one year period. Phase 1 involved interviews with ten Home Economics teachers about their homework assessment decisions and design practices. The teachers were selected from a range of nine schools located in the south-east, east and midlands of Ireland and their teaching experience varied from 6 to 37 years. Each teacher was teaching Senior Cycle Home Economics and preparing students for the high stakes Leaving Certificate examination at the time of interview. The interview schedule was constructed around the first two questions above: teachers' views about homework, homework design and homework practice. Clearly this small sample can help to illuminate some of the issues impacting on Home Economics educational practice, but its limitations in representing the views of the wider body of Home Economics teachers in Ireland must be duly recognised.

Phase 2 involved content analyses of 444 homework tasks and questions including questions from Leaving Certificate examination papers (n = 237) and coursework tasks (n = 52) (SEC, 2012a, 2012b, 2011a, 2011b), popular Home Economics textbooks (Conway & Freeborn, 2006; Jones, 2007) (n = 100) and three of the teachers' assigned homework questions (n = 55). Although not homework per se, the analysis of examination and textbook questions was

justified as the interviews and the literature review, for example, DES (2008), Hyland (2011), and North and Pillay (2002), revealed that such sources are frequently used for setting homework tasks. Random sampling was applied when choosing the questions to analyse from textbooks. The teachers were chosen, with their agreement, on the basis of their varied use of homework practice and the homework they set over a one-week period was selected for analysis.

Data analysis and reporting

The analysis and interpretation of data was based on a thematic content analysis approach (Miles & Huberman, 1994). Large volumes of qualitative data (the interview responses) were reduced to manageable levels that could enable meaningful findings to be identified and this was accomplished by collating the various perceptions of the teachers on themes related to homework per se, homework design and homework practices.

The data from Phase 1 was complemented by the content analyses of the selected homework tasks in Phase 2 and these results enabled the validation of findings from Phase 1. The conceptual framework informing the research was the Taxonomy Table (Anderson et al., 2001), an enhancement of Bloom's Taxonomy (Bloom, Englehart, Furst, Hill, & Krathwohl, 1956). Criticisms of Bloom's Taxonomy include its arguably simplistic reduction of learning outcomes to a set of discrete processes (e.g., remembering or analysing) and its problematic linear-like progression through a hierarchy of processes. Anderson's Taxonomy Table arguably suffers from the same weaknesses, when attempting to categorise learning and its outcomes, but it does introduce a degree of increased sophistication with a two-dimensional analytical framework. This comprises two sets of defined categories, knowledge dimensions and cognitive processes, which then define expectations for student learning. Anderson et al. (2001) explain how teachers begin an "analytic journey from the statement of an objective to its placement in the Taxonomy Table" (p. 31). The analytic journey involves the examination of the verb or command word in the learning outcome, assessment objective, or question in the context of the six categories of the Cognitive Process Dimension:

1. Remember
2. Understand
3. Apply
4. Analyse
5. Evaluate
6. Create

and the examination of the noun (subject of the verb) in the context of the Knowledge Dimension:

- a. Factual Knowledge
- b. Conceptual Knowledge
- c. Procedural Knowledge
- d. Meta-cognitive Knowledge.

A typical illustration of the framework is offered in Table 1 and the following items exemplify the types of homework assignment item categorisations (note that the fourth example is a complex compound assignment that fits in at least two cells):

- Remember x Factual: *List* (verb) *three benefits of food additives* (noun subject clause)
- Understand x Conceptual: *Discuss* (verb) *the importance of care labels on textiles* (noun subject clause)
- Analyse x Conceptual: *Distinguish* (verb) *between oxidative and hydrolytic rancidity* (noun subject clause)
- Understand x Conceptual and Analyse x Conceptual: *Compare* (verb) and *contrast* (verb) *rough puff pastry and choux pastry* (noun subject clause) *having regard to* (verb clause) *their uses in sweet and savoury dishes* (noun subject clause)

The cognitive demand analysis for each homework item is essentially arrived at through a cross tabulation using the two axes of Table 1.

Table 1 Typical illustration of Anderson et al. (2001) Revised Bloom's Taxonomy

Knowledge Dimension	Cognitive Process Dimension					
	Remember	Understand	Apply	Analyse	Evaluate	Create
Factual						
Conceptual						
Procedural						
Meta-cognitive						

Findings

Teachers' views about homework

Overall, the teachers described good quality homework as work that is regularly assigned, has clear expectations, prepares students for examinations, provides students with prompt meaningful feedback and challenges students to think. The teachers' views concurred with findings from the literature that homework can have a positive effect on learning (see for example, DES, 2008; Smyth et al., 2007; North & Pillay, 2002; Cooper & Valentine, 2001; Epstein & Van Voorhis, 2001; Warton, 2001). Seven of the ten teachers reported that they implement an assessment for learning approach when giving feedback on homework tasks. For example, one of them noted that "saying to a student: 'you will have to improve' is a bit of a useless comment. They have to know how they can do it."

Many perceived that coursework was the most positive feature of the Home Economics Leaving Certificate programme, as it requires students to display higher order thinking skills of analysis and evaluation, which they believed examination questions rarely did. All of the teachers felt that the majority of students viewed homework negatively with comments such as: "I think they see it as a chore", "the vast majority of them don't value it" and "some I'd say consider it as punishment, almost that you were just being mean." They all took the view that students strongly prefer productive homework over homework that is rote in nature or that does not enhance learning. It is reasonable to conclude, therefore, that the value of homework to students is dependent on the appropriateness of the design and its contribution to student learning.

Homework design

None of the teachers reported receiving training in the design of assessment in their undergraduate education or professional development. All considered that if they were more knowledgeable about assessment design practices, their homework would have the potential to enhance students' learning greatly. They all believed that homework should be planned in advance of lessons, "rather than being ad-hoc at the end of class" and that creating challenging homework is important. However, considerable variation existed in the time set aside by the teachers for planning homework. In a clear example of espoused versus actual practice being different, two of them revealed never planning homework in practice and another six considered it to be a last minute activity. They explained that the lack of time was the reason for homework planning being incomplete or absent, indicating that homework planning was an "after-thought" or "a last minute process, which takes a back seat to everything else." Additionally, the majority of teachers stated they did not consider learning outcomes when planning homework, confirming Black and Wiliam (1998) concern about the lack of alignment between question design practices and overall learning aims.

Homework practice

The teachers commented that additional time was required to differentiate homework activities. They acknowledged the potential of coursework questions to generate higher order thinking, but eight of the teachers held strong views about the powerful influence of the national tests (Leaving and Junior Certificate examinations) on their practice. One teacher expressed the view that examinations require students to put information "back down on paper" rather than think and that for this reason, recall questions are frequently assigned for homework. Another reported that students invest considerable class and homework time practising examination questions, "going over and over and over examination questions". Expressing the belief that Senior Cycle Home Economics "is all focused around the examination", rather than the subject aims and mission, one teacher felt that the narrow focus of sourcing homework from examination material had made learning disconnected from the students' lives. These responses speak to a clear washback effect in which the priority of future examination performance flows back to impact negatively on pedagogy, in this case limiting the design of classwork and homework to examination-oriented tasks and questions.

Content analyses of homework questions

The analysis of the examination questions and coursework tasks, textbook questions and teachers' homework questions involved the classification of the knowledge dimension and cognitive processes set out in Table 1, the determination of the frequency of each question type and the categorisation of questions as lower order or higher order in cognitive demand. A systematic process involving several readings of each question was employed to enhance validity and every item was entered into its appropriate cell or in some cases more than one cell if the more complex verb/noun pairings demanded it. For example, a relatively simple item asking candidates to *name* or *give details of* usually requires the student to recall some factual knowledge and therefore falls into the *remember x factual* cell. To enhance the interpretation of the type of cognitive processing required by the items, the State Examination Commission (SEC) explanation of typical command words associated with the cognitive domain was taken into account during the analysis (SEC, 2007).

Inevitably, some of the command words in more sophisticated items appeared in two cells of the table: for example, *describe* under *knowledge and comprehension*; or *compare and contrast* under the process of *analysis and evaluation* (SEC, 2007, pp. 50, 98). This is to be expected when some types of ability involve compounding attributes. For example, the SEC suggests that “evaluative assessment involves the ability to compare and contrast, criticise, critique, defend or judge” (SEC, p. 50). This multi-context usage presents a difficulty for analysis, but was overcome by using a systematic process that involved several readings of each question. It was also important to comprehend specifically what action was required of the candidate in the context of the stated question. The cell analysis for all items was coded and recorded in a spreadsheet and the overall frequency of each type of cognitive demand was calculated and classified as higher order (involving analysing, evaluating or creating) or lower order (remembering, understanding and applying). It is prudent to note at this point that a known weakness of the taxonomies (Bloom et al., 1956; Anderson et al., 2001) is that a linear hierarchical differentiation of the cognitive processes is problematic, for example, arguably there will be instances in which analysis is a relatively perfunctory task whilst understanding the basic principles in the same contexts might be quite challenging.

The findings of the content analysis of a sample of examination questions ($n = 237$) are illustrated in Figure 1 and show that an average of 92% of questions were lower order in demand with only 8% of questions demanding higher order skills of analysis, evaluation and creation. The questions mostly demand understanding and recall of conceptual knowledge (38% and 22.5% respectively), followed by the recall of factual knowledge (20%).

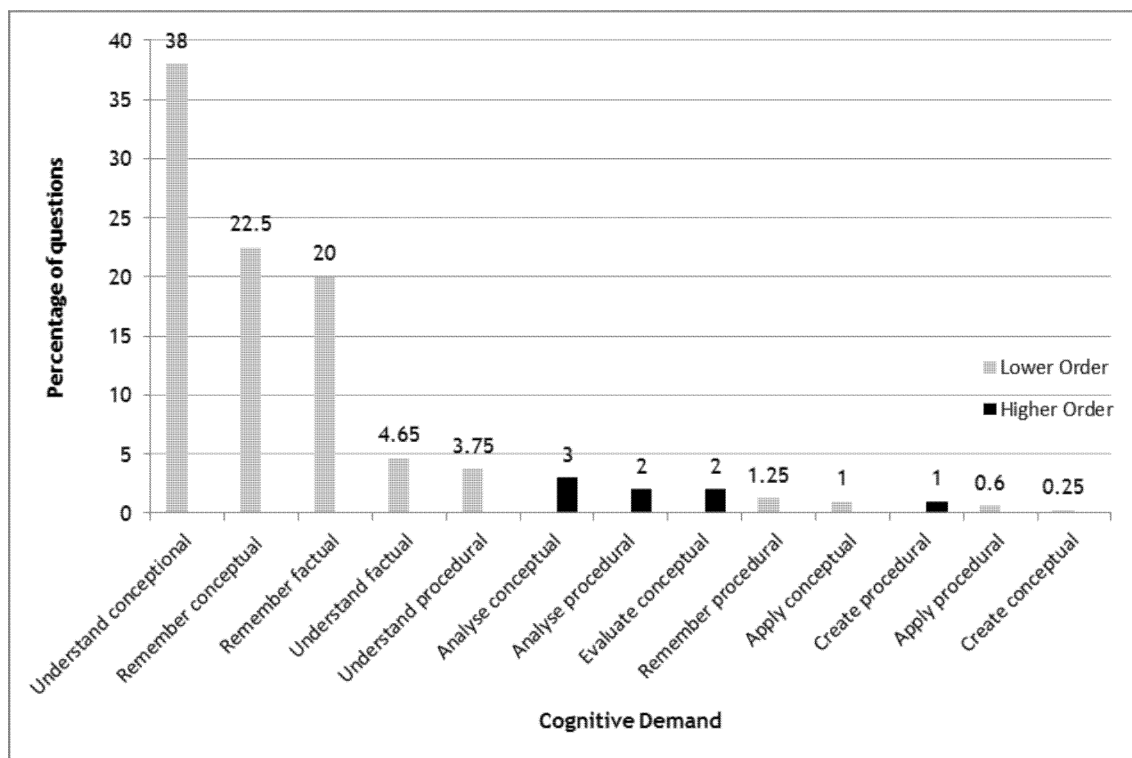


Figure 1 Cognitive demand of Leaving Certificate Home Economics examination questions, 2011-2012

The analysis suggests that there is a considerable difference in the level of demand required of examination and coursework questions in Home Economics. On average, 50.5% of a sample of coursework tasks examined (n = 52) (SEC, 2011c, 2012c) require the demonstration of higher order thinking (see Figure 2). There is a variety of questions used, with large proportions demanding analysis (22.5%) and understanding (21.5%) of conceptual knowledge. As expected in a practical subject, the recall of procedural knowledge is also reflected in a relatively high proportion of items (16.5%) and the importance of evaluation as an inherent component of practical tasks is also evidenced (15%). Students are often required to demonstrate their ability to apply procedural knowledge creatively and to develop solutions informed by conceptual knowledge and this was reflected in 5.5% of the tasks. It was interesting to note that with the coursework component being worth 20% of the Senior Cycle assessment, the combination with the written examination component gives an average of 83.5% of lower order questions in the assessment overall.

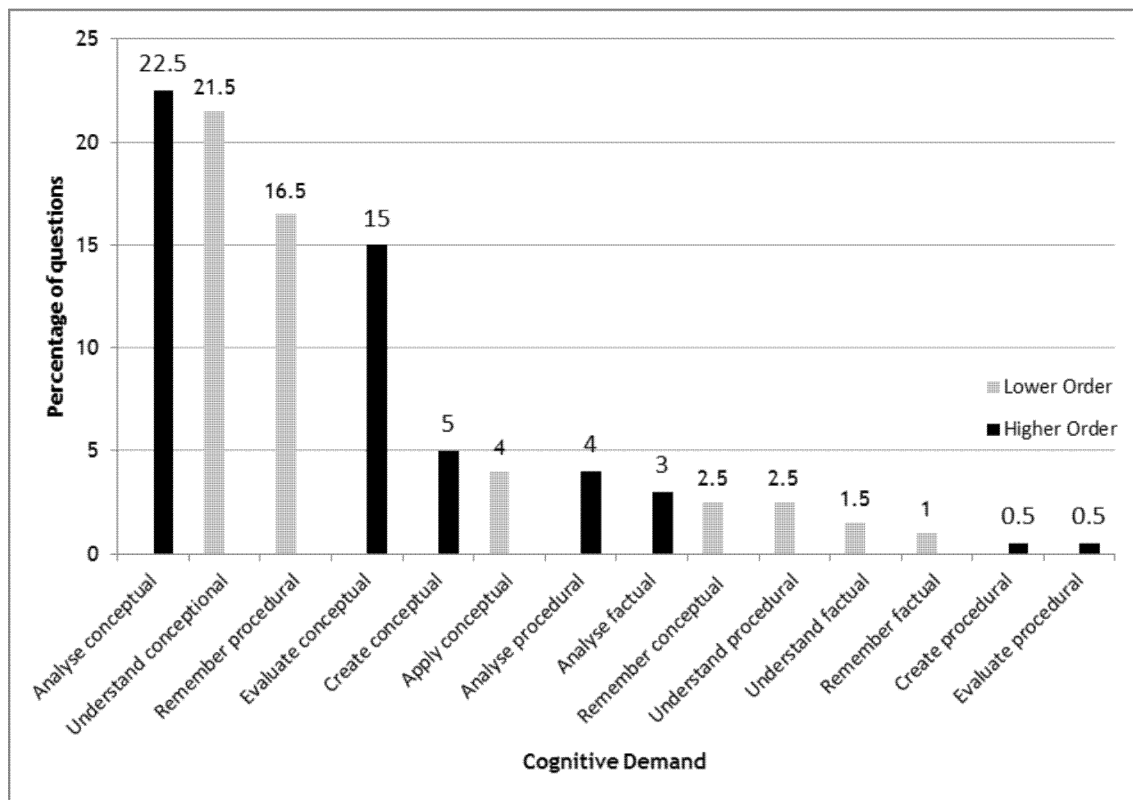


Figure 2 Cognitive demand of Leaving Certificate Home Economics coursework questions, 2011-12

The teachers revealed that 60% of assigned homework was sourced from textbooks, lending support to the earlier Inspectorate observation (DES, 2008) that there was frequent use of textbook questions in Home Economics classrooms. For this reason the study included an analysis of the cognitive demand of a sample of textbook questions. The results are presented in Figure 3 and they suggest that 95% of textbook questions (n = 100) were lower order in cognitive demand.

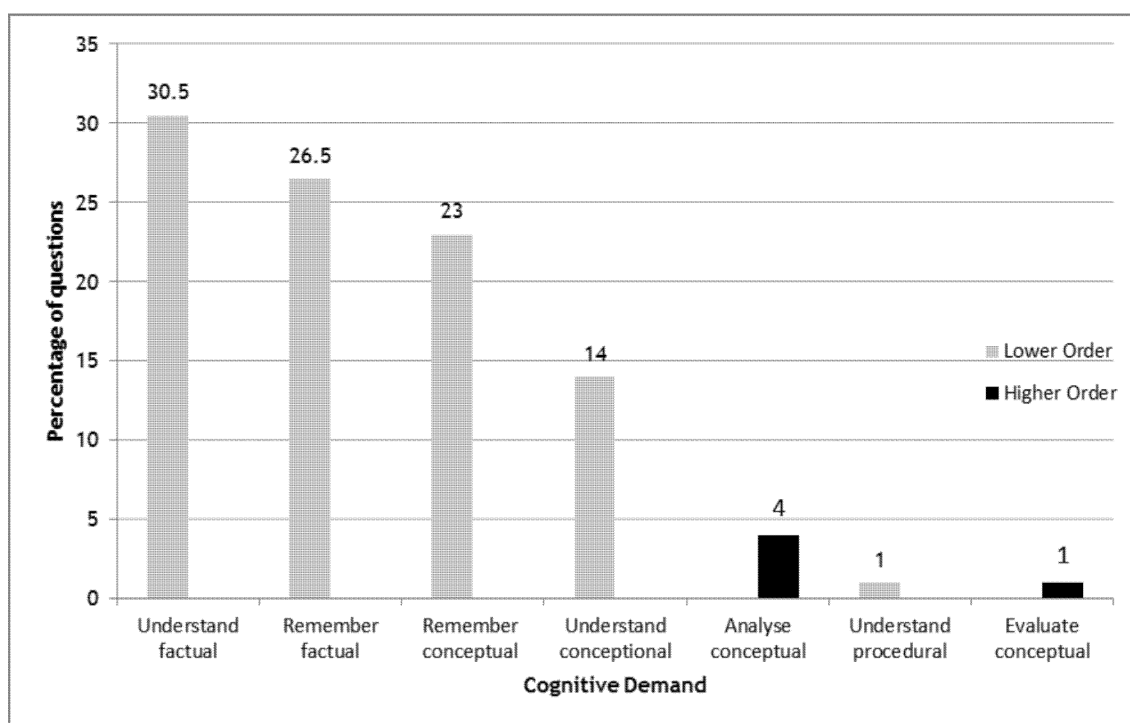


Figure 3 Cognitive demand of textbook questions

Homework questions ($n = 55$) assigned by the three selected teachers over a period of one week were analysed. Textbook questions were most frequently used as a source of homework ($n = 33$), followed by teacher worksheets ($n = 15$), coursework ($n = 4$) and examination papers ($n = 3$). Of these, 60% of the assignments were lower order and 40% were higher order. One teacher set coursework assignments for homework whilst the other two mostly used lower order questions. It is not possible to draw robust conclusions from the analysis of these small samples of homework but the diversity is of interest with one teacher's homework being 100% in the *analysis* dimension and the other two having similar proportions of the lowest order combination: *remember x factual* (47% and 46% respectively) and only 8% and 0% for *analysis* and 0% and 5% for *evaluation* respectively.

Discussion

The interviewees all viewed homework as a valuable exercise due to its potential to enhance learning. However, two of the teachers reported that they “go through the motions” and assign homework to “keep the students occupied”. Two others believed that homework should develop higher order thinking skills and independent learning, but “in reality it probably does not”, as homework is “all focused around the examination”. Nevertheless, whilst homework questions may not be developing higher order skills, they are still considered by teachers to be valuable as they prepare students for examinations.

All of the teachers reported spending considerable time practising examination questions in class and one teacher alluded to the importance of practice homework: “Literally drilling them in good practice and going over and over examination questions looking at the approaches to questions ... looking at patterns within the papers and then correcting wagons

of questions and doing them over and over again.” Case and Swanson (2002) argue that questions, which demand the recall of isolated facts, drive students to ‘cram’ (p. 9) and work intensively to absorb large volumes of informational material in short amounts of time, but there is ample evidence to suggest that this model of learning is not effective long-term. That this approach is evident in this small sample adds to the concerns that testing arrangements and high stakes is contributing to a negative washback effect on teaching and learning.

The content analysis of Leaving Certificate Home Economics external assessment revealed that when weighted (20% coursework and 80% examination), 83.5% of the questions and tasks assigned were lower order and 16.5% were higher order in demand. Similarly, the cognitive analysis of teachers’ homework questions showed that the knowledge domains and cognitive processes most frequently assessed were lower order as the questions largely required the remembering and understanding of factual and conceptual knowledge. The study reported here shows that 50.5% of coursework questions demanded higher order thinking and the teachers also believed this to be the case. They held the view that these questions require higher order thinking, and they argued that this is a positive feature of current assessment practice. Notwithstanding this position, the study revealed that the teachers relied upon textbooks when sourcing homework questions and the results show that most textbook questions required lower order skills of recall. This trend may be explained by the fact that many teachers have insufficient time to plan homework and textbooks may offer a quick and practical solution.

There are many challenges to the assessment design process such as the availability of time to plan homework, the pressure of summative examinations and the teachers’ level of assessment literacy. Noddings (2008) argues that teachers are so busy covering the material demanded by the curriculum that they have little time remaining to plan homework. This can result in an ad-hoc approach to assigning homework, whereby it is often “a last minute process” planned just before or during class. Paradoxically, the interviewees reported assigning creative homework to low-stakes examination classes, while high-stakes examination classes were assigned a large quantity of examination questions. One of the interviewees argued that Senior Cycle students would not be “bothered” completing homework unless it related to examinations.

Concluding remarks

The project set out to explore the effectiveness of homework practices in a Home Economics context in terms of student learning, and the data from the teachers roundly endorses the view that whilst homework has the potential to enhance student learning there is clearly room for improvement in everyday homework practice (Key Question 1). Many of the teachers were mindful that homework was usually not adequately planned and this resulted in ad hoc practice. Learning outcomes were often not considered when assigning homework questions and tasks. The evidence suggests that teachers frequently say they want to develop student understanding through the use of homework tasks, but practice can be different. Therefore, an inconsistency can exist between teachers’ views, espoused beliefs and practice. The clear implication is that there needs to be greater emphasis on building high quality homework into teaching plans.

However, the study shows that there are many challenges to effective choices of homework and appropriate task design (Key Question 2) such as the availability of time to plan homework, the need to address summative examination demands and teachers' knowledge pertaining to the design of a range of question types. Although all of the teachers expressed a desire to use homework to develop meaningful learning and to achieve the aims and mission of the subject, the negative washback of the high stakes national testing context strongly impacted on practice. Washback can of course have a positive impact. For example, desired knowledge, skills and attitudes can be developed when the assessment questions or tasks are designed to elicit evidence of these constructs and skills. Well-planned assessment tasks therefore have the potential to generate *planned washback*, and desirable improvements in teaching and learning. This in turn could make students more motivated to achieve learning goals rather than performance goals, with a likely positive impact on the affective outcomes of Home Economics education.

The use of less frequent homework tasks, the expansion in the range of questions used and the inclusion of carefully thought through differentiated tasks may enable both teachers and students in the achievement of a more sustainable work load and productive learning outcomes. However, such improvement will require intervention in current teacher education arrangements. The teachers in this study report that there is little initial teacher education or professional development relating to assessment literacy or the design of assessment and without that type of grounding, teachers may lack the confidence and expertise to devise more creative assessments.

The value of existing homework tasks to students' learning (Key Question 3) was examined by evaluating the cognitive demand of a sample of 444 homework questions and the findings revealed that 74% and 26% of the items had lower and higher order cognitive demand respectively. We would contend that any improvement in this ratio in favour of homework with higher order cognitive demand would significantly enhance the development of higher order thinking skills whilst counteracting the less desirable effects of rote learning. We would argue that there is a clear need for homework to be recognised for its importance in enhancing learning. Echoing Baird et al.'s call for a greater "emphasis upon the assessment of higher order thinking skills in the examinations in keeping with international trends in assessment" (2015, p. 27), we would urge teacher education to focus more attention on ensuring homework is more carefully designed and critically reviewed in relation to the learning it is designed to enhance and assess.

Biographies

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